American Academy of
Allergy Asthma & Immunology

# FINAL PROGRAM


AMERICAN ACADEMY OF ALLERGY, ASTHMA & IMMUNOLOGY

# Save the Date


## 2017 AAAAI ANNUAL MEETING

# ATLANTA GA

MARCH 3-6

annualmeeting.aaaai.org

# Welcome

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

Dear Colleagues,

We are excited to officially welcome you to Los Angeles and the 2016 AAAAI Annual Meeting.

If you have a smartphone or tablet, remember to download the official 2016 Annual Meeting app. This year's app has an improved look and navigation and also features: tools to search by speaker or session type, organize your schedule, evaluate speakers and sessions, stay current with push notifications and navigate the Los Angeles Convention Center with floor plans and exhibitor information. Download the app from the App Store or Play Store on your device. We encourage everyone to use the app for evaluating sessions, as this allows us to design the best programming for future meetings.

You are also encouraged to follow the 2016 Annual Meeting on Twitter. Simply use #AAAAI16 when you tweet to participate in onsite conversations and share what you're learning with your colleagues.

**More Concise Meeting and New Programming Theme**

The AAAAI has been working to make the Annual Meeting a more concise educational experience. To this end, the meeting has been shortened by a day, meaning less time away from the office or university while still allowing you to earn a similar number of continuing medical education (CME) credits. You can earn up to 40.00 *AMA PRA Category 1 Credits™* during the four days of the meeting. By attending three consecutive days you can earn up to 25.00 CME credits, meeting the MOC Part II requirement of 25 CME credits per year.

The 2016 meeting is the first to have an overall programming theme, which is "Allergic and Immunologic Diseases: Prevention or Disease Modification." The theme represents about 20% of the meeting, while the remaining 80% continues to be developed from member submissions. We have also continued the practice of having clinical, translational and basic science session tracks throughout the meeting. Look for the labels and key inside this program.

**Presidential Plenary and Keynote Spotlight Asthma**

New for 2016, our popular plenary sessions will begin Friday rather than Saturday. The Presidential Plenary, titled "The Origins of Childhood Asthma," takes place Friday, March 4 at 2:00 pm. You can expect to hear about the contribution of respiratory pathogens and allergic sensitization to asthma inception, the microbial environment and its influence on allergy and asthma in early life, and gene by environment interactions.

The focus on asthma continues with our Saturday Keynote, "The Past, Present and Future of Asthma," presented by Stephen T. Holgate, MD DsC FAAAAI. Especially intriguing will be Steve's look at how the digitalization of biology and the convergence of the physical and biological sciences will create a new precision and personalized approach to chronic diseases such as asthma.

**Celebrate the New AAAAI Foundation and Support Our Specialty's Future**

Fresh off its new name and refocused mission, the AAAAI Foundation is eagerly anticipating its two Annual Meeting events. The AAAAI Foundation Benefit, A/I: The Future Frontier, promises to be a thrilling event under the Space Shuttle Endeavour in the Samuel Oschin Pavilion at the California Science Center. Of course, everyone is looking forward to our Fourth Annual AAAAI Foundation 5K Run/Walk. Both events will support the AAAAI Foundation's mission: funding research that leads to the prevention and cure of asthma and allergic and immunologic disease.

We hope you enjoy your time in Los Angeles and return home inspired by the new knowledge, ideas and experiences gained here.

Sincerely,

Robert F. Lemanske, Jr., MD FAAAAI
AAAAI President

Paul V. Williams, MD FAAAAI
Chair, Annual Meeting Program Subcommittee

## Table of Contents



AAAAI-1115-214

# Annual Meeting Program Subcommittee

## Leadership
Paul V. Williams, MD FAAAAI, Chair
Mary Beth Fasano, MD FAAAAI, Vice Chair

## Interest Section Chairs, Vice Chairs and Secretaries
Mark F. Sands, MD FAAAAI, ADT Chair
Leonard B. Bacharier, MD FAAAAI, ADT Vice Chair
Caroline C. Horner, MD FAAAAI, ADT Secretary
Gurjit K. Khurana Hershey, MD PhD FAAAAI, BCI Chair
Elena E. Perez, MD PhD FAAAAI, BCI Vice Chair
Antonella Cianferoni, MD PhD FAAAAI, BCI Secretary
Jeffrey G. Demain, MD FAAAAI, EORD Chair
Wanda Phipatanakul, MD MS FAAAAI, EORD Vice Chair
Andrew H. Liu, MD FAAAAI, EORD Secretary
Sarbjit Singh Saini, MD FAAAAI, FADDA Chair
Lynda C. Schneider, MD FAAAAI, FADDA Vice Chair
Anna H. Nowak-Wegrzyn, MD FAAAAI, FADDA Secretary
Bruce G. Bender, PhD FAAAAI, HEDQ Chair
Asriani M. Chiu, MD FAAAAI, HEDQ Vice Chair
Matthew A. Rank, MD FAAAAI, HEDQ Secretary
Martin Wagenmann, MD FAAAAI, IRSOC Chair
Anju T. Peters, MD FAAAAI, IRSOC Vice Chair
Michael S. Tankersley, MD FAAAAI, IRSOC Secretary
Nives Zimmermann, MD FAAAAI, MAAI Chair
Kari C. Nadeau, MD PhD FAAAAI, MAAI Vice Chair
Cem Akin, MD PhD FAAAAI, MAAI Secretary

## Allied Health Education Committee Leadership
Mitchell H. Grayson, MD FAAAAI, Co-Chair
Nina A. Zimmermann, MSN RN ANP-BC AE-C, Co-Chair

## Basic Science Workgroup
David D. Chaplin, MD PhD FAAAAI, Chair
Mitchell H. Grayson, MD FAAAAI
Stokes Peebles, Jr., MD FAAAAI
Robert P. Schleimer, PhD FAAAAI
Christine M. Seroogy, MD FAAAAI

## Clinical Science Workgroup
Steve N. Georas, MD, Chair
David W. Hauswirth, MD FAAAAI
Daniel J. Jackson, MD
Désirée E.S. Larenas Linnemann, MD FAAAAI
Anna H. Nowak-Wegrzyn, MD FAAAAI
Rebecca Scherzer, MD FAAAAI

## Volunteer Session Reviewers
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Ulus Atasoy, MD FAAAAI
Aleena Banerji, MD
Alan P. Baptist, MD MPH FAAAAI
Charles S. Barnes, PhD FAAAAI
Jonathan A. Bernstein, MD FAAAAI
Paula J. Busse, MD FAAAAI
Christopher W. Calabria, MD
Paloma Campo, MD PhD
Melody C. Carter, MD FAAAAI
Ivan Chinn, MD
Jonathan Corren, MD
Scott P. Commins, MD PhD
Ronina A. Covar, MD FAAAAI
Timothy J. Craig, DO FAAAAI
Chitra Dinakar, MD FAAAAI
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Mark C. Glaum, MD PhD FAAAAI
Mitchell H. Grayson, MD FAAAAI
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Marion E. Groetch, MS RDN
Faoud T. Ishmael, MD PhD FAAAAI
Douglas H. Jones, MD FAAAAI
Stacie M. Jones, MD

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American Academy of Allergy Asthma & Immunology


AAAAH215-602

# Annual Meeting Program Subcommittee


## Volunteer Session Reviewers (continued)

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Jonathan Matz, MD FAAAAI
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John D. Milewski
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Miles Weinberger, MD FAAAAI

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Luisa Karla P. Arruda, MD PhD FAAAAI
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Dan Atkins, MD FAAAAI
Antoine Azar, MD FAAAAI
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Christopher Chang, MD PhD FAAAAI
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Eugene M. Choo, MD FAAAAI
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Timothy J. Craig, DO FAAAAI
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Dan Dalan, MD FAAAAI
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Ray S. Davis, MD FAAAAI
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Micheal B. Foggs, MD FAAAAI
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Patricia M. Fritz
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Gail M. Gauvreau, PhD
Mario Geller, MD FAAAAI
Gisoo Ghaffari, MD FAAAAI
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Jennifer Heimall, MD
Mark Holbreich, MD FAAAAI
W. Elliot Horner, PhD LEED AP FAAAAI
Michael D. Howell, PhD
Fred H. Hsieh, MD
Kathryn E. Hulse, PhD
Faoud T. Ishmael, MD PhD FAAAAI
Kirsi M. Jarvinen-Seppo, MD PhD FAAAAI
Anjeni Keswani, MD
Brett V. Kettelhut, MD FAAAAI
David A. Khan, MD FAAAAI
Edwin Kim, MD
Jennier S. Kim, MD FAAAAI
Hirohita Kita, MD
Maleewan Kitcharoensakkul, MD
Jorge R. Kleine-Tebbe, MD FAAAAI

# Annual Meeting Program Subcommittee


## Volunteer Abstract Reviewers (continued)

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Andrew F. Walls, PhD FAAAAI
Julie Wang, MD FAAAAI
John M. Weiler, MD FAAAAI
Andrew G. Weinstein, MD FAAAAI
Eveline Y. Wu, MD

# Meeting Information

## Abstracts
Abstracts programmed at the 2016 Annual Meeting were published as an online supplement to *The Journal of Allergy and Clinical Immunology* (JACI) and can be accessed on the JACI website, jacionline.org.

## Admission to Sessions
Admission to AAAAI educational sessions is reserved for meeting registrants and registered members of the press only. Guests and exhibitors will not be admitted to educational sessions. Ushers will monitor the name badges of all meeting attendees to control access to educational sessions.

Some sessions require tickets for entry, which are indicated in this program with a ticket icon. TICKET Ticketed sessions have limited attendance and may have an additional fee associated with them. The listing of educational sessions by day includes additional fees, if applicable. To register for ticketed sessions please visit the registration desk. In consideration of state fire codes and as a courtesy to others, those without tickets will not be allowed access into ticketed sessions.

## Associates to the AAAAI
*See Hospitality Suite.*

## ATMs
ATMs can be found in the Convention Center on Level 1. There is one next to the Compass Café and another at the Business Service Center. There is also an ATM in the lobby of the JW Marriott.

## Business Center
The onsite Business Service Center is located on Level 1 of the Convention Center just inside the Concourse Hall. The Business Service Center offers both FedEx and UPS shipping services, as well as full-service digital printing, copying, coat check and baggage check services, and is open during regular meeting hours. The JW Marriott also offers a full-service business center on the third floor next to the Georgia I meeting room.

## Children and Guests
The AAAAI asks delegates to refrain from taking children, spouses or guests to any educational session offered at the 2016 Annual Meeting. Registered guests are welcome to relax in the Hospitality Suite or visit the Exhibit Hall; however, an adult must accompany children under the age of 18 at all times. Most Los Angeles hotels can provide their guests with a list of independent babysitters and babysitting agencies frequently used by visitors. For more information, please contact the concierge at the appropriate hotel.

## Emergency/First Aid
**Convention Center, Ground Level, South Lobby Corridor**
**Convention Center, Level One, West Petree Hall**
In the event of an emergency, please use one of the white courtesy telephones available at the Convention Center and dial 3000 or 711 from any JW Marriott phone.

## Evaluations
Delegates will be able to provide feedback on their experiences at the Annual Meeting in two ways:

Participants will be asked to provide input on the educational program of the 2016 Annual Meeting through the online CME Claim System when claiming credit for participation.

Delegates can provide feedback on Annual Meeting faculty members and the sessions they attend by using the Annual Meeting app.

## Exhibits
**Convention Center, Level One, South Hall JK**
The exhibiting companies and organizations will provide you with the latest information on products and services available to physicians, researchers and allied health professionals in the field of allergy/immunology. The directory on page 171 will provide you with the information you need to take full advantage of the opportunities offered by the exhibitors.

Please allow adequate time in your daily schedule to visit the exhibits located in the Exhibit Hall in the Convention Center. Take time to speak with representatives of companies that provide services or market products directly to your professional interests.

***Exhibit Hours***

| | |
|---|---|
| Saturday, March 5 | 9:45 am to 3:15 pm |
| Sunday, March 6 | 9:45 am to 3:15 pm |
| Monday, March 7 | 9:45 am to 3:15 pm |

## Food Outlets
There are various coffee, food and beverage vendors located in the convention center on Level 1 (South Hall K, Compass Café, and Galaxy Court). There are also several restaurants within walking distance.

## Handouts
Handouts at the 2016 Annual Meeting will be available in two formats:

***Online Handouts***
The most up-to date versions of the 2016 Annual Meeting handouts are available to meeting delegates online at annualmeeting.aaaai.org during and after the Annual Meeting. Delegates are able to view, download and print available session handouts. Handouts can be searched by session number, session title or a speaker's last name. Login and password are case-sensitive.

Login: ALLERGY
Password: handouts

***Handout Station Locations***
**Convention Center, Level One, South Hall H**
**Convention Center, Level Two, 400 Meeting Room Concourse**
**Convention Center, Level Two, 500 Meeting Room Hall (at top of escalator)**
**JW Marriott, Platinum Level (between escalators)**

# Meeting Information

## Hospitality Suite

**JW Marriott, Third Floor, Georgia I**

Attendees with guest badges are welcome to relax in the Hospitality Suite. Stop in for information on local attractions and shopping, or just relax and enjoy some friendly conversation. (For guest attendees only.)

***Hospitality Suite Hours***

| | |
|---|---|
| Friday, March 4 | 8:00 am to 12:00 pm |
| Saturday, March 5 | 8:00 am to 12:00 pm |
| Sunday, March 6 | 8:00 am to 12:00 pm |
| Monday, March 7 | 8:00 am to 12:00 pm |

## JACI Journals

Key representatives from *The Journal of Allergy and Clinical Immunology (JACI*), the most-cited allergy/immunology journal, and sister journal *JACI: In Practice* will once again be on-hand within the Member Resource Center to answer your questions regarding your subscriptions and submissions.

## Jaywalking

Jaywalking in the city of Los Angeles is strictly prohibited and enforced. Fines for jaywalking can cost up to $250 if caught. Please mind all crosswalk lights.

## Lost and Found

In the event that you have lost or found a personal belonging, please see the AAAAI registration desk in the convention center South Lobby to either turn in or report a lost item. Please be prepared to provide a detailed description of your missing article.

## Member Resource Center

**Convention Center, Ground Level, South Lobby**

Visit the AAAAI Member Resource Center to:

- Take advantage of Annual Meeting discounts on all public education products.
- View open positions at the AAAAI Job Opportunities boards.
- Obtain guidance about office operations, coding and promoting your practice.
- Pay your dues, update your membership information or learn how to become a member.
- Pick up your tickets for the AAAAI Foundation Benefit.
- Pick up your materials or register on-site for the AAAAI Foundation 5K Run/Walk - "Light Up The Night"
- Speak with representatives from *The Journal of Allergy and Clinical Immunology* (JACI) and *The Journal of Allergy and Clinical Immunology: In Practice* about your subscription or submissions.

***Member Resource Center Hours***

| | |
|---|---|
| Thursday, March 3 | 4:00 to 8:00 pm |
| Friday, March 4 | 6:15 am to 5:30 pm |
| Saturday, March 5 | 6:45 am to 5:30 pm |
| Sunday, March 6 | 6:45 am to 5:30 pm |
| Monday, March 7 | 6:45 am to 5:30 pm |

## Mobile Annual Meeting App

*Sponsored by Teva Respiratory.*

The AAAAI has a mobile app dedicated to the 2016 Annual Meeting. This app features tools to search by speaker or session type, organize your schedule, evaluate speakers and sessions, stay current with changes as they occur during the meeting and navigate the convention center with floor plans and exhibitor information. Download the 2016 Annual Meeting app from the App Store or Google Play Store on your mobile device.

## Name Badges

All registered attendees at the 2016 Annual Meeting will receive a name badge as part of their onsite registration package. These badges have a barcode on the back that is embedded with the attendee's name, mailing address, fax number and email address. Delegates may scan their badges in the Exhibit Hall and give their contact information to specific exhibitors.

*Please note: When you allow an exhibitor to scan your badge, you are authorizing them to contact you and send you materials via postal mail, fax and/or email. The AAAAI cannot be responsible for the use of your contact information once you have given it to an exhibitor.*

## Networking & Recharging Lounge

**Convention Center, Ground Level, South Lobby**

## Nursing/Lactation Rooms

There are dedicated rooms for nursing mothers in the Convention Center located at each first aid station on the Ground Level and Level 1.

## Photography

Due to the distraction to the speakers, personal photography is not permitted within any educational sessions or in the Poster Hall. Delegates are welcome to take photographs at all other AAAAI functions and activities.

## Poster Hall

**Convention Center, Level One, South Hall H**

The poster sessions, featuring presentations of abstracts in thematic groupings, are open Saturday through Monday. Authors will be present with their posters from 9:45 to 10:45 am daily.

***Poster Hall Hours***

| | |
|---|---|
| Saturday, March 5 | 7:00 am to 6:00 pm |
| Sunday, March 6 | 7:00 am to 6:00 pm |
| Monday, March 7 | 7:00 am to 6:00 pm |

**e-Poster Stations**

*Sponsored by Genentech.*

Electronic poster stations will be located throughout the convention center. ePosters are searchable by author or topic.

# Meeting Information

## Press Room

**Convention Center, Level Two, Room 401**

Members of the press representing print, broadcast and electronic consumer media and healthcare trade media are invited to attend the 2016 AAAAI Annual Meeting if they have pre-registered through the AAAAI website. To claim a press pass onsite, journalists must provide media identification or a business card issued by their news organization. Freelance writers must provide a letter of assignment on a news organization letterhead or bylined articles from a recognized news organization. Press passes will only be issued to journalists representing the editorial staff of print, broadcast or Internet media. Journalists must display their press passes at all times while attending the meeting or covering meeting-sponsored events.

The AAAAI does not issue press passes to: a publication's advertising, marketing, public relations or sales representatives; publishers, editors or reporters from manufacturers' house organs or promotional publications, public relations staff of exhibitors or educational institutions; writers creating analyses or reports sold as a commodity to customers; or other individuals who are not actually reporting on the meeting or on behalf of a specific media outlet. Exhibitors may not register as press.

## Quiet Reflection Room

**Convention Center, Level Two, Room 302**

This room has been designated for prayer and meditation and is available for use at the Annual Meeting during regular hours of operation.

## Recording of Sessions

Many of the scientific sessions will be recorded as part of the Virtual Annual Meeting and will be available for purchase on site at the registration booths and after the meeting at the AAAAI Continuing Education Center (education.aaaai.org). Individual recording of educational sessions is not permitted.

## Registration Desk

**Convention Center, Ground Level, South Lobby**

Visit the registration desk to pick up your name badge, tickets and registration bag. You can also purchase tickets, register onsite and receive your CME/CE or Attendance Certificates.

***Registration Desk Hours***

| | |
|---|---|
| Thursday, March 3 | 4:00 to 8:00 pm |
| Friday, March 4 | 6:15 am to 5:30 pm |
| Saturday, March 5 | 6:45 am to 5:30 pm |
| Sunday, March 6 | 6:45 am to 5:30 pm |
| Monday, March 7 | 6:45 am to 5:30 pm |

***Ribbons***

Ribbons are available at a kiosk located in the South Lobby near registration.

***Ticket Exchange***

Tickets to available sessions will be sold at the onsite registration desk. Please check the session monitor for available sessions. To exchange or cancel a session ticket, please bring the ticket to the onsite registration desk no less than 30 minutes prior to the start of the session. Refunds for returned tickets will be mailed from the AAAAI executive office after the meeting.

## Smoking

Smoking is prohibited at all 2016 Annual Meeting sessions and events.

## Speaker Disclosures

Copies of all speakers' disclosure information are available online at the AAAAI Annual Meeting website and in the Speaker Resource Room.

## Speaker Resource Room

**Convention Center, Ground Level, South Lobby**

All speakers are asked to report to the Speaker Resource Room immediately upon arrival in Los Angeles to upload their presentation materials. Computers and technical support are available for speakers to use in this room. Individuals will receive their speaker ribbons in the Speaker Resource Room.

***Speaker Resource Room Hours***

| | |
|---|---|
| Thursday, March 3 | 4:00 pm to 8:00 pm |
| Friday, March 4 | 6:15 am to 5:30 pm |
| Saturday, March 5 | 6:45 am to 5:30 pm |
| Sunday, March 6 | 6:45 am to 5:30 pm |
| Monday, March 7 | 6:45 am to 4:00 pm |

## Special Dietary Requirements

If items on the daily, pre-arranged menu do not meet your special dietary requirements (e.g., allergies, kosher) an alternative option can be made available. Please notify an AAAAI staff member at the registration desk to ensure arrangements are made. Special arrangements require at least 24 hours advance notice. If you are a vegetarian, please inform the server assigned to the room at the beginning of the session that you would like a vegetarian selection.

# Meeting Information

## Training Stations

Saturday, March 5, 10:00 am to 12:00 pm

**Convention Center, Level One, South Hall H**

Training Stations provide annual meeting delegates the opportunity to get hands-on practice with allergy/immunology devices and procedures and instruction from peers with appropriate expertise. Participation is on a first-come, first-served basis and is open to any registered delegate. The 2016 stations will feature three options:

***Epinephrine Auto-Injector Training***

The Anaphylaxis Education Subcommittee will offer training in the use of epinephrine auto-injectors at the Annual Meeting. Participants receive a free trainer and sample anaphylaxis wallet card and action plan (while supplies last).

***Subcutaneous IgG Administration Training***

The Primary Immunodeficiency Committee will provide training on the use of infusion pumps and the administration of subcutaneous immunoglobulin.

***Oral Food Challenge Preparation***

The Adverse Reactions to Foods Committee will demonstrate techniques necessary for preparing and administering oral food challenges in the allergy/immunology practice.

## Transportation

*See page 194 for LA Transportation metro and bus line map.*

Metro stations are available near every AAAAI hotel. Please take the Blue or Expo Line to the Pico Station, directly across the street from the Los Angeles Convention Center. Metro rail fares are $1.50 for a one-way ticket.

DASH is a quick way to get around L.A. for only 50 cents. Six routes serve the Downtown area with bus stops at major tourist and business locations.

## Virtual Annual Meeting Recordings

Purchase the 2016 Virtual Annual Meeting at any of the registration booths located in the convention center on the Ground Level in the South Lobby. The Virtual Annual Meeting will be available online via streaming and MP4 file downloads. MP4 downloads will allow you to download the content and access it without being connected to the internet. The recordings include presentation slides along with video and audio for the Plenary and Keynote sessions, and presentation slides synchronized with the audio recordings for select courses, symposia, Interest Section Forums, workshops, pro/con debates and allied health sessions. Sessions included in the Virtual Annual Meeting are indicated with a V icon in this program.

## Wi-Fi

*Sponsored by Teva Respiratory.*

Complimentary Wi-Fi access is available at the convention center in the South Lobby, South Hall G and all meeting rooms and in all meeting spaces throughout the JW Marriott.

Connect to the Teva2016 wireless network.

Username: ProAir
Password: RespiClick

Username and password are case sensitive.

# Business and Committee Meetings

## AAAAI Annual Business Meeting

Monday, March 7, 12:30 to 1:30 pm
**Convention Center, Level One, Concourse Hall, Room 152**

All AAAAI Fellows and members should attend the annual Business Meeting. Box lunches will be provided. No fee. No pre-registration required.

## Interest Section Forums

Sunday, March 6, 3:30 to 4:30 pm
AAAAI Fellows and members, as well as other delegates, are invited to attend an Interest Section Forum. Each interest section of the AAAAI will host a separate forum. Fellows and members may designate their interest section affiliation, while non-members may inquire about AAAAI membership opportunities. Continuing education credits are available for these activities. See page 67 for more information.

## International Reception

Friday, March 4, 5:00 to 6:00 pm
**Convention Center, Level One, Concourse Hall, Room 153B**

The AAAAI invites all international members and delegates to attend this reception. No fee. No pre-registration required.

## New Allergist/Immunologist Assembly Business Meeting and Reception

Saturday, March 5, 4:45 to 6:15 pm
**Convention Center, Level Two, Room 407**

## Program Directors Assembly Business Meeting

Friday, March 4, 12-1:45 pm
**JW Marriott, Platinum Ballroom Level, Salon C**

## 2016 RSLAAIS Assembly Forum and Business Meeting

Friday, March 4, 4:45 to 6:30 pm
**Convention Center, Level Two, Room 515B**

## Assembly/Board/Division Committee Meetings

If you are a current member of an assembly, Board or division committee, please plan to attend your committee meeting. Committee meetings are open to current AAAAI members only. All members of these committees must be named by the AAAAI President-Elect. If you are an AAAAI member and you are interested in becoming a member of any of these committees, please contact the AAAAI executive office at (414) 272-6071 or info@aaaai.org.

***A/I Division Directors Committee***
Saturday, March 5, 6:45 to 7:45 am
**JW Marriott, Third Floor, Plaza 1**

***Advocacy Committee***
Sunday, March 6, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 303A**

***Allied Health Education Committee***
Sunday, March 6, 2:00 to 3:00 PM
**JW Marriott, Third Floor, Atrium 2**

***Allied Health Professionals Assembly Leadership Meeting***
Monday, March 7, 6:45 to 7:45 am
**JW Marriott, Third Floor, Atrium 2**

***Annual Meeting Awards Committee***
Friday, March 4, 5:15 to 6:15 pm
**JW Marriott, Third Floor, Atrium 2**

***Annual Meeting Program Subcommittee***
Monday, March 7, 10 am to 12 pm
**Convention Center, Level Two, Room 309**

***Core Curriculum, Education & Residency Review Subcommittee***
Saturday, March 5, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 308B**

***Credentials Committee***
Friday, March 4, 12 to 1 pm
**Convention Center, Level Two, Room 303A**

***Federation of RSLAAIS Board of Governors Meeting***
Saturday, March 5, 2:00 to 3:15 pm
**Convention Center, Level One, Concourse Hall, Room 150C**

***Fellows-In-Training Committee***
Saturday, March 5, 6:45 to 7:45 am
**Convention Center, Level One, Concourse Hall, Room 150C**

***Grant Review Committee***
Monday, March 7, 6:45 to 7:45 am
**JW Marriott, Third Floor, Plaza 3**

***Interest Section Coordinating Committee***
Saturday, March 5, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 303A**

***Needs Assessment and Outcomes Subcommittee***
Monday, March 7, 6:45 to 7:45 am
**JW Marriott, Third Floor, Olympic 1**

***New Allergist/Immunologist Assembly Leadership Meeting***
Sunday, March 6, 6:45 to 7:45 am
**JW Marriott, Third Floor, Plaza 3**

***Occupational Diseases Committee***
Saturday, March 5, 12:30 to 1:30 am
**JW Marriott, Third Floor, Atrium 2**

***Practice Improvement and Education Committee (PIEC)***
Monday, March 7, 6:45 to 7:45 am
**JW Marriott, Third Floor, Plaza 1**

***Practice Improvement Subcommittee***
Saturday, March 5, 5 to 6pm
**JW Marriott, Third Floor, Atrium 2**

***Practice Management Committee***
Sunday, March 6, 12:30 to 1:30 pm
**Convention Center, Level One, Concourse Hall, Room 153B**

***Program Directors Assembly Executive Committee***
Monday, March 7, 6:45 to 7:45 am
**JW Marriott, Third Floor, Atrium 1**

***Veterans Health Administration Allergists Committee***
Monday, March 7, 6:45 to 7:45 am
**JW Marriott, Third Floor, Olympic 3**

# Business and Committee Meetings

## Interest Section Committee Meetings

Committee meetings are held during the Annual Meeting for the purpose of conducting AAAAI related business. If you are a current member of an interest section committee, please plan to attend your committee meeting. If you are an AAAAI member and you are interested in joining an interest section committee, please attend the meeting and notify the chair that you are interested in joining. For more information on AAAAI committees, please contact the AAAAI executive office at (414) 272-6071 or info@aaaai.org.

***Adverse Reactions to Drugs, Biologics and Latex Committee***
Saturday, March 5, 12:00 to 1:30 pm
**Convention Center, Level One, Concourse Hall, Room 150A**

***Adverse Reactions to Foods Committee***
Saturday, March 5, 6:30 to 8:00 am
**Convention Center, Level Two, Room 309**

***Aerobiology Committee***
Sunday, March 6, 6:45 to 7:45 am
**JW Marriott, Third Floor, Plaza 1**

***Allergic Fungal Respiratory Diseases Committee***
Saturday, March 5, 12:30 to 1:30 pm
**Convention Center, Level One, Concourse Hall, Room 153A**

***Allergic Skin Diseases Committee***
Monday, March 7, 6:45 to 7:45 am
**Convention Center, Level One, Concourse Hall, Room 153B**

***Altered Immune Response Committee***
Sunday, March 6, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 308A**

***Anaphylaxis Committee***
Sunday, March 6, 6:45 to 7:45 am
**JW Marriott, Platinum Ballroom Level, Salon C**

***Asthma & Allergic Diseases in the Elderly Committee***
Saturday, March 5, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 301A**

***Asthma, Cough, Diagnosis and Treatment Committee***
Sunday, March 6, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 304A**

***Cells and Mediators of Allergic Inflammation Committee***
Sunday, March 6, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 309**

***Committee on the Underserved***
Saturday, March 5, 1:45 to 2:45 pm
**Convention Center, Level One, Concourse Hall, Room 153C**

***Complementary and Alternative Practices in Allergy Committee***
Saturday, March 5, 11:00 am to 12:30 pm
**Convention Center, Level One, Concourse Hall, Room 153B**

***Environmental Exposure and Respiratory Health Committee***
Sunday, March 6, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 301A**

***Eosinophilic Gastrointestinal Disorders Committee***
Sunday, March 6, 6:45 to 7:45 am
**Convention Center, Level One, Concourse Hall, Room 150A**

***Genetics, Molecular Biology & Epidemiology Committee***
Saturday, March 5, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 306B**

***Health Informatics, Technology & Education Committee***
Saturday, March 5, 12:30 to 1:30 pm
**Convention Center, Level One, Concourse Hall, Room 150B**

***Immunotherapy, Allergen Standardization & Allergy Diagnostics Committee***
Saturday, March 5, 6:30 to 8:00am
**Convention Center, Level One, Concourse Hall, Room 150B**

***Mast Cells Disorders Committee***
Sunday, March 6, 6:45 to 7:45 am
**Convention Center, Level One, Concourse Hall, Room 153C**

***Microbes in Allergy and Asthma Committee***
Monday, March 7, 6:45 to 7:45 am
**JW Marriott, Third Floor, Atrium 3**

***Office of Practice Management***
Saturday, March 5, 12:30 to 1:30 pm
**Convention Center, Level Two, Room 304A**

***Practice, Diagnostics and Therapeutics Committee***
Sunday, March 6, 6:45 to 7:45 am
**JW Marriott, Third Floor, Olympic 3**

***Primary Immunodeficiency Diseases Committee***
Friday, March 4, 5:15 to 6:30 pm
**JW Marriott, Diamond Ballroom Level, Salons 1 & 2**

***Quality, Adherence and Outcomes Committee***
Monday, March 7, 6:45 to 7:45 am
**JW Marriott, Third Floor, Plaza 2**

***Rhinitis, Rhinosinusitis and Ocular Allergy Committee***
Monday, March 7, 6:45 to 7:45 am
**Convention Center, Level Two, Room 501A**

***Sports, Exercise and Fitness Committee***
Saturday, March 5, 6:45 to 7:45 am
**JW Marriott, Third Floor, Olympic 1**

***Vaccines and Biological Threats Committee***
Friday, March 4, 5:15 to 6:15 pm
**JW Marriott, Third Floor, Plaza 1**

# Other Meetings and Events

## Other AAAAI Meetings

***AAAAI Tweetup***
Friday, March 4, 2:00 to 3:00 pm
**Convention Center, Level Two, Room 306A**

***Allied Health Wine and Cheese Reception***
Friday, March 4, 5:15 to 6:15 pm
**Convention Center, Level Two, Room 515A**

***FIT Reception***
Friday, March 4, 5:00 to 6:00 pm
**JW Marriott, Diamond Ballroom Level, Salons 6 & 7**
*Sponsored by Teva Respiratory.*
Private reception open to current allergy/immunology Fellows-in-Training only.

***JACI Associate Editors Meeting***
Monday, March 7, 6:45 to 8:00 am
**Convention Center, Level One, Concourse Hall, Room 150B**

***JACI Editorial Board Meeting***
Saturday, March 5, 6:30 to 7:45 am
**Convention Center, Level One, Concourse Hall, Room 153AB**

***JACI: In Practice Editorial Board Meeting***
Sunday, March 6, 12:30 to 1:30 pm
**Convention Center, Level One, Concourse Hall, Room 150BC**

***JACI International Advisory Board***
Sunday, March 6, 6:30 to 7:30 am
**JW Marriott, Third Floor, Olympic 1**

***JACI Journals' Reviewers Forum and Reception***
Sunday, March 6, 4:45 to 6:30 pm
**JW Marriott, Diamond Ballroom Level, Salons 1 & 2**

***National Allergy Bureau (NAB) Counters Meeting***
Friday, March 4, 5:15 to 6:15 pm
**JW Marriott, Diamond Ballroom Level, Salon 3**

## Other Meetings and Events

**Dessert Reception**
*This program is not sponsored or programmed by the AAAAI.*
**Applying Science with a Single Breath: Utilizing FeNO as a Biomarker in Asthma Management**
Sunday, March 6, 8:30 to 10:30 pm
**JW Marriott, Platinum Ballroom Level, Salon FGHIJ**
*Sponsored by Circassia.*
The American Thoracic Society (ATS) has developed guidelines that strongly recommend the use of FeNO as a biomarker for monitoring airway inflammation in asthma patients. At this session, learn how you can reduce asthma exacerbations by utilizing FeNO measurements obtained with the NIOX VERO® device as a biomarker in Asthma Management. An expert will review case studies of how FeNO measurements help inform assessment and treatment of asthma patients. Live performance of the NIOX VERO® will be demonstrated at this session.

## Non-CME Educational Programs

### Thursday

*This program is not sponsored or programmed by the AAAAI.*

***Taking a Broader View: Enhancing Evaluation and Care for Patients with Primary Immunodeficiency***
Thursday, March 3, 6:30 to 8:30 pm
**JW Marriott, Platinum Ballroom Level, Salon ABC**
*Sponsored by Baxalta US Inc.*
This non-CME educational dinner program brings together experts who have played key roles in updating treatment guidelines for primary immunodeficiencies (PIs) and expanding assessment of disease impact and treatment benefits to include patient-reported outcomes (PROs). Prominent clinicians will discuss updated practice parameters for the management of patients with PIs; present results concerned with perceived health in PI patients; and review PI CONNECT, an initiative aimed at integrating patient- and physician-reported outcomes. The program will provide participants with up-to-date information about evaluating and managing the "whole patient" and personal insights about incorporating a broader approach to patient evaluation into clinical practice.

### Friday

*These programs are not sponsored or programmed by the AAAAI.*

***Peanut Allergy Oral Immunotherapy: The Past, Present and a Look Into the Future***
Friday, March 4, 6:30 to 8:30 pm
**JW Marriott, Platinum Ballroom Level, Salon FGHIJ**
*Sponsored by Aimmune Therapeutics.*
*Presenters:*
*Kirsten Beyer, MD*
*A. Wesley Burks, MD, FAAAAI*
*George Du Toit, MD, FAAAAI*
*Anna H. Nowak-Wegrzyn, MD, FAAAAI*
*Wayne Shreffler, MD, PhD*

- Every day, more than 5 million people with peanut allergy in the US and Europe are at risk of severe reactions from accidental exposures to peanuts. Recent data indicate AR101, delivered through CODIT™, is an emerging treatment option for peanut allergy.
- This symposium will review the mechanisms of food allergy and desensitization; evaluate results and highlight key learnings from academic clinical trials in peanut oral immunotherapy (OIT); and provide safety and efficacy results from Aimmune's phase 2 clinical trials of AR101.
- A subsequent faculty panel discussion will answer questions and provide clinicians with insights and perspectives on OIT.

***Two Sides to Every Story: Expert Insights and a Patient Perspective on a Subcutaneous Immune Globulin Infusion for Adult Patients with Primary Immunodeficiency***
Friday, March 4, 6:30 to 8:30 pm
**JW Marriott, Platinum Ballroom Level, Salon ABC**
*Sponsored by Baxalta US Inc.*
*Presenters:*
*Richard L. Wasserman, MD PhD FAAAAI*
*Raffi Tachdjian, MD MPH*
*Vicki Ybanez, Patient Ambassador*
At this complimentary dinner program, our featured panel of thought leaders and a Patient Ambassador will provide an interactive discussion on a subcutaneous immune globulin (IG) infusion treatment for adult patients with primary immunodeficiency (PI).
Objectives:

- Product clinical efficacy and safety profile
- Individualizing treatment to optimize patients' infusion experience
- Address both HCPs' and patients' commonly asked questions regarding mechanism of action, dosing, and management of the infusion process.

The session will also include the personal story of an adult patient ambassador with PI and her experiences receiving the product. Submit your questions for our panel in advance at http://avanthc-nroll.com/AAAAI2016.

***The Role of Eosinophils in the Management of Severe Asthma***
Friday, March 4, 6:30 to 8:30 pm
**JW Marriott, Platinum Ballroom Level, Salon D**
*Sponsored by GlaxoSmithKline.*
*Presenters:*
*Mark S. Forshag, MD, MHA*
*Peter Howarth, MD*
This complimentary dinner program will provide an overview of the pathogenesis of and unmet need in severe asthma. Information regarding the role of eosinophils and the changing landscape in the management of severe asthma will be reviewed.

***New Frontiers and Treatment Advances for Atopic Dermatitis, Asthma, and Related Immune-Related Conditions***
Friday, March 4, 6:30 to 8:30 pm
**JW Marriott, Platinum Ballroom Level, Salon E**
*Sponsored by Sanofi and Regeneron Pharmaceuticals.*
This program will improve the scientific and medical knowledge of emerging targets and therapies for moderate-to-severe atopic dermatitis (AD) and asthma; review guideline adherence strategies for managing patients with AD or asthma; illuminate new and evolving, immune-based therapeutic strategies that have the potential for improving clinical remissions; address the clinical burden of AD with a focus on duration of treatment, quality-of-life issues, disease, co-morbidities, and the evolution of AD from the pediatric years to adulthood; and review best practice benchmarks among specialists caring for patients at high risk for resistant disease, severe disease, and/or treatment failures.

## Non-CME Educational Programs (continued)

### Friday (continued)

***Joint Presentation on Seasonal Allergic Rhinitis and Maintenance Treatment of Asthma***

Friday, March 4, 8:30 to 10:30 pm

**JW Marriott, Diamond Ballroom Level, Salon 5**

*Sponsored by Meda Pharmaceuticals.*

*Presenters:*

*Warner Carr, MD*
*Eugene Choo, MD*
*Bradley Chipps, MD*
*Linda S. Cox, MD*
*Michael A. Kaliner, MD*
*Ellen Sher, MD*
*William Storms, MD*
*Dana V. Wallace, MD*

Meda Pharmaceuticals will host a joint presentation on Seasonal Allergic Rhinitis and maintenance treatment of Asthma. A donation of $100 will be made ($75 to The AAAAI Foundation and $25 to The Allergy & Asthma Network-AAN) for each registered AAAAI attendee attending this Non-CME Educational Program.

### Saturday

*These programs are not sponsored or programmed by the AAAAI.*

***Targeting Exacerbations in Moderate to Severe Persistent Allergic Asthma***

Saturday, March 5, 6:30 to 8:30 pm

**JW Marriott, Platinum Ballroom Level, Salon E**

*Sponsored by Genentech USA, Inc. and Novartis Pharmaceuticals Corporation.*

*Presenter:*

*Thomas Murphy, MD*

Genentech USA, Inc. and Novartis Pharmaceuticals Corporation will be hosting a non-CME product theater program on Saturday, March 5th in Salon E (Platinum Ballroom Level). This program will be presented by Dr. Thomas Murphy and will feature a presentation on "Targeting Exacerbations in Moderate to Severe Persistent Allergic Asthma".

***Evidence Of Severity: Patients at Risk***

Saturday, March 5, 6:30 to 8:30 pm

**JW Marriott, Platinum Ballroom Level, Salon D**

*Sponsored by Teva Respiratory.*

This presentation will review the scientific evidence that supports the use of asthma phenotyping and biomarkers in asthma patients. The risks associated with and practical considerations of managing patients with the active eosinophilic airway inflammation phenotype will be discussed. This is a preregistration-only event.

## Non-CME Educational Programs (continued)

### Sunday

*These programs are not sponsored or programmed by the AAAAI.*

***Epicutaneous Immunotherapy: A Novel Pathway in Development for the Treatment of Food Allergies***
Sunday, March 6, 6:30 to 8:30 pm
**JW Marriott, Diamond Ballroom Level, Salon 4**
*Sponsored by DBV Technologies.*
*Presenters:*
*Pierre-Henri Benhamou, MD, CEO of DBV Technologies*
*Drew Bird, MD*
*Kari Nadeau, MD, PhD*
*Jonathan Spergel, MD, PhD*
*Hugh Sampson, MD, CSO of DBV Technologies & Director of the Jaffe Food Allergy Institute at the Icahn School of Medicine at Mount Sinai (Moderator)*
Epicutaneous immunotherapy (EPIT) is an innovative treatment approach for food-allergic patients. Clinical trial data support treatment efficacy, favorable safety profile, and strong patient compliance. This symposium will explore the scientific foundations, body of clinical evidence, and potential implications for food- and pediatric-allergic patients. Emerging data in peanut and milk allergy will be presented as well as its broader application in the field of food allergy, including eosinophilic esophagitis. This new class of self-administered and non-invasive products candidates is dedicated to safely transforming the care of food-allergic patients. Dinner will be provided.

***A Voyage Through the Lungs: Cytokines, Effector Cells, and Clinical Markers of Inflammation in Asthma***
Sunday, March 6, 6:30 to 8:30 pm
**JW Marriott, Platinum Ballroom Level, Salon D**
*Sponsored by Genentech, Inc.*
The educational presentation is an interactive exploration of the pathophysiology of moderate to severe asthma. There will be discussions on the origins of hallmark signs such as airway hyperreactivity and mucus overproduction, the role of cytokines IL-13, IL-5, and IL-4, and how markers of asthma inflammation can reflect the activity of these cytokines.

***RUCONEST® (C1 Esterase Inhibitor [recombinant]) A Recombinant C1INH Treatment Option***
Sunday, March 6, 6:30 to 8:30 pm
**JW Marriott, Platinum Ballroom Level, Salon E**
*Sponsored by Salix Pharmaceuticals.*
*Presenter:*
*Marc Riedl, MD*
*Professor of Medicine*
*Clinical Director – US HAEA Angioedema Center*
*Division of Rheumatology, Allergy and Immunology*
*University of California*
*San Diego, California*

***Clinical Relevance Of Tree Nut Allergen Component sIgE Testing***
Sunday, March 6, 6:30 to 8:30 pm
**JW Marriott, Diamond Ballroom Level, Salon 5**
*Sponsored by Thermo Fisher Scientific.*
Thermo Fisher Scientific Inc. (NYSE: TMO) is the world leader in serving science, with revenues of $17 billion and approximately 50,000 employees in 50 countries. Our mission is to enable our customers to make the world healthier, cleaner and safer. We help our customers accelerate life sciences research, solve complex analytical challenges, improve patient diagnostics and increase laboratory productivity. Through our premier brands – Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific and Unity Lab Services – we offer an unmatched combination of innovative technologies, purchasing convenience and comprehensive support. For more information, please visit www.thermofisher.com.

You are invited to attend a weekend meeting that will expose you to the clinical spectrum of asthma throughout life. An initiative of AAAAI President Robert F. Lemanske, Jr., MD, FAAAAI, this unique educational program is built around four themes:

# SAVE THE DATE

THE LIFE SPECTRUM OF ASTHMA

AAAAI

**JULY 29-31**
**CHICAGO, IL**
**2016**

- Asthma inception and progression
- Reducing and/or eliminating asthma exacerbations
- Preventing and treating severe asthma
- Asthma and COPD Overlap Syndrome (ACOS)

Each theme will have its own plenary, a series of symposia and case discussion workshops.

**Registration and abstract submission now open at aaaai.org.**

# 2016 AAAAI FOUNDATION BENEFIT

(formerly the ARTrust Benefit)

# A/I: THE FUTURE FRONTIER

## Celebrate under the Space Shuttle Endeavour

**PROCEEDS SUPPORT OUR MISSION:**
Funding research that leads to the prevention and cure
of asthma and allergic and immunologic disease

**Saturday, March 5, 2016**
**7:00 pm - 10:00 pm**
**California Science Center: Samuel Oschin Endeavour Pavilion**
**Los Angeles, California**

For more information or to purchase tickets, please visit
the AAAAI Foundation booth in the Member Resource Center.

AAAAI
FOUNDATION

GET OUT
AND SUPPORT OUR

# AAAAI FOUNDATION 4TH ANNUAL RUN WALK 5K

LIGHT UP THE NIGHT • LA • 2016

## Benefiting Allergy & Asthma Research

*formerly the ARTrust Run/Walk*

AAAAI FOUNDATION

**Sunday, March 6, 2016**
**Outside South Lobby - L.A. Convention Center**
Onsite Registration & Music: **4:30 pm**
Warm-Up: **5:15 pm**
Race & Entertainment: **5:30 pm**

*Proudly sponsored by* Shire

For more information or to register please visit the AAAAI Foundation booth located in the Member Resource Center.

# Associate and Guest Activities

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

AAAAI Associates (Spouses & Friends) to the American Academy of Allergy, Asthma & Immunology

## Associates (Spouses & Friends) to the AAAAI

Since 1982, the Associates (Spouses & Friends) to the AAAAI have provided social events and networking opportunities for the spouses and friends of the AAAAI.

Full membership in the Associates to the AAAAI is included in each spouse/guest registration fee. Membership includes volunteer opportunities, newsletters, a chance to participate in future programming for the Associates and a networking membership directory on the AAAAI website.

## Associates Breakfast and Business Meeting

Saturday, March 5, 9:00 to 11:00 am

**JW Marriott, Gold Ballroom Level, Salon 4**

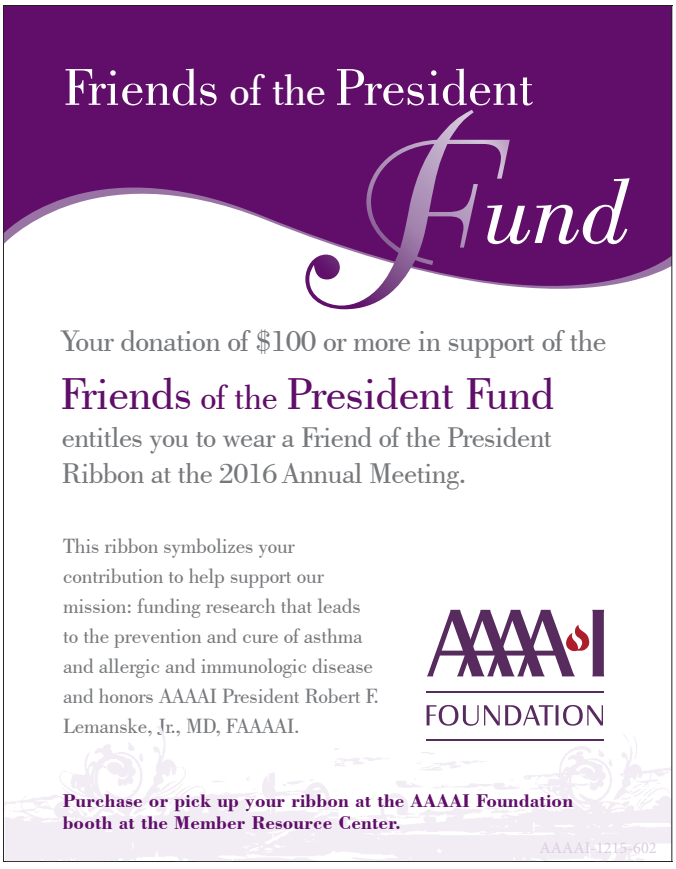
*Pre-registration and ticket required.*

The Board of Directors of the Associates would like to invite you to begin your Annual Meeting experience by joining us for the celebration of the Associates at the JW Marriott Los Angeles. This breakfast event is open to registered guests only. For guests interested in bringing a child under the age of 17, pre-registration and ticket is required; children under the age of 6 are complimentary.

## Hospitality Suite

**JW Marriott, Third Floor, Georgia 1**

Make sure you visit the Hospitality Suite, which is open Friday, March 4 to Monday, March 7 from 8:00 am to 12:00 pm. A host will be onhand to assist with restaurant and activity recommendations and to make reservations. Stop by, have a cup of coffee and learn how you can get involved!



# Lectureships

## Annual Meeting Lectureships

For nearly five decades, members of the American Academy of Allergy, Asthma & Immunology have honored outstanding individuals who have contributed to this field as leaders and teachers by the establishment of Annual Meeting lectureships. The Annual Meeting Program Committee is pleased to announce the lectureships and lectureship speakers for the 2016 AAAAI Annual Meeting. Biographies and photographs are available at annualmeeting.aaaai.org.

### The Rebecca Buckley Lectureship: 5th year

**Lecturer: Mark Ballow, MD FAAAAI**

Award presentation at Symposium Session 1805: Secondary Immune Deficiencies (Non-HIV) on Friday, March 4, 4:00 to 5:15 pm

### The Robert A. Cooke Memorial Lectureship: 54th year

**Lecturer: Thomas A.E. Platts-Mills, MD PhD FAAAAI**

Award presentation at Plenary Session 2101: Immunoglobulin E: The First 50 Years and Beyond on Saturday, March 5, 8:15 to 9:45 am

### The Jerry Dolovich Memorial Lectureship: 18th year

**Lecturer: Hannah J. Gould, PhD**

Award presentation at Plenary Session 2101: Immunoglobulin E: The First 50 Years and Beyond on Saturday, March 5, 8:15 to 9:45 am

### The Elliot F. Ellis Memorial Lectureship: 18th year

**Lecturer: Robert F. Lemanske, Jr., MD FAAAAI**

Award presentation at Presidential Plenary Session 1601: The Origins of Childhood Asthma on Friday, March 4, 2:00 to 3:30 pm

### The Elliott Middleton Memorial Lectureship: 15th year

**Lecturer: Kathleen E. Sullivan, MD PhD FAAAAI**

Award presentation at Symposium Session 2307: What Do I Do With These Abnormal Newborn Screening Results? on Saturday, March 5, 10:45 am to 12:00 pm

### The Harold S. Nelson Lectureship: 16th year

**Lecturer: Thomas B. Casale, MD FAAAAI**

Award presentation at Plenary Session 2101: Immunoglobulin E: The First 50 Years and Beyond on Saturday, March 5, 8:15 to 9:45 am

### The John E. Salvaggio Memorial Lectureship: 15th year

**Lecturer: Carole Ober, PhD**

Award presentation at Presidential Plenary Session 1601: The Origins of Childhood Asthma on Friday, March 4, 2:00 to 3:30 pm

### The Hugh A. Sampson Lectureship in Food Allergy: Inaugural year

**Lecturer: Gideon Lack, MD**

Award presentation at Plenary Session 3101: Clinical Insights Into the Prevention and Modification of Atopic Disease on Sunday, March 6, 8:15 to 9:45 am

### The Gail G. Shapiro Memorial Lectureship: 10th year

**Lecturer: Anna H. Nowak-Wegrzyn, MD FAAAAI**

Award presentation at Symposium Session 1806: Non-IgE-Mediated Gastrointestinal Food Allergies in Children and Adults on Friday, March 4, 4:00 to 5:15 pm

### The Robert G. Townley Lectureship: 2nd year

**Lecturer: William W. Busse, MD FAAAAI**

Award presentation at Plenary Session 3101: Clinical Insights Into the Prevention and Modification of Atopic Disease on Sunday, March 6, 8:15 to 9:45 am

### The Burton Zweiman Memorial Lectureship: 16th year

**Lecturer: Andrea Apter, MD MA MSc FAAAAI**

Award presentation at Symposium Session 1801: What Can Implementation Research Teach Us About the Management of Asthma? on Friday, March 4, 4:00 to 5:15 pm

## AAAAI Foundation: Investing Together in Our Future

The AAAAI Foundation: Investing Together in Our Future lectureships are established to recognize substantial contributions of at least $100,000 to the AAAAI Foundation through collaborative contributions of others or individual contributions honoring an individual or entity. The AAAAI Foundation leadership is proud to announce the lectureships and lectureship speakers for the 2016 AAAAI Annual Meeting. Biographies and photographs are available at annualmeeting.aaaai.org.

### AAAAI Foundation and Dr. William and Judith H. Busse Lectureship: Investing Together in Our Future: 3rd year

**Lecturer: Stephen T. Holgate, MD DSc FAAAAI**

Award presentation at Keynote Session 2701: The Past, Present and Future of Asthma on Saturday, March 5, 3:30 to 4:30 pm

### AAAAI Foundation and Donald Y. M. Leung, MD PhD FAAAAI-JACI Lecture: Investing Together in Our Future: 4th year

**Lecturer: Wayne G. Shreffler, MD PhD FAAAAI**

Award presentation at Symposium Session 4303: State-of-the-Art: Update from the AADCRC Food Allergy Research Centers on Monday, March 7, 10:45 am to 12:00 pm

### AAAAI Foundation and Phil and Barbara Lieberman and Friends Lecture: Investing Together in Our Future: 2nd year

**Lecturer: David B.K. Golden, MD FAAAAI**

Award presentation at Symposium Session 2306: Managing Stinging Insect Allergy in the 21st Century on Saturday, March 5, 10:45 am to 12:00 pm

### AAAAI Foundation and Stephen D. Lockey, Jr., MD Lecture: Investing Together in Our Future: 4th year

**Lecturer: Hugh A. Sampson, MD FAAAAI**

Award presentation at Symposium Session 2301: World Allergy Forum:

# Lectureships



Role of Intolerance in Food Allergy on Saturday, March 5, 10:45 am to 12:00 pm

## AAAAI Foundation and Anjuli Seth Nayak, MD FAAAAI Lecture: Investing Together in Our Future: 4th year

**Lecturer: Seema Sharma Aceves, MD PhD FAAAAI**
Award presentation at Plenary Session 4101: The Exposome: The Dynamic Role of the Environment in Shaping Risk for Disease on Monday, March 7, 8:15 to 9:45 am

## AAAAI Foundation and William T. Shearer and Lynn Des Prez Lecture: Investing Together in Our Future: 2nd year

**Lecturer: Jordan Orange, MD PhD FAAAAI**
Award presentation at Symposium Session 2554: Imaging Immunity in Health and Disease on Saturday, March 5, 12:30 to 1:30 pm

# Awards

## AAAAI Allied Health $750 Travel Award Recipients

Nicole Pleskovic, BS
*Allegheny Singer Research Institute, Pittsburgh, PA*

Beth D. Strong, RN CCRC
*Icahn School of Medicine at Mount Sinai New York, NY*

Zara Atal
*Icahn School of Medicine at Mount Sinai New York, NY*

Kim Mudd, RN MSN CCRP
*Johns Hopkins University School of Medicine Baltimore, MD*

Claudia Guglielmo, MPS AE-C
*Asthma Coalition of Queens/American Lung Association of the Northeast Hauppauge, NY*

## 2016 Bernard B. Siegel Memorial Abstract Award

Yuval Tal, MD PhD
*Hadassah Hebrew University Medical Center,\ Israel*

## American Academy of Pediatrics (AAP) Section on Allergy and Immunology Outstanding Pediatric Abstract Award Recipients

**FIT Award Recipients - $750**

Marissa Hauptman, MD MPH
*Boston Children's Hospital*

David A. Hill, MD PhD
*The Children's Hospital of Philadelphia*

Margee Louisias, MD
*Brigham and Women's Hospital*

## AAAAI/APFED Best Oral Abstract on EGIDs Award

Ashmi M. Doshi, MD
"Group 2 Innate Lymphoid Cells and IL-9 Receptor Are Increased in Active Eosinophilic Esophagitis"
*University of California San Diego*

## 2016 Allied Health Professionals Assembly Travel Scholarship Recipients

Olivia Rae Ackerman, MSN APRN PPCNP-BC
*Children's National Medical Center Washington, DC*

Alexia Beauregard, MS RD CSP LD
*Children's Healthcare of Atlanta Atlanta, GA*

Scott Aron Tarver, PharmD BCPS
*Parkland Health and Hospital System Dallas, TX*

Joshua Chaim Lipszyc, BA MSc Candidate
*University of Toronto Thornhill, ON Canada*

Stephani Ann Pineda, BSPH
*Central California Asthma Collaborative Fresno, GA*

Jon Allan Ramsey, RN
*Allergy & Asthma Clinics of Ga. Albany, GA*

Sabrina Jalleh Smith, RN
*Nationwide Childrens Hospital Columbus, OH*

Darshna Yagnik, MS PhD
*Middlesex University London, United Kingdom*

# Awards



## 2016 International Travel Scholarship Recipients

The following international in-training members have been awarded International Travel Scholarships to attend the Annual Meeting. The 2016 International Travel Scholarships are funded by the AAAAI and selected by an ad hoc panel of International Fellows.

***Africa***
Maria Karsas, MD
*Steve Biko Academic Hospital*

***East Asia***
Yu Kuwabara, MD
*Allergy Center and Institute for Clinical Research, Mie National Hospital*

***Europe***
Mehtap Haktanir Abul, MD
*Karadeniz Teknik University*

Esther Steveling, MD
*University Hospital Basel*

Ru-Xin Melanie Foong, MD
*Institute of Child Health, University of London*

Sandra Wieser, MD
*Medical University of Vienna*

Marijn Warners, MD
*Academic Medical Center*

Lukas Einhorn, MSc
*Medical University Vienna*

Paula Lopez, MD
*Ramon y Cajal University Hospital*

Davide Campagna, MD
*University of Catania*

***EAACI Reps***
Peter Valentin Tomazic, MD
*Medical University of Graz*

Olympia Tsilochristou, MD
*Charite University Hospital*

***Mexico***
Juan Fernandez de Cordova Aguirre, MD
*Hospital General de Mexico*

***Middle East***
Hossein Esmaeilzadeh, MD
*Tehran University of Medical Science*

***South America***
Sandra Coronado, MD
*University of Cartagena*

Juliana Sella, MD
*Ribeirao Preto School of Medicine University of Sao Paulo*

Estefania Martinez, MD
*Hospital Cordoba*

Adriana Barbosa, MD
*University of Sao Paulo*

***South Asia***
Suvanee Charoenlap, MD
*Chulalongkorn University*

Suda Punrin, MD
*Chulalongkorn University*

Buntita Bamrungchaowkasem, MD
*Mahidol University*

Bharti Arora, MD
*CSIR, Institute of Genomics and Integrative Biology*

Yiwa Suksawat, MD
*Mahidol University*

Natcha Siripattarasopon, MD
*Mahidol University*

Sinjira Somanunt, MD
*Mahidol University*

## AAAAI Interest-Section Fellow-in-Training (FIT) Abstract Award Recipients

***Asthma Diagnosis and Treatment Interest Section***
Jennifer McCracken, MD
*UTMB*
"Abrogation of Glucocorticoid Signaling By Exhaled Breath Condensate (EBC) from Mild Persistent Asthmatics"

***Basic and Clinical Immunology Interest Section***
Suvanee Charoenlap, MD
*Chulalongkorn University, Thailand*
"Use of Rabies Virus Vaccine As a Neoantigen to Evaluate Humoral Immune Function in Patients with Primary Immunodeficiency Disorders Receiving Immunoglobulin Replacement Therapy"

***Environmental and Occupational Respiratory Diseases Interest Section***
Jamee R. Castillo, MD
*University of Wisconsin School of Medicine and Public Health*
"Farm Exposure Is Associated with Reduced Rates of Viral Respiratory Illnesses in Early Life"

***Food Allergy, Anaphylaxis, Dermatology and Drug Allergy Interest Section***
Justin R. Chen, MD
*University of Texas Southwestern Medical Center*
"Beneficial Outcomes of an Inpatient Penicillin Allergy Testing Protocol"

***Health Outcomes, Education, Delivery and Quality Interest Section***
Jaclyn Bjelac, MD
*Cleveland Clinic*
"On-Line Monitoring Tool for Recommended Data Collection of Angioedema Attacks in Patients with Hereditary Angioedema"

***Immunotherapy, Rhinitis, Sinusitis and Ocular Diseases Interest Section***
Kathleen M. Buchheit, MD
*Brigham and Women's Hospital*
"Thymic Stromal Lymphopoietin Controls Prostaglandin D2 Generation in Aspirin-Exacerbated Respiratory Disease"

***Mechanisms of Allergy and Allergic Inflammation Interest Section***
Jenna R. Bergerson, MD MPH
*Ann & Robert H. Lurie Children's Hospital of Chicago*
"Identification of Tr1 Cells in a Pediatric Population"

# Awards



## 2016 FIT Travel Scholarships

TThe FIT Travel Scholarships for Fellows-In-Training in the United States and Canada allow FIT attendees to supplement their training by attending the Annual Meeting.

*Funded by the AAAAI and in part through an educational grant from Genentech, Inc. and a sponsorship from Teva Respiratory.*

**$1,100 Awardees**

Eyas Abla, MD
Julie Abraham, MD
Juan Adams, MD
Elias Akl, MD
Kwei Akuete, MD
Sultan Alandijani, MD
Sohaib Aleem, MD
Aishah Ali, MD
Halie Anderson, MD
Schweta Arakali, MD
Samuel Ash, MD
Evan Atkinson, MD
Diana Balekian, MD
Lori Banka, DO
Maria Barcena, MD
Jeannie Bay, DO
Sara Benede, PhD
Jenna Bergerson, MD
Alalia Berry, MD
Sheila Bina, MD
Ashvini Biswas, MD
Jaclyn Bjelac, MD
Sumit Bose, MD
Moira Breslin, MD
Kari Brown, MD
Kathleen Buchheit, MD
Adeeb Bulkhi, MD
Vanessa Bundy, MD
Allison Burbank, MD
Suzanne Burke-McGovern, MD
Adam Byrne, MD
Sonia Cajigal, MD
Charles Calais, DO
Carrie Caruthers, MD
Jamee Castillo, MD
Angela Chang, MD
Jianjun Chen, MD
Justin Chen, MD
Yifeng Chen, MD
Sergio Chiarella, MD
Amaziah Coleman, MD
Kevin Cook, MD
Andrew Cooke, MD
Gina Coscia, MD
Christopher Couch, MD
Leslie Cristiano, MD
Miranda Curtiss, MD
Roula Daher, MD
Jennifer Dantzer, MD
Rahul Datta, MD
Kristen Dazy, MD
Sarah De Schryver, MD
Shilpa Desai, MD
Meredith Dilley, MD
Danh Do, PhD
Svjetlana Dolovcak, MD
Steve Dorman, MD
Ashmi Doshi, MD
Anar Dossumbekova, MD
Steven Draikiwicz, MD
Jacqueline Eastman, MD
Maureen Egan, MD
Hannah Laure Elfassy, MD
Stephanie Eng, MD
Rehan Faridi, PhD
Elizabeth Feuille, MD
Charles Filion, MD
Claire Galand, PhD
Joel Gallagher, MD
Yael Gernez, MD
Maya Gharfeh, MD
Debajyoti Ghosh, PhD
Megan Goebel, MD
Hillary Gordon, MD
Torie Grant, MD
Joseph Grillo, MD
Magdalena Grzyb, MD
Miren Guenechea, MD
Malika Gupta, MD
Ratika Gupta, MD
Hani Hadi, MD
Yasmin Hamzavi Abedi, MD
Jill Hanson, MD
Heather Hartman, MD
Nicholas Hartog, MD
Marissa Hauptman, MD
Jonathan Hemler, MD
Sarah Henrickson, MD
Camellia Hernandez, MD
Alice Hoyt, MD
Melissa Iammatteo, MD
Muhammad Imran, MD
Onyinye Iweala, PhD
Vipul Jain, MD
Jay Jin, MD
Ara Jo, PhD
Andrea Jones, MD
Samata Kamireddy, MD
Venkatkiran Kanchustambham, MD
Jennifer Kannan, MD
Irina Katayeva, MD
Theodore Kelbel, MD
John Kelley, MD
Jamie Kiehm, MD
Dae Woo Kim, PhD
Julie Kim-Chang, MD
Aaron Kobernick, MD
Parul Kothari, MD
Atoosa Kourosh, MD
Fei Li Kuang, MD
Bharat Kumar, MD
Susanne LaBarba, DO
Jennifer Lan, MD
Juhee Lee, MD
Kathleen Lee-Sarwar, MD
Evan Li, MD
Adora Lin, MD
Samantha Lin, MD
Changda Liu, PhD
Margee Louisias, MD
Cathryn Luria, MD
Bethany Lussier, MD
Vaishaali Manga, MD
Ashish Mathur, MD
Jennifer McCracken, MD
Neha Mehrotra Dunn, MD
Rushita Mehta, MD
Jin Young Min, MD
Meaghan Misiasz, MD
Mahta Mortezavi, MD
Megan Motosue, MD
Manali Mukherjee, PhD
Naveen Nannapaneni, MD
Ogechukwu Ndum, MD
Huyen-Tran Nguyen, MD
Ashleigh Olson, MD
Iris Otani, MD
Pooja Oza, MD
Thamiris Palacios, DO
Erica Palmisano, MD
Dingxin Pan, PhD
Andrew Parker, MD
Anil Patel, MD
Bhavisha Patel, MD
Neha Patel, MD
Shreya Patel, MD
Sima Patel, DO
Barry Pelz, MD
Tammy Peng, MD
Leilanie Perez Ramirez, MD
Daniel Petroni, MD PhD
Andrew Pham, MD

# Awards



**$1,100 Awardees (continued)**

Ami Philipp, MD
Deena Pourang, MD
Chandrashekara Puthanapura Mahadevappa, PhD
Lipeng Qiu, PhD
Lahari Rampur, MD
Monica Reddy, MD
Margaret Redmond, MD
Nasim Reedy, DO
Jennifer Regan, MD
Erin Reigh, MD
Peter Ricketti, DO
Jonathan Rodrigues, MD
Stacy Rosenberg, MD
Tamar Rubin, MD
Melanie Ruffner, MD
Prathyusha Savjani, MD
Eric Schauberger, DO PhD
Amy Schiffman, MD
Edith Schussler, MD
Mili Shum, MD
Sayantani Sindher, MD
Umesh Singh, PhD
Tukisa Smith, MD
Sarah Spriet, DO
Jessica Stern, MD
Cosby Stone, MD
Britta Sundquist, MD
Sherlyana Surja, MD
Matthew Tallar, MD
Jennifer Toh, MD
Bahar Torabi, MD
Leticia Tordesillas, PhD
Julia Tripple, MD
Angela Tsuang, MD
Karen Tuano, MD
Sathisha Upparahalli Venkateshaiah, PhD
Shahab Virani, MD
Kara Wada, MD
Jeremy Waldram, MD
Xiao Wan, MD
Alberta Wang, MD
Shaan Waqar, MD
Suzanne Warford, MD
Erin Willits, MD
Jeffrey Wilson, MD
Lorena Wilson, MD
Karyn Winkler, MD
Mark Wurth, MD
Jenni Yoon, MD
Jamie Zacharias, MD
Ari Zelig, MD
Jianping Zhao, MD

**$800 Awardees**

Hanan Ahmed, MD
Jomana Alsulaiman, MD
Wei An, MD
Inessa Bachove, DO
Jennifer Barnas, MD
Catherine Biggs, MD
S. Claire Brabec, MD
Marc Braunstein, MD
Barbara Brunet, MD
Caroline Caperton, MD MSPH
Jason Casselman, DO
Amy Castilano, MD
Johana Castro-Wagner, MD
Melanie Chong, MD
Elisabeth Clayton, MD
Cathleen Collins, MD PhD
Kara Crosby, DO
Chongwei Cui, MD
Kathleen Dass, MD
Ottavia Maria Delmonte, MD
Michael Derrick, MD
Neetu Dhawan, DO
Dimana Dimitrova, MD
Stephen Dinetz, MD
Brittany Esty, MD
Michael Fein, MD
Scott Feldman, MD PhD
Jeffery Franklin, MD
James Fulton, MD
Sarah Garon, MD
Martin Gaudinski, MD
Matthew Giannetti, MD
Karina Gobin, MD
Francois Graham, MD
Ahmad Hamad, MD
Syeda Hamadani, MD
Aasha Harish, MD
Jennifer Hill, MD
Michelle Huffaker, MD
Ghislaine Isabwe, MD
Parvez Islam, MD
Divya Jayaraman, MD
Akilah Jefferson, MD
Rekha Jhamnani, MD
Ilisten Jones, MD
Nikhil Joshi, MD
Anjeli Kalra, MD
Amrita Khokhar, MD
Julie Kim, MD
Yoon Kim, DO
Sara Kleinman, MD
Renee Kleris, MD
Christina Kwong, MD
Roxane Labrosse, MD
Godfrey Lam, MD
Maria Luz Lara-Marquez, MD
Jake Lenington, MD
Zhenhong Li, MD
Chen Hsing Lin, MD
Lachara Livingston, MD
Sydney Long, MD
Anu Mallapaty, DO
Shari Montandon, DO
Lindsey Moore, DO
Blake Olmsted, MD
Vathani Packianathan, MD
Hetu Parekh, MD
Adesh Patel, MD
Snehal Patel, DO
Tanvi Patel, MD
Persia Pourshahnazari, MD
Niha Qamar, MD
Arjun Rash, MD
Andrew Rorie, MD
Lana Rosenfield, MD
Tamar Rubin, MD
Ali Saad, DO
Melissa Skupin, MD
Toru Takahashi, MD
Jiah Shin Teh, MD
Aaron Ver Heul, MD
Eileen Wang, MD
Michael Weinreich, MD
Elizabeth Wisner, MD
Shijun Xi, MD
Elizabeth Yeboah, MD
Eric Yen, MD

**$650 Awardees**

Ashely Altman, DO
Adam DeZure, MD
David Hagin, MD
Jamie Rosa, MD PhD
Jared Silver, MD

# The AAAAI QCDR: Your Registry Reporting Tool for PQRS 2016

**The AAAAI Allergy, Asthma & Immunology Quality Clinical Data Registry (QCDR) is a quality improvement registry intended to assist allergy/immunology physicians with the Physician Quality Reporting System (PQRS). With this tool, you can foster performance improvement and better outcomes in the care of patients with allergies and asthma.**

## With the registry, you can:

**Review Your Performance**
Regularly review your performance, identify your quality gaps and compare yourself to your peers

**Identify Patient Outliers**
Identify patients who require additional interventions to improve outcomes

**Access Improvement Tools**
Access quality improvement resources and proven interventions from leading quality improvement organizations

**Fulfill Maintenance of Certification (MOC)**
Connect to ABAI MOC Communication Modules and reuse registry data in the form of board-ready reports

**Avoid costly PQRS penalties**
Satisfy PQRS reporting requirements and avoid a 2% reduction on your Medicare Part B Physician FFS reimbursements

**Report on Specialty Developed Measures**
Includes measures for asthma, allergen immunotherapy, sinusitis and general care.

**A CMS-approved registry for the Physician Quality Reporting System (PQRS)**

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# Continuing Education & Accreditation

Two types of continuing education credit will be available at the 2016 Annual Meeting: *AMA PRA Category 1 CME™ Credits* for physicians and Continuing Education (CE) contact hours for nurses. Not all Annual Meeting sessions offer credit, and of those that do, not all may offer both CME and CE. The types and amount of credit offered for each session are indicated in the session descriptions beginning on page 28. Attendance certificates are available to all delegates.

Professional delegates are encouraged to complete the self-report form to receive their CME/CE or participation certificates. Visit the registration desk, complete the self-report form and print your certificate before your departure.

If you do not have time to visit the registration desk before you leave, the self-report form will be available online beginning March 21, 2016 and will be accessible until December 31, 2016 on the AAAAI website, annualmeeting.aaaai.org.

## Physicians – Continuing Medical Education (CME) Credits

***Accreditation Statement***

The American Academy of Allergy, Asthma & Immunology (AAAAI) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

***Credit Designation***

The AAAAI designates this live activity for a maximum of 40.00 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The American Medical Association has determined that physicians not licensed in the U.S. who participate in this CME activity are eligible for *AMA PRA Category 1 Credits™*.

***Target Audience***

The Annual Meeting is designed for clinicians, researchers, trainees/students and allied health professionals involved and/or interested in the study of allergy, asthma and immunology.

***Program Objective***

Upon completion of the Annual Meeting, participants should be able to discuss the latest advances in the research, diagnosis and treatment of allergic and immunologic disease. Please refer to the individual session descriptions in this program for session-specific learning objectives.

## ABAI – Continuing Medical Education (CME) Credits

In 2007 the American Board of Allergy and Immunology (ABAI) transitioned from a recertification process to a Maintenance of Certification (MOC) program, which requires board certified physicians to complete a minimum of 25 continuing medical education credits in allergy/immunology each year. AAAAI reports all CME credits it issues to physician learners to the ABAI on a quarterly basis to be posted in learners' diplomate portals. For more information about Maintenance of Certification visit the ABAI website at www.abai.org.

## Allied Health – Continuing Education (CE) Credits

***Nurses – Continuing Education (CE) Contact Hours***

The American Academy of Allergy, Asthma & Immunology (AAAAI) is a Provider, approved by the California Board of Registered Nursing, Provider #10704, for up to 40.00 Contact Hours.

***Medical Administrators***

Practice administrators who attend the Annual Meeting may apply for credit through the American College of Medical Practice Executives (ACMPE). For additional information, please contact the Medical Group Management Association at www.mgma.com.

***Advanced Practitioners***

The AAPA, ANCC and AANP accept reports from advanced practitioners of participation in activities offering *AMA PRA Category 1 Credits™* for continuing education and credentialing purposes. For more information, please contact the appropriate organization.

***Pharmacists***

Pharmacists are encouraged to contact their state boards of pharmacy to determine if reports of participation in the AAAAI Annual Meeting are accepted for re-licensure.

***Target Audience***

Health care professionals who assist with and provide care to persons with asthma, allergy and immunologic disease, specifically: RNs, LPNs, nurse practitioners, physician assistants, respiratory therapists, medical technologists, medical assistants, clinical research coordinators, and practice managers/administrators.

***Learning Objectives***

Upon completion of the Annual Meeting, participants should be able to discuss and expand upon the latest advances in medications, equipment and procedures necessary to promote health for their patients; describe and discuss new therapies, information, patient care and education in the field of allergy, asthma and immunology; identify new approaches to clinical research which will improve efficiency and effectiveness; discuss coding and other administrative aspects of a medical practice. Please refer to the individual session descriptions in this program for session-specific learning objectives.

# Introduction to Session Tracks



Session listings are labelled to designate which track the session is part of – Basic Science, Clinical, or Translational. These tracks describe the primary focus of the session's content and can be used to help you identify sessions that will best meet your learning needs.

To identify a session's track, look at the color in which the title is highlighted:

**Blue = Basic Science**

**Gray = Clinical**

**Gold = Translational**

NEW FOR 2016: Sessions that are related to the meeting's clinical theme – Prevention and Modification of Allergic Disease – will be highlighted in Purple.

Large sessions, such as plenaries and keynotes, will include all three types of content and are not labelled. Sessions that are included in a program track may include other types of content but will focus on content relevant to that category.

All delegates are welcome to attend sessions from any track regardless of their member type (tickets are required for any ticketed session). Use these tracks to shape your annual meeting agenda to best meet your individual needs.

# Chrysalis Project

## Thursday, March 3, 2016

### Chrysalis Project Registration

6:00 to 7:00 pm
**JW Marriott, Gold Ballroom Level, Salon 4**
Registration restricted to selected participants of award program.

## Friday, March 4, 2016

### Course

**1050 Chrysalis Project Program (Invite Only)** TICKET
7:30 am to 1:45 pm
**JW Marriott, Diamond Ballroom Level, Salon 4**
Pre-registration and ticket required. Attendance restricted to selected participants of award program. No fee. Continental breakfast and box lunch included.
Credit: No CME/CE

**7:30 Breakfast**

**8:00 Welcome from Chrysalis Chairs**
*A. Wesley Burks, MD FAAAAI*
*Kimberly A. Risma, MD PhD FAAAAI*

**8:05 Welcome from the AAAAI President-Elect**
*Thomas A. Fleisher, MD FAAAAI*

**8:15 Food Allergy**
*A. Wesley Burks, MD FAAAAI*

**8:45 Eosinophilic Disorders**
*Patricia C. Fulkerson, MD PhD*

**9:15 Immunodeficiency**
*Thomas A. Fleisher, MD FAAAAI*

**9:45 Break**

**10:00 Asthma**
*Rohit Katial, MD FAAAAI*

**10:30 Atopic Dermatitis**
*Donald Y.M. Leung, MD PhD FAAAAI*

**11:00 Academic Career Paths**
*Kimberly A. Risma, MD PhD FAAAAI*

**11:20 Industry Career Paths**
*Dale T. Umetsu, MD PhD FAAAAI*

**11:40 Private Practice Career Paths**
*John Ramey, MD FAAAAI*

**12:00 Chrysalis Project Program Luncheon with FIT Mentors, Chrysalis Faculty and Chrysalis Workgroup Members**

## Saturday, March 5, 2016

### Chrysalis Project Reception

6:00 to 7:00 pm
**JW Marriott, Gold Ballroom Level, Salon 4**
Private reception open to current Chrysalis participants, Chrysalis mentors, Chrysalis faculty, Chrysalis Workgroup members and the Program Directors Assembly. Prior RSVP required.

# Fellows-in-Training (FIT) Program

## Friday, March 4, 2016

**1012 FIT Symposium** TICKET
7:00 am to 1:45 pm
**JW Marriott, Diamond Ballroom Level, Salon 5**
Pre-registration and ticket required. Attendance restricted to current allergy/immunology Fellows-in-Training only. No fee. Continental breakfast and box lunch included.
Credit: No CME/CE
*Moderator: Becky J. Buelow, MD*
***This Session Will Use Audience Response System Technology.***

**7:00** **Networking Breakfast**

**7:40** **Introductions**
*Becky J. Buelow, MD*
*Mariana C. Castells, MD PhD FAAAAI*

**7:50** **Networking Organizations**

**8:00** **American Board of Allergy and Immunology**
*Stephen I. Wasserman, MD FAAAAI*

**8:10** **Mechanisms in the Cause of Asthma: Roundtable Discussion of the Experts**
**Microbial Agents**
*Mitchell H. Grayson, MD FAAAAI*
**Air Quality/Pollution**
*David B. Peden, MD MS FAAAAI*
**Exercise and Asthma**
*Thomas A.E. Platts-Mills, MD PhD FAAAAI FRS*
**Microbiome**
*Susan V. Lynch, PhD*
**Genetics of Asthma**
*Kathleen C. Barnes, PhD FAAAAI*

**9:20** **Break**

**9:35** **AAAAI President Welcome**
*Robert F. Lemanske Jr., MD FAAAAI*

**9:45** **Advances in the Treatment of Childhood Asthma**
*Robert F. Lemanske Jr., MD FAAAAI*

**10:15** **Table Discussion: Treatment of Childhood Asthma**

**10:45** **Current and Emerging Biologic Treatments for Asthma**
*Elliot Israel, MD FAAAAI*

**11:15** **Define Asthma Phenotypes and Their Use in Clinical Medicine**
*Sally E. Wenzel, MD FAAAAI*

**11:45** **Table Discussion: Using Biologics in the Treatment of Asthma/ Difficult Cases**

**12:15** **Networking Lunch**

Upon completion of this session, participants should be able to: Discuss the mechanisms of asthma; Describe the advances of treatment in childhood asthma; Discuss the biologic treatments of asthma and how these relate to different asthma phenotypes.

### FIT Reception

5:00 to 6:00 pm
**JW Marriott, Diamond Ballroom Level, Salon 6 & 7**
*Sponsored by Teva Respiratory.*
Private reception open to current allergy/immunology Fellows-in-Training only.

## Saturday, March 5, 2016

**2816 FIT Workshop: Interesting Cases Part 1**
4:45 to 6:00 pm
**JW Marriott, Platinum Ballroom Level, Salon C**
Credit 1.25 CME/CE
*Moderators: T. Prescott Atkinson, MD PhD FAAAAI*
*Katherine Gundling, MD*

**4:45** **Unanticipated Immune Complications from Tumor Immunotherapy**
*Bharat Kumar, MD*

**5:00** **CNS Histoplasmosis in an Adult with Idiopathic CD4+ T-Lymphocytopenia (ICL)**
*Anar Dossumbekova, MD*

**5:15** **Warts and Small Stature – Indications of Considering Underlying Immunodeficiency**
*Jacqueline Eastman, MD*

**5:30** **An infant with absent T-cells, fevers and proliferation of oligoclonal "rogue" T cell population**
*Eric Schauberger, DO PhD*

**5:45** **Abnormal new born screening in a patient with CHARGE syndrome**
*Britta Sundquist, MD*

Upon completion of this session, participants should be able to: Evaluate the management of challenging patient cases by trainees in allergy/immunology; Compare and contrast management strategies for challenging patient cases with peers.

## Sunday, March 6, 2016

**3555 FIT Workshop: Interesting Cases Part 2**
12:30 to 1:45 pm
**Convention Center, Level Two, Room 403A**
Credit 1.25 CME/CE
*Moderators: Kelly D. Stone, MD PhD FAAAAI*
*Paul J. Dowling, MD FAAAAI*

**12:30** **Schnitzler Syndrome**
*Sultan Alandijani, MD*

**12:45** **Orofacial granulomatosis masquerading as "angioedema"**
*Chen Hsing Lin, MD*

**1:00** **All that is red and bumpy is not eczema**
*Schweta Arakali, MD*

**1:15** **Hemothorax Associated with Status Asthmaticus**
*Peter A. Ricketti, DO*

**1:30** **Recurrent Anaphylaxis to Cat, or is It?**
*Jay Jin, MD PhD*

Upon completion of this session, participants should be able to: Evaluate the management of challenging patient cases by trainees in allergy/immunology; Compare and contrast management strategies for challenging patient cases with peers.

## Military Allergy Program

**0001 30th Annual Harold S. Nelson Military Allergy/ Immunology Symposium** TICKET

7:20 am to 5:00 pm

**JW Marriott, Gold Ballroom Level, Salon 2**

Pre-registration and ticket required. Continental breakfast and box lunch included.

Credit: 8.25 CME/CE

*Moderator: Karla L. Davis, MD FAAAAI*

**7:20** **Registration and Breakfast**

**7:50** **Welcome and Introduction**
*Karla L. Davis, MD FAAAAI*

**8:00** **Morning Address: GeneChips to Corn Flakes: Making Sense of Eosinophilic GI Disease**
*Calman Prussin, MD FAAAAI*

**9:00** **Break**

***Fellow Original Research***

**9:15** **Daily Fluctuations in Airborne Ragweed Pollen Levels in Washington, DC (2007-2009)**
*Sarah W. Spriet, DO*

***Staff Original Research***

**9:35** **Clinical Impact of the Live Attenuated Vs. Trivalent Inactivated Seasonal Influenza Vaccine on the Efficacy of the Pandemic H1N1 Vaccine**
*Rachel U. Lee, MD FAAAAI*

**9:55** **Synchronous Telehealth for Outpatient Allergy Consultations: A 2-Year Regional Experience**
*Kirk H. Waibel, MD FAAAAI*

***Fellow Case Reports***

**10:15** **Incongruent Phenotypic Expression of Autosomal Dominant Hyper IgE Syndrome (AD-HIES) in a Mother and Son**
*Charles J. Calais, DO*

**10:35** **Averting Danger: A Case of Anaphylaxis to Rabavert®**
*Sarah W. Spriet, DO*

**10:55** **Adult-Diagnosed Chronic Granulomatous Disease**
*Derek M. Smith, MD*

**11:15** **A Case of Concurrent Hypogammaglobulinemia, Cancer and Cardiomyopathy: A Beta-Catenin Connection?**
*Camellia Hernandez, MD*

**11:35** **A Case of Neuropathic Pain in Monoclonal Mast Cell Activation Syndrome**
*Jeannie L. Bay, DO*

**11:55** **Lunch and Bruton Lecture: Aspirin Exacerbated Respiratory Disease**
*Andrew A. White, MD FAAAAI*

***Fellow Case Reports Continued***

**1:15** **Candida Meningitis in a Patient with Complete Myeloperoxidase Deficiency: Beware the "False Positive" DHR**
*Ki Lee Milligan, MD*

**1:35** **The Atypical Itch That Rashes-- Disseminated and Recurrent Infundibulofolliculitis (Atopic African American Male)**
*Katherine S. Tille, MD*

***Resident Case Report***

**1:55** **Elderly Gentleman with Hypereosinophilic Syndrome (HES) Successfully Treated with Mepolizumab**
*Heung R. Noh, MD*

**2:15** **Armed Forces Immunization Healthcare Center Update**
*Limone C. Collins, MD*

**2:45** **Military Aeroallergen Extract Laboratory Updates**
*Susan E. Kosisky, BS MHA*

***Consultants to the Surgeons General Updates***

**3:15** **VHA Allergy Committee**
*Joseph S. Yusin, MD FAAAAI*

**3:30** **Air Force**
*Christopher A. Coop, MD*

**3:45** **Army**
*Kirk H. Waibel, MD FAAAAI*

**4:00** **Navy**
*Michael R. Kaplan, DO FAAAAI*

**4:15** **Panel Discussion: Service-Unique Strategies for Evaluation and Management of Hymenoptera Hypersensitivity**
*Christopher A. Coop, MD*
*Michael R. Kaplan, DO FAAAAI*
*Kirk H. Waibel, MD FAAAAI*
*Joseph S. Yusin, MD FAAAAI*

**4:55** **Business Meeting and Award Presentations**

Upon completion of this session, participants should be able to: Discuss the approach to identifying and evaluating a patient with eosinophilic esophagitis; Identify and discuss therapies for patients with eosinophilic esophagitis; Discuss the approach to identifying and evaluating a patient with aspirin exacerbated respiratory disease.

## Course

### 0101 CEGIR/TIGERS EGID Symposium

8:00 am to 5:00 pm
**JW Marriott, Platinum Ballroom Level, Salon DE**
Pre-registration and ticket required.
Credit: 7.25 CME/CE

**8:00** **Welcome**
*Seema Sharma Aceves, MD PhD FAAAAI*
*Marc E. Rothenberg, MD PhD FAAAAI*
*Jonathan M. Spergel, MD PhD FAAAAI*

**8:15** **Introduction to CEGIR**
*Glenn Furuta, MD*

***Diagnosis and Monitoring of EGID***

**8:35** **Consensus Guidelines for EoE**
*Chris A. Liacouras, MD*

**8:55** **Instruments for Monitoring Clinical Parameters in EoE**
*Alex Straumann, MD*

**9:15** **Consensus Guidelines for Non-EoE EGID**
*Nirmala Gonsalves, MD*

**9:35** **Guidelines for Diagnosis of EGID**
*Margaret H. Collins, MD*

**9:55** **Question & Answer**

**10:05** **Break**

***Breakthroughs Impacting Understanding EGID***

**10:20** **Pathogenesis of Disease**
*Marc E. Rothenberg, MD PhD FAAAAI*

**10:40** **New Modalities for Surveying the Esophagus**
*David A. Katzka, MD*

**11:00** **Lymphocyte Involvement in EoE**
*Wayne Shreffler, MD PhD FAAAAI*

**11:20** **Mast Cells and Basophils in EoE**
*Joshua B. Wechsler, MD*

**11:40** **Role of Environmental in EoE**
*Jonathan M. Spergel, MD PhD FAAAAI*

**12:00** **Lunch and Break-Out Sessions: Key Clinical Questions: Problem-Based Learning for Clinical Groups based on Key Clinical Questions (Attendees can choose one of the course breakouts. Separate registration and ticketing required.)**

**1:30** **Cutting-Edge Research Abstracts**

***Genetics and Risk Factors Associated with EGID***

**3:00** **Gene and Environment Interaction in EoE**
*Leah Claire Kottyan, PhD*

**3:20** **Epidemiology of EGID**
*Evan S. Dellon, MD MPH*

**3:40** **Relationships with Connective Tissue Disorders and Other Syndromes**
*Pamela A. Guerrerio, MD PhD*

***Controversies in EoE***

**4:00** **Treating Complications of EoE-Fibrosis**
*Ikuo Hirano, MD*

**4:15** **Emerging Biological Therapy for EoE**
*Seema Sharma Aceves, MD PhD FAAAAI*

**4:30** **PPI Responsive EoE**
*Ting Wen, PhD*

**4:45** **Topical Glucocorticoid vs. Diet Therapy**
*Sandeep K. Gupta, MD*

Upon completion of this session, participants should be able to: Describe the diagnostic criteria for EoE, eosinophilic gastritis/gastroenteritis/colitis and the controversies in diagnosis; Review the successful current therapeutic options for EoE and review the current triggers for EGIDs; Discuss the pathogenesis as it relates to specific cellular subtypes such as mast cells, eosinophils and T cells.

## Course Breakouts

### 0101A Diagnostic Tools I Can Use: What Is the Best for EoE and How to Best Monitor Remission?

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon A**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Mirna Chehade, MD MPH*
*Sandeep K. Gupta, MD*

### 0101B The Difficult EoE Patient: Bring Your Own Patient

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon B**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Dan Atkins, MD FAAAAI*
*Princess U. Ogbogu, MD FAAAAI*

### 0101C The Pipeline of Future EoE Therapy

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon C**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Patricia C. Fulkerson, MD PhD*

### 0101D The Ins and Outs of Managing Dietary Therapy

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon F**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Marcus S. Shaker, MD MS FAAAAI*
*Carina Venter, PhD RD*

### 0101E Which Skin Testing in EoE?

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon G**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Matthew J. Greenhawt, MD MBA MSc*
*Mark Holbreich, MD FAAAAI*

### 0101F Safety of Topical Glucocorticoids for EoE

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon H**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Juan Pablo Abonia, MD*
*Glenn Furuta, MD*

## Course Breakouts (continued)

### 0101G Role of Ig in EoE

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon I**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Kathryn Peterson, MD*
*Thomas A.E. Platts-Mills, MD PhD FAAAAI FRS*

### 0101H The Role of PPIs in Treating Esophageal Eosinophilia

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon J**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Vincent A. Mukkada, MD*

### 0101I How Do I Choose What Treatment to Use? Diet vs. Steroids: Pros and Con

12:15 to 1:15 pm
**JW Marriott, Third Floor, Atrium 3**
Pre-registration and ticket required. Fee: $40. Box lunch included.
Credit: 1.00 CME/CE
*Carla M. Davis, MD FAAAAI*
*Jonathan M. Spergel, MD PhD FAAAAI*

### 0101J Ask the Experts: EoE Open Mic

12:15 to 1:15 pm
**JW Marriott, Platinum Ballroom Level, Salon DE**
Pre-registration and ticket required.
Credit: 1.00 CME/CE
*Moderator: Marc E. Rothenberg, MD PhD FAAAAI*
**Adult GI Panelist**
*David A. Katzka, MD*
**Pediatric GI Panelist**
*Chris A. Liacouras, MD*
**Dietician Panelist**
*Marion E. Groetch, MS RD*
**Allergist Panelist**
*Javed Sheikh, MD FAAAAI*

## Courses

### 0201 Advanced Course in Pollen Identification

9:00 am to 12:00 pm
**JW Marriott, Gold Ballroom Level, Salon 3**
Pre-registration and ticket required. Fee: $125.
Credit: 3.00 CME/CE
*Moderator: Estelle Levetin, PhD FAAAAI*

**9:00** **Triporate Pollen**
*Richard W. Weber, MD FAAAAI*
**9:30** **Hands-On Instruction; Question & Answer**
**10:00** **Tricolporate Pollen**
*Estelle Levetin, PhD FAAAAI*
**10:30** **Hands-On Instruction; Question & Answer**
**11:00** **Asteraceae Pollen**
*Peter K. Van de Water, PhD*
**11:30** **Hands-On Instruction; Question & Answer**

Upon completion of this session, participants should be able to: Differentiate pollen in the birch family and related triporate pollen types; Discuss difficult to identify tricolporate pollen types; Differentiate Asteraceae pollen, other than ragweed.

### 0601 Advanced Course in Fungal Spore Identification

2:00 to 5:00 pm
**JW Marriott, Gold Ballroom Level, Salon 3**
Pre-registration and ticket required. Fee: $125.
Credit: 3.00 CME/CE
*Moderator: Estelle Levetin, PhD FAAAAI*

**2:00** **Basidiospore Identification**
*Estelle Levetin, PhD FAAAAI*
**2:30** **Hands-On Instruction; Question & Answer**
**3:00** **Ascospore Identification**
*W. Elliott Horner, PhD LEED AP FAAAAI*
**3:30** **Hands-On Instruction; Question & Answer**
**4:00** **Challenging Spore Types**
*James A. Scott, PhD*
**4:30** **Hands-On Instruction; Question & Answer**

Upon completion of this session, participants should be able to: Differentiate common basidiospores; Differentiate common ascospores; Differentiate Fusarium, Penicillium/Aspergillus and other difficult spore types.

## Courses

### 1001 Allergen Immunotherapy, Today and Tomorrow: Session I. Inhalant Allergens for Allergic Rhinitis and Asthma

7:00 to 9:30 am
**Convention Center, Level One, Petree Hall C**
Credit: 2.50 CME/CE
*Moderator: Alkis Togias, MD FAAAAI*

**7:00** **T Cell Epitope Changes During Allergen Immunotherapy and Allergen Exposure**
*Alessandro Sette, Dr. Biol. Sci.*

**7:25** **A Unique T Cell Subset (TH2A) in Allergen Immunotherapy**
*Erik R. Wambre, PhD MBE*

**7:50** **Peptide Immunotherapy in Allergic Rhinoconjunctivitis and Asthma**
*Mark Larché, PhD*

**8:15** **Sublingual vs. Subcutaneous Immunotherapy: Which is More Potent?: The GRASS Trial**
*Stephen R. Durham, MA MD FRCP*

**8:55** **How Can the Risk of Systemic Reactions to Subcutaneous Allergen Immunotherapy be Mitigated?**
*Tolly Epstein, MD MS FAAAAI*

**9:10** **General Discussion**

Upon completion of this session, participants should be able to: Discuss current and future approaches to allergen immunotherapy for asthma and allergic rhinitis; Discuss the potential mechanisms by which immunotherapy modulates the immune response to allergens; Discuss the durability of immune unresponsiveness induced by allergen immunotherapy.

### 1002 Difficult Cases

7:00 to 9:30 am
**Convention Center, Level One, Petree Hall D**
Credit: 2.25 CME/CE
*Moderators: Amber M. Patterson, MD FAAAAI*
*Joyce E. Yu, MD FAAAAI*

***This Session Will Use Audience Response System Technology.***

**7:00** **ABPA/ Hypersensitivity Pneumonitis**
*Paul A. Greenberger, MD FAAAAI*
*Ashwini P. Reddy, MD*

**7:00** **Question & Answer**

**7:45** **Non-IgE Allergic GI Disorders**
*Mirna Chehade, MD MPH*
*Stephanie A. Leonard, MD*

**8:20** **Question & Answer**

**8:30** **Break**

**8:45** **Difficult to Manage Atopic Dermatitis**
*Luz S. Fonacier, MD FAAAAI*
*Gerald B. Lee, MD*

**9:20** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss diagnostic and clinical management challenges encountered in allergy, asthma and immunology practice.

### 1003 Is it Possible to Reprogram a Broken Immune System? How Translational Research is Shifting the Treatment Paradigm from Symptom Management to Cure

7:00 to 9:30 am
**Convention Center, Level Two, Room 404AB**
Credit: 2.50 CME/CE
*Moderator: Kathryn E. Hulse, PhD*

**7:00** **Natural Tolerance: How Most of Us Can Eat, Breath and Not Use Steroids**
*Natalija Novak, MD*

**7:20** **Question & Answer**

**7:25** **Immunotherapy: The Future of the Oldest Treatment of Allergic Diseases**
*Rudolf Valenta, MD*

**7:45** **Question & Answer**

**7:50** **Microbiome Manipulation: Can We Use Our Ecosystem to Our Advantage?**
*Nicholas W. Lukacs, PhD*

**8:10** **Question & Answer**

**8:15** **Cellular Manipulation: How Can We Effectively Educate T Regs?**
*Rosa Bacchetta, MD*

**8:35** **Question & Answer**

**8:40** **Gene Therapy: What Have We Learned from Single Gene Defects?**
*Jennifer M. Puck, MD*

**9:00** **Question & Answer**

**9:05** **Is Genetic Manipulation of Complex Disease Possible?**
*Daniel G. Anderson, PhD*

**9:25** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how genetic factors and the environment interact to determine allergic sensitization; Identify potential targets for prevention and treatment; Discuss different types of treatment for allergic diseases.

## Courses (continued)

### 1004 Markers of Allergic Inflammation

7:00 to 9:30 am
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 2.50 CME/CE
*Moderator: Dean D. Metcalfe, MD FAAAAI*

**7:00** **Allergic Inflammation: Value of Mast Cell Proteases as Surrogate Markers**
*Lawrence B. Schwartz, MD PhD FAAAAI*
**7:20** **Question & Answer**
**7:30** **Lipid Mediators: PGD2/ LTC4/D4**
*Sven-Erik Dahlén, MD PhD*
**7:50** **Question & Answer**
**8:00** **Surrogate Markers of Basophil and Eosinophil Activation**
*Bruce S. Bochner, MD FAAAAI*
**8:20** **Question & Answer**
**8:30** **Clinical Significance of Novel Assays to Measure Granule Protein Expression in Eosinophilic Disease**
*Amy D. Klion, MD*
**8:50** **Question & Answer**
**9:00** **Surface Markers of Mast Cell and Basophil Activation and Their Value in Diagnosis (Including Basophil Activation Test)**
*Sarbjit S. Saini, MD FAAAAI*
**9:20** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the surrogate markers of mast cell, eosinophil and basophil activation; Describe the most reproducible and specific markers; Describe laboratory testing and use of surrogate markers of inflammation in clinical studies.

### 1006 Masqueraders of Anaphylaxis/Angioedema

7:00 to 9:30 am
**Convention Center, Level Two, Room 408B**
Credit: 2.50 CME/CE
*Moderator: Michael M. Frank, MD FAAAAI*

**7:00** **The Systemic Capillary Leak Syndrome**
*Kirk M. Druey, MD*
**7:20** **Question & Answer**
**7:25** **Familial Tryptasemia/MCAS**
*Joseph H. Butterfield, MD FAAAAI*
**7:45** **Question & Answer**
**7:50** **HAE**
*Bruce L. Zuraw, MD*
**8:10** **Question & Answer**
**8:15** **HAE with Normal C1 INH**
*Marco Cicardi, MD*
**8:35** **Question & Answer**
**8:40** **Gleich Syndrome**
*Paneez Khoury, MD*
**9:00** **Question & Answer**
**9:05** **Idiopathic Anaphylaxis**
*Melody C. Carter, MD FAAAAI*
**9:25** **Question & Answer**

Upon completion of this session, participants should be able to: Describe uncommon causes of anaphylaxis-type symptoms and angioedema, including HAE, Gleich syndrome, familial tryptasemia/mast cell activation syndromes, idiopathic anaphylaxis and the systemic capillary leak syndrome; Describe the cutting-edge research regarding the biology of rarer causes of anaphylactic symptoms and angioedema; Discuss how this new information can be applied to understanding anaphylactoid symptoms in humans and how these cell types can potentially be modulated to treat patients.

### 1007 Endoscopic Evaluation and Management of Chronic Rhinosinusitis (Pre- and Post-Surgery) Including Cultures

7:00 to 9:30 am
**Convention Center, Level Two, Room 409AB**
Credit: 2.50 CME/CE
*Moderator: Jerald W. Koepke, MD FAAAAI*

**7:00** **Anatomy of the Sinuses**
*Robert C. Kern, MD*
**7:35** **Question & Answer**
**7:50** **Radiology of the Sinuses**
*Achilles G. Karagianis, DO*
**8:25** **Question & Answer**
**8:40** **Endoscopic Evaluation of the Sinuses (Pre- and Post-Surgery) Including Cultures: Case Management Studies**
*Wellington S. Tichenor, MD FAAAAI*
**9:15** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the anatomy of the paranasal sinuses with specific focus on structures that are of pathophysiological and surgical relevance; Discuss radiological modalities and their usage in CRS diagnosis; Describe typical radiological findings in CRS and the usage and limitations of endoscopic evaluation of the nose and sinuses before and after surgery.

### 1008 Pathogenesis of Chronic Rhinosinusitis

7:00 to 9:30 am
**Convention Center, Level Two, Room 502A**
Credit: 2.50 CME/CE
*Moderator: Tanya M. Laidlaw, MD FAAAAI*

**7:00** **Role of TSLP in Chronic Rhinosinusitis with Nasal Polyps**
*Atsushi Kato, PhD*
**7:20** **Question & Answer**
**7:30** **Role of IL-33 in Chronic Rhinosinusitis with Nasal Polyps**
*Joshua A. Boyce, MD FAAAAI*
**7:50** **Question & Answer**
**8:00** **Role of Prostaglandin D2 in Chronic Rhinosinusitis with Nasal Polyps**
*Katherine N. Cahill, MD*
**8:20** **Question & Answer**
**8:30** **Role of the Microbiome in Chronic Rhinosinusitis and Risk of Nasal Polyposis**
*Marek L. Kowalski, MD PhD*
**8:50** **Question & Answer**
**9:00** **Role of Staphylococcus Aureus in Chronic Rhinosinusitis with Nasal Polyps**
*Claus Bachert, MD PhD*
**9:20** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of TSLP and its metabolic products in the inflammation of nasal polyps; Recognize the mechanisms by which IL-33 contributes to the pathogenesis of CRS with nasal polyps and the potential to target this cytokine in therapy; Identify the mechanisms by which PGD2 directs inflammation in rhinosinusitis and nasal polyps and become aware of unique aspects of the pathology and pathophysiology of nasal polyp disease in Asia and in Europe.

## Courses (continued)

### 1009 Best Social Media Practices for Allergists: How to be a Social Media Superstar TICKET

7:00 to 9:30 am

**Convention Center, Level Two, Room 405**

Pre-registration and ticket required.

Credit: 2.50 CME/CE

*Moderator: Giselle Mosnaim, MD MS FAAAAI*

***Bring Your Mobile Device to Participate.***

**7:00** **How to Use Blogging for an Allergist's Practice**
*Nathaniel D. Hare, MD FAAAAI*

**7:25** **Question & Answer/ Hands-On Instruction**

**7:37** **How to Use Facebook for an Allergist's Practice**
*Daniel A. Ramirez, MD*

**8:02** **Question & Answer/ Hands-On Instruction**

**8:14** **How to Use Twitter for an Allergist's Practice**
*Matthew S. Bowdish, MD FAAAAI*

**8:39** **Question & Answer/ Hands-On Instruction**

**8:51** **How to Use YouTube for an Allergist's Practice**
*Sakina S. Bajowala, MD FAAAAI*

**9:16** **Question & Answer/ Hands-On Instruction**

Upon completion of this session, participants should be able to: Discuss how to setup a Twitter account and learn how to use it to connect with patients and colleagues; Discuss how to setup a Facebook professional page and learn how to use it to connect with patients and colleagues; Identify what a free blog is and learn how to use YouTube to embed and record videos to maintain an interactive website for your practice.

### 1010 Problem-Based Learning: COPD Overlap Syndrome TICKET

7:00 to 9:30 am

**Convention Center, Level Two, Room 518**

Pre-registration and ticket required.

Credit: 2.50 CME/CE

***This Session Will Use a Problem-Based Learning Approach.***

*PBL Facilitor: Ray S. Davis, MD FAAAAI*

**7:00** **PBL Case Presentation**
*Ray S. Davis, MD FAAAAI*

**7:50** **Is it Asthma? COPD? Both?**
*Timothy J. Craig, DO FAAAAI*

**8:10** **Pathophysiologic Features and Basis of ACOS**
*Donald P. Tashkin, MD*

**8:30** **DDX of the Patient with Suspected ACOS**
*Elliot Israel, MD FAAAAI*

**8:50** **Therapeutic Approaches to ACOS**
*John Oppenheimer, MD FAAAAI*

**9:10** **Panel Discussion**

Upon completion of this session, participants should be able to: Describe the diagnostic criteria for COPD and asthma; Discuss how these entities may overlap in some patients; Describe how to incorporate older and newer therapeutic options for these patient groups.

### 1012 FIT Symposium TICKET

7:00 am to 1:45 pm

**JW Marriott, Diamond Ballroom Level, Salon 5**

Pre-registration and ticket required. Attendance restricted to current Allergy/Immunology Fellows-in-Training only. No fee. Continental breakfast and box lunch included.

Credit: No CME/CE

*Moderator: Becky J. Buelow, MD*

***This Session Will Use Audience Response System Technology.***

**7:00** **Networking Breakfast**

**7:40** **Introductions**
*Becky J. Buelow, MD*
*Mariana C. Castells, MD PhD FAAAAI*

**7:50** **Networking Organizations**

**8:00** **American Board of Allergy and Immunology**
*Stephen I. Wasserman, MD FAAAAI*

**8:10** **Mechanisms in the Cause of Asthma: Roundtable Discussion of the Experts**

**Microbial Agents**
*Mitchell H. Grayson, MD FAAAAI*

**Air Quality/Pollution**
*David B. Peden, MD MS FAAAAI*

**Exercise and Asthma**
*Thomas A.E. Platts-Mills, MD PhD FAAAAI FRS*

**Microbiome**
*Susan V. Lynch, PhD*

**Genetics of Asthma**
*Kathleen C. Barnes, PhD FAAAAI*

**9:20** **Break**

**9:35** **AAAAI President Welcome**
*Robert F. Lemanske Jr., MD FAAAAI*

**9:45** **Advances in the Treatment of Childhood Asthma**
*Robert F. Lemanske Jr., MD FAAAAI*

**10:15** **Table Discussion: Treatment of Childhood Asthma**

**10:45** **Current and Emerging Biologic Treatments for Asthma**
*Elliot Israel, MD FAAAAI*

**11:15** **Define Asthma Phenotypes and Their Use in Clinical Medicine**
*Sally E. Wenzel, MD FAAAAI*

**11:45** **Table Discussion: Using Biologics in the Treatment of Asthma/ Difficult Cases**

**12:15** **Networking Lunch**

Upon completion of this session, participants should be able to: Discuss the mechanisms of asthma; Describe the advances of treatment in childhood asthma; Discuss the biologic treatments of asthma and how these relate to different asthma phenotypes.

## 1050 Chrysalis Project Program (Invite Only) TICKET

7:30 am to 1:45 pm

**JW Marriott, Diamond Ballroom Level, Salon 4**

Pre-registration and ticket required. Attendance restricted to selected participants of award program. No fee. Continental breakfast and box lunch included.

Credit: No CME/CE

**7:30** **Breakfast**

**8:00** **Welcome from Chrysalis Chairs**
*A. Wesley Burks, MD FAAAAI*
*Kimberly A. Risma, MD PhD FAAAAI*

**8:05** **Welcome from the AAAAI President**
*Robert F. Lemanske Jr., MD FAAAAI*

**8:15** **Food Allergy**
*A. Wesley Burks, MD FAAAAI*

**8:45** **Eosinophilic Disorders**
*Patricia C. Fulkerson, MD PhD*

**9:15** **Immunodeficiency**
*Thomas A. Fleisher, MD FAAAAI*

**9:45** **Break**

**10:00** **Asthma**
*Rohit Katial, MD FAAAAI*

**10:30** **Atopic Dermatitis**
*Donald Y.M. Leung, MD PhD FAAAAI*

**11:00** **Academic Career Paths**
*Kimberly A. Risma, MD PhD FAAAAI*

**11:20** **Industry Career Paths**
*Dale T. Umetsu, MD PhD FAAAAI*

**11:40** **Private Practice Career Paths**
*John Ramey, MD FAAAAI*

**12:00** **Chrysalis Project Program Luncheon with FIT Mentors, Chrysalis Faculty and Chrysalis Workgroup Members**

### Workshop

## 1101 Allied Health: Should Allergists and Otolaryngologists Practice Together?

8:00 to 9:15 am

**Convention Center, Level Two, Room 406AB**

Credit: 1.25 CME/CE

*Moderator: John D. Milewski, MSHA*

**8:00** **Partnering with Otolaryngologists**
*Robert A. Glazer, MBA*

**8:45** **Question & Answer**

Upon completion of this session, participants should be able to: Describe further reductions in practice costs through overall size, producing volume discounts and superior reimbursement profiles; Describe innovative time and money saving initiatives like the implementation of a central mixing facility; Discuss the financial advantages resulting from the proximate and plentiful internal referral resources or opportunities available to both allergists and otolaryngologists.

### Course

## 1102 Allied Health: Advanced Practice Course

8:00 am to 12:30 pm

**Convention Center, Level Two, Room 515A**

Credit: 4.00 CME/CE

*Moderator: Nina A. Zimmermann, MSN RN ANP-BC AE-C*

**8:00** **Introduction**
*Nina A. Zimmermann, MSN RN ANP-BC AE-C*

**8:15** **Update on COPD**
*Nina A. Zimmermann, MSN RN ANP-BC AE-C*

**9:00** **Look Before You LEAP (Prevention of Allergic Disease)**
*Rosan Meyer, PhD RD*

**9:45** **Break**

**10:00** **Moving from Management to Treatment with Food Allergies**
*Pamela H. Steele, MSN CPNP AE-C*

**10:45** **The Link between Vitamin D and the Treatment of Asthma**
*Karen L. Gregory, DNP APRN-BC RRT AE-C*
*Karen S. Rance, DNP APRN CPNP AE-C*

**11:30** **Break**

**11:45** **Taking an Effective Patient History**
*Gregory M. Metz, MD*

Upon completion of this session, participants should be able to apply current evidence-based information to clinical practice.

### Workshop

## 1151 Allied Health: Marketing for the Allergy Practice

9:30 to 10:45 am

**Convention Center, Level Two, Room 406AB**

Credit: 1.25 CME/CE

*Moderator: John D. Milewski, MSHA FACMPE*

**9:30** **Take the Right Steps to Promote Your Practice**
*Stanley M. Fineman, MD MBA FAAAAI*

**10:15** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the importance of marketing in an allergy practice; Identify how to develop a marketing plan; Discuss the use of electronic media for marketing.

## Courses

### 1201 Allergen Immunotherapy, Today and Tomorrow: Session II. Immunotherapy with Food Allergens

10:00 am to 12:30 pm
**Convention Center, Level One, Petree Hall C**
Credit: 2.50 CME/CE
*Moderator: Marshall Plaut, MD FAAAAI*

**10:00** **Epicutaneous Peanut to Treat Peanut Allergy**
*Stacie M. Jones, MD*

**10:25** **Question & Answer**

**10:30** **Insights from New Mechanistic Studies on Food Allergy**
*Cecilia Berin, PhD*

**10:55** **Question & Answer**

**11:00** **Low Dose Immunotherapy in Very Young Children to Treat Peanut Allergy**
*Brian P. Vickery, MD FAAAAI*

**11:25** **Question & Answer**

**11:30** **Epigenetic Changes During Food Allergen Immunotherapy**
*Kari C. Nadeau, MD PhD FAAAAI*

**11:55** **Question & Answer**

**12:00** **Does Tolerance to Peanut Persist After Prolonged Avoidance? The LEAP-On Study**
*Gideon Lack, MD*

**12:25** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss current and future approaches to allergen immunotherapy for food allergy; Discuss the potential mechanisms by which immunotherapy modulates the immune response to allergens; Discuss the durability of immune unresponsiveness induced by allergen immunotherapy or by ingestion of food allergens beginning in infancy.

### 1202 Diagnostic Challenges in Mastocytosis: Serum Tryptase, Allele-Specific PCR and GI Pathology

10:00 am to 12:30 pm
**Convention Center, Level One, Petree Hall D**
Credit: 2.50 CME/CE
*Moderator: Catherine R. Weiler, MD PhD FAAAAI*
***This Session Will Use Audience Response System Technology.***

**10:00** **My Patient Has Elevated Tryptase. Now What?**
*Joseph H. Butterfield, MD FAAAAI*

**10:20** **Question & Answer**

**10:30** **KIT Mutational Analysis: Allele-Specific PCR**
*Dean D. Metcalfe, MD FAAAAI*

**10:50** **Question & Answer**

**11:00** **Mast Cells in the GI Tract: Is It Mastocytosis?**
*Cem Akin, MD PhD FAAAAI*

**11:20** **Question & Answer**

**11:30** **Value of Flow Cytometry in Diagnosis of Mastocytosis: Advantages and Pitfalls**
*Alberto Orfao, MD PhD*

**11:50** **Question & Answer**

**12:00** **Hymenoptera Anaphylaxis: When to Suspect Mastocytosis?**
*Patrizia Bonadonna, MD CME*

**12:20** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss utility and interpretation of elevated tryptase level; Discuss which cases can be evaluated at general allergist level and when a referral to a mastocytosis center is indicated; Discuss utility and interpretation of allele-specific PCR and indications for bone marrow biopsy.

### 1203 NIEHS: Autophagy and Phagocytosis: At the Crossroads of Inflammation and Tolerance

10:00 am to 12:30 pm
**Convention Center, Level Two, Room 404AB**
Credit: 2.50 CME/CE
*Moderator: Jennifer Martinez, PhD*

**10:00** **The Interplay Between the Autophagy Machinery and Innate Immunity**
*Speaker to be announced.*

**10:18** **Question & Answer**

**10:25** **Connecting Autophagy, Phagocytosis and Antigen Presentation**
*Julie Magarian Blander, PhD*

**10:43** **Question & Answer**

**10:50** **Phagocytosis and Lipid Sensing: Molding the Metabolic Profile**
*Ruoning Wang, PhD*

**11:08** **Question & Answer**

**11:15** **LC3-Associated Phagocytosis as a Critical Regulator of the Innate Immune Response**
*Jennifer Martinez, PhD*

**11:33** **Question & Answer**

**11:40** **Differential Cell Death Pathways Can Alter the Innate Immune Response**
*Francis Ka Ming Chan, PhD*

**11:58** **Question & Answer**

**12:05** **Efferocytosis and Prevention of Autoimmune Disorders**
*Kodi S. Ravachandran, PhD*

**12:23** **Question & Answer**

Upon completion of this session, participants should be able to: Identify the role of phagocytosis and autophagy in the modulation of the innate immune response; Discuss the role of the autophagy machinery in antigen presentation and modulation of the adaptive immune response; Examine the role of phagocytosis and autophagy in the pathogenesis of autoimmune disorders.

### 1204 Introductory Course in Rhinolaryngoscopy with Hands-On Instruction

10:00 am to 12:30 pm
**Convention Center, Level Two, Room 407**
Pre-registration and ticket required. Fee: $50.
Credit: 2.50 CME/CE
*Moderator: Jerald W. Koepke, MD FAAAAI*

**10:00** **Introductory Course in Rhinolaryngoscopy with Hands on Instruction**
*Jerald W. Koepke, MD FAAAAI*

**11:15** **Hands-On Instruction**
*Allen D. Adinoff, MD FAAAAI*
*Kevin R. Murphy, MD*
*Grant C. Olson, MD*
*Donald W. Pulver, MD FAAAAI*
*C. Ross Westley, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe the surgical anatomy of the upper airway, including the nasal cavity, pharynx and larynx; Identify examples of normal and abnormal anatomy, as well as disease presentations and post-operative changes found with endoscopic examination of the upper airway; Identify indications for and the use of the fibreoptic rhinoscope in the allergist´s office.

## Courses (continued)

### 1205 Lessons from Functional Genomics: New Data from the AADCRC

10:00 am to 12:30 pm
**Convention Center, Level Two, Room 408A**
Credit: 2.50 CME/CE
*Moderator: Angela Haczku, MD PhD FAAAAI*

**10:00** **Asthma: Genomics Approaches to New Treatments**
*Gurjit K. Khurana Hershey, MD PhD FAAAAI*

**10:40** **Question & Answer**

**10:50** **Eosinophilic Gastrointestinal Disorders**
*Marc E. Rothenberg, MD PhD FAAAAI*

**11:30** **Question & Answer**

**11:40** **Novel Insights into the Contribution of ORMDL3 in Asthma**
*Benjamin A. Raby, MD MPH*

**12:20** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the new information available about the genetic regulation of allergic disease that can be practically applied to patient care; Discuss the most recent data from large population cohorts that inform our therapeutic approach; Discuss new insights into ORMDL3 and allergic disease.

### 1206 Inflammatory Origins of CRS: Uncovering Opportunities for Disease Prevention and Modification

10:00 am to 12:30 pm
**Convention Center, Level Two, Room 408B**
Credit: 2.50 CME/CE
*Moderator: David W. Hauswirth, MD FAAAAI*

**10:00** **The Role of Biofilms and the Microbiome in the Development of CRS**
*Robert C. Kern, MD*

**10:30** **Negative Effects of Antibiotics in Origins of CRS**
*Martin Wagenmann, MD FAAAAI*

**11:00** **Question & Answer Panel Discussion**

**11:15** **Antibody Deficiency: Epidemiological, Clinical and Pathological Overlap with CRS**
*Anju T. Peters, MD FAAAAI*

**11:45** **Biologics in Chronic Rhninosinusitis with Nasal Polyps: Current State and Future Role**
*Claus Bachert, MD PhD*

**12:15** **Question & Answer Panel Discussion**

Upon completion of this session, participants should be able to: Describe the role of the microbiome and biofilms in the development of CRS; Discuss the implications of antibiotic use and overuse in CRS; Identify inflammatory pathways in CRS and opportunities for disease modification.

### 1207 How to Apply for and Obtain an NIH Grant for the New Investigator

10:00 am to 12:30 pm
**Convention Center, Level Two, Room 405**
Pre-registration and ticket required.
Credit: 2.50 CME/CE
*Moderator: Larry Borish, MD FAAAAI*
***Attendees will be Required to Submit a One to Three Page Grant Proposal Consisting Primarily of Hypotheses and Specific Aims to Participate in this Course.***

**10:00** **NIH Grants as Seen from the NIAID**
*Alkis Togias, MD FAAAAI*

**10:15** **Grants as Seen from the NIH**
*Mike Minnicozzi, PhD*

**10:30** **Panel Discussion**
*Nora A. Barrett, MD FAAAAI*
*Larry Borish, MD FAAAAI*
*Tanya M. Laidlaw, MD FAAAAI*
*R. Stokes Peebles Jr., MD FAAAAI*

**11:00** **Small Group Discussion with Session Faculty to Review Grant Applications**

Upon completion of this session, participants should be able to: Describe the system of NIH funding mechanisms; Critically evaluate grant applications.

### 1208 Finding a Job and Getting Started in Practice

10:00 am to 12:30 pm
**Convention Center, Level Two, Room 502A**
Credit: 2.50 CME/CE
*Moderator: Weily Soong, MD FAAAAI*

**10:00** **Overview of AAAAI, Office of Practice Management and RSLAAIS**
*Sharon B. Markovics, MD FAAAAI*

**10:05** **Overview of the Changing Healthcare Market and the Allergy Market**
*David L. Patterson, MD MS MBA FAAAAI*

**10:35** **Finding a Job, Different Practice Opportunities (Single, Multi-Specialty, Academics), and Different Types of Practices**
*Tao T. Le, MD MHS FAAAAI*

**11:10** **Question & Answer**

**11:20** **Practice Finances 101: For Private Practice and Academics**
*Vinay Mehta, MD FAAAAI*

**11:55** **Marketing Your Practice and Referral Development**
*Stanley M. Fineman, MD MBA FAAAAI*

**12:20** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the changing landscape of American medicine and the practice of allergy; Explain how to identify and join the right practice opportunity; Discuss the fundamentals of office management, identify strategies for marketing a practice, and review tips on building a patient base.

## Courses (continued)

### 1209 Making Your Technology Work for You

10:00 am to 12:30 pm
**Convention Center, Level Two, Room 502B**
Credit: 2.50 CME/CE
*Moderator: Anne K. Ellis, MD MSc FAAAAI*
***Bring Your Mobile Device to Participate.***

**10:00** **Making the Technology Work and Pay Off for Your Practice**
*Nabeel Farooqui, MD*

**10:25** **My EMR Is Too Much Work! Maximizing Productivity Now That You Have Your EMR**
*Priya J. Bansal, MD FAAAAI*

**10:50** **Social Media Tools for Marketing and Communications**
*Sakina S. Bajowala, MD FAAAAI*

**11:15** **Educating Our Patients through Technology: How to Create Handouts, Videos and More**
*Ves Dimov, MD*

**11:35** **iPhones, iPads, and Androids: New Apps and Tools to Assist in Your Practice**
*Melinda M. Rathkopf, MD FAAAAI*

**11:55** **Telemedicine: The New Frontier**
*Chitra Dinakar, MD FAAAAI*

**12:15** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how technology can assist in work flow from the beginning to the end, utilizing the EMR to the fullest; Discuss social media and marketing tools for the practice; Discuss and provide an introduction to telemedicine.

### 1210 The Principles of Healthy Homes and Using Home Environmental Assessment in Disease Management

10:00 am to 12:30 pm
**Convention Center, Level One, Concourse Hall, Room 152**
Credit: 2.50 CME/CE
*Moderator: James W. Sublett, MD*
***This Session Will Use Audience Response System Technology.***

**10:00** **Principles of a Healthy Home**
*Kevin Kennedy, MPH CIEC*

**10:35** **Question & Answer**

**10:50** **Taking an Environmental Health History**
*Wanda Phipatanakul, MD MS FAAAAI*

**11:25** **Question & Answer**

**11:40** **Communicating Findings and Reporting Assessment Results**
*Jay M. Portnoy, MD FAAAAI*

**12:15** **Question & Answer**

Upon completion of this session, participants should be able to: Recognize potentially harmful respiratory exposures in homes including allergens, mold, pests, particulate, and other pollutants; Identify the seven principles of healthy housing; Describe how to collaborate with environmental professionals to make healthy homes a reality.

### 1211 NHLBI: Incorporating New Methodology in Asthma Clinical Trials

10:00 am to 12:30 pm
**Convention Center, Level Two, Room 515B**
Pre-registration and ticket required.
Credit: 2.50 CME/CE
*Moderator: Christine A. Sorkness, PharmD*

**10:00** **Cross-Age Studies: Important Decisions**
*Stanley J. Szefler, MD FAAAAI*

**10:20** **Question & Answer**

**10:25** **Microbiome: Challenges and Opportunities**
*Susan V. Lynch, PhD*

**10:45** **Question & Answer**

**10:50** **Monitoring Asthma Control in Clinical Trials**
*David Mauger, PhD*

**11:10** **Question & Answer**

**11:15** **Composite Outcomes: Strengths and Weaknesses**
*Daniel J. Jackson, MD*

**11:35** **Question & Answer**

**11:40** **Case Study: Small Group Discussion**

**12:05** **Small Group Report-Out**

**12:20** **Panel Discussion Question & Answer**

Upon completion of this session, participants should be able to: Discuss how the age of the study population affects asthma clinical trials; Discuss the process of data collection for biologic specimens and clinical data in asthma trials; Discuss how data is converted into clinically meaningful information for patients with asthma.

## Workshop

### 1301 Allied Health: The Allergist's Coding Update for 2016

11:00 to 12:15 pm
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE
*Moderator: Joan E. Hawkins*

**11:00** **Speaker**
*Teresa Thompson, CPC CMSCS CCC*

**11:45** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss what is new in coding this year; Discuss awareness of allergy testing and serum dosing limits; Identify the rules for physician extender billing and state variations.

## Basic Science Poster Discussion Workshop

### 1351 Cellular Effectors of Allergy and Disturbed Immunity

12:30 to 1:45 pm

**JW Marriott, Platinum Ballroom Level, Salon D**

Credit: 1.25 CME/CE

*Moderators: Zoulfia Allakhverdi, PhD FAAAAI*
*Kathyryn E. Hulse, PhD*

**12:30** **Poster Viewing**

**1:10** **Discussion of the following Posters:**

**Group 2 Innate Lymphoid Cells Directly Induce B Cell Activation in Humans**
*Richard Kasjanski, MS*

**Novel IL-9-Producing Mucosal Mast Cells Promote IgE-Mediated Food Allergy**
*Yui-His Wang, PhD*

**Follicular Helper T (Tfh) Cells Are Indispensable for IgE Antibody Responses to Airborne Allergens**
*Takao Kobayashi, PhD*

**Copy Number Variation in Donor KIR Genes and Motifs Titrates Natural Killer (NK) Cells' Functional Response to EBV Infections and Influences the Risk of Developing Post-Transplant Lymphoproliferative Disease (PTLD) after Allogeneic HCT**
*Rehan M. Faridi, PhD*

**Allergen-Specific CD4+ T Cells in Human Asthma Have an Increased Capacity to Respond to Innate Type 2 Signals**
*Morris F. Ling, MD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

## Workshops

### 1401 Allied Health: Ask the Expert Question & Answer Roundtable Luncheon

12:30 to 1:45 pm

**Convention Center, Level Two, Room 410**

Pre-registration and ticket required. Fee: $30. Box lunch included.

Credit: 1.25 CME/CE

*Moderator: John D. Milewski, MSHA*

**Billing, Coding and ICD-10 Question & Answer**
*Teresa Thompson, CPC CMSCS CCC*

**PCMH for the Allergist**
*Thomas J. Derrico*

**Collection Strategies for High Deductible Plans**
*Joan E. Hawkins*

**Compliance: HIPAA**
*Mary H. Thal, BS RN*

**Vertical Integration: What's the Next Step?**
*Robert A. Glazer, MBA*

**Staff Training and Motivation**
*Ron Hartley, BA*

**Question & Answer**

Upon completion of this session, participants should be able to: Discuss billing, coding, ICD-10, PCMH for the allergist, staff training and collection strategies for high deductible plans; Identify hot-topic subjects and address issues that arise in practice.

### 1501 JACI: Year-in-Review

12:30 to 1:45 pm

**Convention Center, Level Two, Room 403A**

Credit: 1.25 CME/CE

*Moderator: Cezmi A. Akdis, MD FAAAAI*

***This Session Requires Pre-Meeting Reading.***

**12:30** **Atopic Dermatitis**
*Kenji Kabashima, MD PhD*

**12:45** **Question & Answer**

**12:55** **Asthma**
*Harald Renz, MD FAAAAI*

**1:10** **Question & Answer**

**1:20** **Eosinophilic Esophagitis**
*Robert A. Wood, MD FAAAAI*

**1:35** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss and provide an update on the cutting edge literature on atopic dermatitis, food allergy, and asthma in regards to pathogenesis, treatment and prevention.

### 1502 Dilemmas in Asthma Management

12:30 to 1:45 pm

**Convention Center, Level Two, Room 403B**

Credit: 1.25 CME/CE

*Moderator: Caroline C. Horner, MD FAAAAI*

**12:30** **Panel Discussion with Audience Question & Answer Technology**
*William W. Busse, MD FAAAAI*
*William J. Calhoun, MD FAAAAI*
*Susan M. Tarlo, MBBS FAAAAI*

Upon completion of this session, participants should be able to: Discuss clinical phenotypes of asthmatics with fungal sensitization, steroid resistant and work-exacerbated asthma; Describe optimal management strategies for difficult asthma phenotypes.

### 1503 ILC2: Gateway to Th2 Inflammation

12:30 to 1:45 pm

**Convention Center, Level Two, Theatre (Room 411)**

Credit: 1.25 CME/CE

*Moderator: Taylor Doherty, MD FAAAAI*

**12:30** **ILC2 as Regulators of Allergic Dermatitis**
*Brian S. Kim*

**12:50** **Question & Answer**

**12:55** **ILC2 in Gut Immunity**
*Speaker to be announced.*

**1:15** **Panel Discussion**

**1:20** **ILC2 in the Pathogenesis of Allergic Lung Disease**
*Hirohito Kita, MD*

**1:40** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how ILC2 contributes in a substantial way to the induction of allergic skin diseases; Describe ILC2 cells that have important regulatory roles in the balance between maintenance of normal gut homeostasis and establishment of inflammatory bowel disease; Identify mechanisms by which ILC2 contributes to asthma pathogenesis.

## Workshops (continued)

### 1504 SLIT: Practical Considerations, Unmet Needs and FAQs

12:30 to 1:45 pm
**Convention Center, Level Two, Room 503**
Credit: 1.25 CME/CE
*Moderator: Bryan L. Martin, DO FAAAAI*

**12:30** **Panel Discussion**
*Linda Cox, MD FAAAAI*
*Stephen R. Durham, MA MD FRCP*
*Ralph Mosges, MD FAAAAI*
*Harold S. Nelson, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe characteristics of the ideal patient for SCIT vs. SLIT incl. what to do with polysensitized patients; Discuss safety and adherence issues concerning SLIT; Discuss and contrast the off-label use of allergen extract solution for SLIT compared with FDA-approved sublingual tablets.

### 1505 FPIES: What We Know, What We Don't Know and What We Still Need to Know

12:30 to 1:45 pm
**Convention Center, Level Two, Room 518**
Pre-registration and ticket required.
Credit: 1.25 CME/CE
*Moderator: Terri F. Brown-Whitehorn, MD*
***Case-Based Discussion***

**12:30** **FPIES: What We Know about Diagnosis and Management of Acute and Chronic Phenotype**
*Anna H. Nowak-Wegrzyn, MD FAAAAI*

**12:45** **Question & Answer**

**12:55** **FPIES: What We Know about Nutrition Management**
*Marion E. Groetch, MS RD*

**1:10** **Question & Answer**

**1:20** **FPIES: What We Still Need to Know about Epidemiology and Pathophysiology**
*Jean-Christoph Caubet, MD*

**1:35** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss and appraise consensus guidelines for diagnosis and management of FPIES; Describe nutritional management of FPIES; Describe the unmet needs in FPIES, including epidemiology, pathophysiology and others.

### 1506 The Safety of Asthma and Allergy Medications During Pregnancy: New Horizons

12:30 to 1:45 pm
**Convention Center, Level Two, Room 409AB**
Credit: 1.25 CME/CE
*Moderator: Michael Schatz, MD MS FAAAAI*

**12:30** **The Safety of Asthma and Allergy Medications During Pregnancy: Knowledge Gaps**
*Jennifer A. Namazy, MD FAAAAI*

**12:45** **The Safety of Asthma and Allergy Medications During Pregnancy: The New FDA Pregnancy Label**
*Tamara Johnson, MD MS*

**1:00** **The Safety of Asthma and Allergy Medications During Pregnancy: The Role of VAMPSS**
*Christina Chambers, PhD MPH*

**1:15** **Question & Answer**

Upon completion of this session, participants should be able to: Identify knowledge gaps regarding the safety of asthma and allergy medications during pregnancy; Optimally use the information provided by the new FDA pregnancy labeling system for clinical decision making; Appreciate the role of VAMPSS in providing new information for the pregnancy label and filling in knowledge gaps regarding the safety of asthma and allergy medications during pregnancy.

## Seminars

12:45 to 1:45 pm
Pre-registration and ticket required. Fee: $40. Box lunch included.
Sessions and meals are limited to 30 people.
Credit: 1.00 CME/CE

### 1510 The Use of Social Media in the Allergy Practice

**JW Marriott, Diamond Ballroom Level, Salon 3**
*Priya J. Bansal, MD FAAAAI*
*David R. Stukus, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss how social media can be used to improve practice marketing; Identify methods of improving patient communication; Identify potential problems posed by using social media.

### 1511 Barriers to Asthma Management in Schools

**JW Marriott, Diamond Ballroom Level, Salon 7**
*Gary S. Rachelefsky, MD FAAAAI*
*Stanley J. Szefler, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe components of an ideal school-based asthma program; Identify barriers to program implementation; Discuss and list new tools related to innovative implementation and training.

### 1512 Whole Exome Sequencing: Guidance in Modalities and Interpretation for the Practicing Immunologist

**JW Marriott, Diamond Ballroom Level, Salon 8**
*Karin Chen, MD*
*Attila Kumanovics, MD*

Upon completion of this session, participants should be able to: Discuss whole exome sequencing and how to utilize public databases; Discuss specific examples including CVID and RAG deficiency and how whole genome sequecing approaches are being employed.

## Seminars (continued)

### 1513 The Intricacy of Penicillin and Cephalosporin Allergy Evaluation

**JW Marriott, Diamond Ballroom Level, Salon 9**
*Eric M. Macy, MD FAAAAI*
*Miguel A. Park, MD*

Upon completion of this session, participants should be able to: Discuss the different components of the penicillin skin test; Discuss the evaluation and management of patients with other beta lactam allergies; Discuss the role of oral challenges to penicillin and/or amoxicillin in the evaluation of penicillin allergy.

### 1514 Non-IgE-Mediated Food Allergies

**JW Marriott, Diamond Ballroom Level, Salon 10**
*Mirna Chehade, MD MPH*
*Stephanie A. Leonard, MD*

Upon completion of this session, participants should be able to: Identify clinical manifestation of non-IgE mediated food allergy such as FPIES, proctocolitis and enteropathy; Describe approach to diagnosis; Describe practical management.

## Pro/Con Debate

### 1551 Allied Health: Precautionary Allergen Labeling Contains Useful Information

12:45 to 1:45 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.00 CME/CE
*Moderator: Scott H. Sicherer, MD FAAAAI*

**Pro**
*Carina Venter, PhD RD*

**Con**
*Paul J. Turner, FRACP PhD*

Upon completion of this session, participants should be able to: Identify how to interpret precautionary labels and provide appropriate education to families with food allergies; Discuss how to interpret precautionary labels based on the avoidance needs of patients with IgE-mediated food allergies, FPIES and EoE; Identify the research surrounding threshold levels and what these mean or may mean in terms of labeling for risk of cross contact in the U.S. and other countries.

## Presidential Plenary

### 1601 The Origins of Childhood Asthma

2:00 to 3:30 pm
**Convention Center, Level One, South Exhibit Hall G**
Credit: 1.50 CME/CE
*Moderator: Robert F. Lemanske Jr., MD FAAAAI*

**2:00** **The Contribution of Respiratory Pathogens and Allergic Sensitization to Asthma Inception**
*Robert F. Lemanske Jr., MD FAAAAI*

**2:30** **The Microbial Environment and its Influence on Allergy and Asthma in Early Life**
*Erika Von Mutius, MD MSc*

**3:00** **Gene By Environment Interactions and Asthma**
*Carole Ober, PhD*

Upon completion of this session, participants should be able to: Describe the etiology of respiratory tract wheezing illnesses in preschool children that increase risk for the expression of asthma during school age; Discuss genetic risk pathways for the development of asthma during childhood; Discuss the influence of microbial exposures in early life that modify the risk of developing childhood asthma.

## Symposia

### 1801 What Can Implementation Research Teach Us About the Management of Asthma?

4:00 to 5:15 pm
**Convention Center, Level One, Petree Hall C**
Credit: 1.25 CME/CE
*Moderator: Giselle Mosnaim, MD MS FAAAAI*

**4:00** **What is Implementation Research and How Can it Improve Asthma Outcomes?**
*Cynthia S. Rand, PhD*

**4:20** **Question & Answer**

**4:25** **Making the Switch from Randomized Trials to Implementation Research**
*Andrea J. Apter, MD MA MSc FAAAAI*

**4:45** **Question & Answer**

**4:50** **Community-Level Implementation Research Can Address Asthma Disparities**
*Michelle M. Cloutier, MD*

**5:10** **Question & Answer**

Upon completion of this session, participants should be able to: Describe and define the role of implementation research to improvement of asthma outcomes; Identify the methodologies for conducting implementation research in asthma; Identify new areas for implementation research in asthma.

### 1802 Management of Atopic Dermatitis: What's New?

4:00 to 5:15 pm
**Convention Center, Level One, Petree Hall D**
Credit: 1.25 CME/CE
*Moderator: Kelly D. Stone, MD PhD FAAAAI*
***This Session Will Use Audience Response System Technology.***

**4:00** **The Skin Microbiome in Atopic Dermatitis**
*Donald Y.M. Leung, MD PhD FAAAAI*

**4:20** **Patient Education Strategies**
*Dagmar Simon, MD*

**4:40** **Systemic Immune Treatments**
*Lisa A. Beck, MD FAAAAI*

**5:00** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of the skin microbiome in atopic dermatitis; Discuss patient education for atopic dermatitis; Discuss possible therapeutic consequences owing to new insights into the pathogenesis of atopic dermatitis.

## Symposia (continued)

### 1803 Automating Pollen Identification/NAB

4:00 to 5:15 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.25 CME/CE
*Moderator: Dennis K. Ledford, MD FAAAAI*

**4:00** **Flow Cytometry**
*Michael Teng, PhD*

**4:20** **Question & Answer**

**4:25** **Monoclonal Antibodies**
*Martin D. Chapman, PhD FAAAAI*

**4:45** **Question & Answer**

**4:50** **Real Time PCR**
*Mark C. Glaum, MD PhD FAAAAI*

**5:10** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss current laboratory techniques which could permit automated aeroallergen determinations; Review the problems associated with collecting samples for automated aeroallergen assessments; Identify and provide an up-to-date scientific analysis of how soon such techniques will be available to the community.

### 1804 B-Regulatory Cells: No Longer Playing Second Fiddle to T Regs

4:00 to 5:15 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 1.25 CME/CE
*Moderator: Cezmi A. Akdis, MD FAAAAI*

**4:00** **PD-L1hi B Cells Are Critical Regulators of Humoral Immunity**
*Padraic Fallon, PhD*

**4:20** **Question & Answer**

**4:25** **IL-10 Expressing B Cells Regulate Innate and Adaptive Immune Responses**
*Mubeccel Akdis, MD PhD*

**4:45** **Question & Answer**

**4:50** **Regulatory B Cells and Tolerance in Transplantation**
*Speaker to be announced.*

**5:10** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the prominent role B cells that express PD-L1 occupy in the regulation of humoral immune responses; Describe the settings in which B lymphocytes express IL-10, providing these B cells with potent ability to regulate both innate and adaptive immune responses; Discuss settings in which B lymphocytes may play important roles as modulators of all responses in organ transplantation.

### 1805 Secondary Immune Deficiencies (Non-HIV)

4:00 to 5:15 pm
**Convention Center, Level Two, Room 408A**
Credit: 1.25 CME/CE
*Moderator: Christina L. Nance, PhD*

**4:00** **Secondary Immunodeficiency Due to Underlying Disease States, Environmental Exposures and Miscellaneous Causes**
*Francisco A. Bonilla, MD PhD FAAAAI*

**4:20** **Question & Answer**

**4:25** **Secondary Immunodeficiency Induced by Drugs and Biologic Therapies**
*Mark Ballow, MD FAAAAI*

**4:45** **Question & Answer**

**4:50** **Solid Organ Transplantation and Secondary Antibody Deficiency**
*Sarah K. Nicholas, MD*

**5:10** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss secondary immunodeficiency due to underlying disease states, environmental exposures and other causes; Discuss underlying mechanisms and sequelae of the immune dysfunction of secondary immunodeficiencies.

### 1806 Non-IgE-Mediated Gastrointestinal Food Allergies in Children and Adults

4:00 to 5:15 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.25 CME/CE
*Moderator: Kirsi M. Jarvinen-Seppo, MD PhD FAAAAI*

**4:00** **Pathophysiology of Inflammatory Responses to Food Allergens in the Gut: Potential Targets for Prevention**
*Simon P. Hogan, PhD*

**4:20** **Question & Answer**

**4:25** **Modification of FPIES Natural History by Evolution of Systemic IgE Responses to Foods**
*Anna H. Nowak-Wegrzyn, MD FAAAAI*

**4:45** **Question & Answer**

**4:50** **Spectrum of Wheat Sensitivity in Children and Adults: Opportunities for Disease Modification**
*Peter Green, MD*

**5:10** **Question & Answer**

Upon completion of this session, participants should be able to: Describe immune responses to foods in the GI tract; Describe manifestations, diagnosis and management of food protein-induced enterocolitis syndrome (FPIES) with emphasis on the evolution of systemic IgE immune response to foods and implications for management; Describe the continuum of immune responses to wheat from childhood to adulthood and potential therapeutic targets.

## Symposia (continued)

### 1807 Allergy in Schools: Keeping Kids Healthy and Safe

4:00 to 5:15 pm
**Convention Center, Level Two, Room 502A**
Credit: 1.25 CME/CE
*Moderator: Carla M. Davis, MD FAAAAI*

**4:00** **Improving School Management of Food Allergy**
*Michael C. Young, MD FAAAAI*

**4:20** **Question & Answer**

**4:25** **Anaphylaxis in Schools: Challenges and Opportunities**
*Julie Wang, MD FAAAAI*

**4:45** **Question & Answer**

**4:50** **Enhancing Asthma Care with School-Centered Programs**
*Wanda Phipatanakul, MD MS FAAAAI*

**5:10** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss and guide management of asthma in schools; Discuss and guide management of anaphylaxis in schools; Describe management of food allergy in schools.

### 1808 Microbial Regulation of Allergic Airway Inflammation: Lessons from the AADCRC

4:00 to 5:15 pm
**Convention Center, Level Two, Room 502B**
Credit: 1.25 CME/CE
*Moderator: R. Stokes Peebles, Jr., MD FAAAAI*

**4:00** **Determinants of Rhinovirus Illness Severity**
*James E. Gern, MD FAAAAI*

**4:20** **Question & Answer**

**4:25** **Regulation and Induction of Airway Inflammation By Mycoplasma Pneumonia CARDS Toxin**
*Joel Barry Baseman, PhD*

**4:45** **Question & Answer**

**4:50** **Viral-Epithelial Interactions in Airway Inflammation**
*Michael J. Holtzman, MD FAAAAI*

**5:10** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss and define the factors that regulate severity of illness to rhinovirus infection; Identify the mechanisms by which CARDS toxin induces allergic airway inflammation; Describe how virus infection regulates airway epithelial cell function.

## Allied Health Plenary

### 1810 Allied Health Plenary: Working Together to Improve Asthma Care

4:00 to 5:15 pm
**Convention Center, Level Two, Room 515A**
Credit: 1.25 CME/CE
*Moderator: Nina A. Zimmermann, MSN RN ANP-BC AE-C*

**4:00** **Asthma Care in the Underserved**
*Elizabeth Matsui, MD MHS*

**4:25** **Question & Answer**

**4:35** **Asthma Action Plans: Family and School Working Together**
*Lila C. Kertz, MSN RN CPNP AE-C*

**5:00** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the role that health care providers can play in communication with patients, families and school personnel to improve asthma care; Identify communication strategies for school staff to communicate information to providers to improve medication adherence and reduce school absences.

## Federation of RSLAAIS Assembly Forum, Business Meeting and Reception

### Practice Roundtable: The Future of Allergy, Asthma and Immunology

4:45 pm - 6:30 pm
**Convention Center, Level Two, Room 515B**
No CME/CE

**4:45** **Wine and Cheese Reception**

**5:10** **RSLAAIS Assembly Business Meeting**
*Moderator: Andrew W. Murphy, MD FAAAAI*
*Special Guests:*
*Robert F. Lemanske, Jr, MD FAAAAI*
*Sharon B. Markovics, MD FAAAAI*

**5:25** **Practice-Roundtable: The Future of Allergy, Asthma and Immunology**
*Moderator: Andrew W. Murphy, MD FAAAAI*
*Panelists:*
*Ted Freeman, MD FAAAAI*
*Emily Graham, RHIA CCS-P*
*Michael S. Kaplan, MD FAAAAI*
*David Lang, MD FAAAAI*
*Melinda Rathkopf, MD FAAAAI*

**6:30** **Adjournment**

Upon completion of this session, participants should be able to identify key political, social, and economic factors influencing the future of allergy, asthma and immunology practice. Other topics to be discussed include; future application of technology in allergy practice, future healthcare payment strategies and quality measures, future practice frameworks and the future roles of academic allergy in community practice.

## Seminars

6:45 to 7:45 am
Pre-registration and ticket required. Fee: $40. Continental breakfast included. Sessions and meals are limited to 30 people.
Credit: 1.00 CME/CE

### 2001 Smoking Cessation in Asthmatics: Behavioral, Pharmacologic and E-Cigarette Modalities

**JW Marriott, Diamond Ballroom Level, Salon 1**
*Riccardo Polosa, MD PhD FAAAAI*
*Mark F. Sands, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe the behavioral and pharmacologic options for smoking cessation; Describe the safety and efficacy of e-cigarettes for smoking cessation.

### 2002 Performing Outpatient Aspirin Desensitizations for Patients with AERD

**JW Marriott, Diamond Ballroom Level, Salon 2**
*Katherine N. Cahill, MD*
*Whitney Stevens, MD PhD*

Upon completion of this session, participants should be able to: Discuss how to apply aspirin desensitization protocols; Discuss how to identify patients for outpatient desensitization.

### 2003 Making Your EMR Work for You

**JW Marriott, Diamond Ballroom Level, Salon 3**
*Sakina S. Bajowala, MD FAAAAI*
*Priya J. Bansal, MD FAAAAI*

Upon completion of this session, participants should be able to: Identify problems encountered by practices when adopting an EHR; Discuss how to overcome barriers; Identify how the EHR can be harnessed to improve office efficiency.

### 2004 The Link to Immunodeficiency: Targeted Treatment

**JW Marriott, Diamond Ballroom Level, Salon 6**
*Troy R. Torgerson, MD PhD*
*Jolan E. Walter, MD PhD*

Upon completion of this session, participants should be able to: Describe impaired tolerance mechanisms among patients with autoimmunity and primary immunodeficiency; Discuss the current approach to treat autoimmune cytopenias, the most common autoimmune complications among patients with autoimmunity and primary immunodeficiencies; Discuss targeted and innovative therapies for autoimmunity in certain immunodeficiencies.

### 2005 How Allergen Extracts are Made: From Source Materials to Allergen Extracts

**JW Marriott, Diamond Ballroom Level, Salon 7**
*Rosa Codina, PhD FAAAAI*
*W. Elliott Horner, PhD LEED AP FAAAAI*

Upon completion of this session, participants should be able to: Discuss the source materials and methods to manufacture fungal raw materials used to produce allergen extracts; Describe the source materials and methods to manufacture insect and mammalian raw materials used to produce allergen extracts; Discuss the source materials and methods to manufacture venom extracts.

### 2006 Update in Occupational Allergy: Occupational Anaphylaxis

**JW Marriott, Diamond Ballroom Level, Salon 8**
*Santiago Quirce, MD PhD*
*Susan M. Tarlo, MBBS FAAAAI*

Upon completion of this session, participants should be able to: Discuss the current scientific evidence linking exposure to occupational triggers and the risk of anaphylaxis; Describe the state-of-the-art diagnosis of occupational anaphylaxis; Identify possible preventive measures.

### 2007 Early Barrier Therapy to Prevent and Treat Eczema

**JW Marriott, Diamond Ballroom Level, Salon 9**
*Lisa A. Beck, MD FAAAAI*
*Christine B. Cho, MD*

Upon completion of this session, participants should be able to: Discuss and evaluate the use of barrier therapy before eczema clinically appears; Discuss the barrier therapy as secondary prevention; Discuss different types of barrier creams and their applications.

### 2008 Clinical Challenges in the Prevention of Food Allergy Through Early Introduction

**JW Marriott, Diamond Ballroom Level, Salon 10**
***This Session Requires Pre-Meeting Reading.***
*Kirsten Beyer, MD*
*George Du Toit, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss and compare the evidence for early introduction of peanut versus other foods such as egg and milk in food allergy prevention in various infant populations; Describe the approaches to practical implementation to early food introduction for at-risk infants; Discuss whether early introduction via maternal diet during pregnancy and lactation has a protective effect.

### 2009 EoE: Dietary Pitfalls and Practical Management in Children and Adults: Are there Similarities at All?

**JW Marriott, Platinum Ballroom Level, Salon A**
*Alison M. Cassin, MS RD CSP*
*Vincent A. Mukkada, MD*

Upon completion of this session, participants should be able to: Describe the best practice in the management of multiple food avoidance in children and adults with EoE; Identify the main foods involved in EoE; Discuss practical tips on the dietary management of EoE in children and adults.

### 2010 Legalization of Cannabis: Implications for the Allergy Care Provider

**JW Marriott, Platinum Ballroom Level, Salon B**
*David Naimi, DO FAAAAI*
*Richard W. Weber, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the physiological effects of cannabis exposure to the respiratory system; Identify the patterns of use of cannabis by adolescents; Discuss how to approach and advise patients of all ages who use cannabis.

### 2011 Mobile Asthma Care Challenges, Rewards and Reach

**JW Marriott, Platinum Ballroom Level, Salon F**
*Mary E. Bollinger, DO FAAAAI*
*Lyne G. Scott, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss mobile asthma care delivery systems in underserved populations; Discuss disease tracking systems for clinical outcome measures of asthma.

## Seminars (continued)

### 2012 Drug Allergy Testing and Desensitization Protocols in Your Practice

**JW Marriott, Platinum Ballroom Level, Salon G**
*Rebecca S. Gruchalla, MD PhD FAAAAI*
*David A. Khan, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss drug allergy testing protocols; Discuss desensitization protocols for the outpatient setting; Discuss how to create desensitization protocols for the inpatient setting.

### 2013 Prostaglandin Regulation of Allergic Diseases

**JW Marriott, Platinum Ballroom Level, Salon H**
*Joshua A. Boyce, MD FAAAAI*
*R. Stokes Peebles Jr., MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the effector and regulatory functions of PGE2 in allergic inflammation; Discuss and appreciate how products of the different arms of the prostaglandin pathways govern distinct biological effects.

## Allied Health Seminars TICKET

6:45 to 7:45 am
Pre-registration and ticket required. No fee. Sessions are limited to 30 people.
Credit: 1.00 CME/CE

### 2021 Allied Health: Treatment Options for the Young Wheezers

**JW Marriott, Platinum Ballroom Level, Salon I**
*Leonard B. Bacharier, MD FAAAAI*
*Bradley E. Chipps, MD FAAAAI*

Upon completion of this session, participants should be able to: Identify treatment of wheezing only with colds; Discuss treatment of exacerbations in the mild persistent wheezer, inhaled corticosteroids and OCS- which one and how to give; Identify the role of Azithromycin in young wheezers.

### 2022 Allied Health: Cooking and Meal Time with Food Allergy

*Supported through an educational grant from Nutricia North America.*

**JW Marriott, Platinum Ballroom Level, Salon J**
*Lynn Christie, MS RD LD*
*Wendy Elverson, RD LDN*

Upon completion of this session, participants should be able to: Identify strategies for planning enjoyable and nutritious meals with a family member who has a food allergy; Discuss preparation of safe meals at home including prevention of cross contamination.

## Workshop

### 2051 Allied Health: With the Changing Marketplace of High Deductible Plans How are Clinics Addressing Their Collection Processes to Keep Current with the Trends of the Marketplace?

7:45 to 9:00 am
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE

**7:45** **Develop Effective Collection Policies and Protocols**
*John D. Milewski, MSHA FACMP*

**8:30** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss a process of storing patient credit cards and collecting the information at the time of service or appointment scheduling; Describe how to communicate with patients about collecting payment in advance; Describe how technology in payment collection can be of value.

## Plenary

### 2101 Immunoglobulin E: The First 50 Years and Beyond

8:15 to 9:45 am
**Convention Center, Level One, South Exhibit Hall G**
Credit: 1.50 CME/CE
*Moderator: K. Frank Austen, MD FAAAAI*

**8:15** **IgE: A Historic Perspective**
*Thomas A.E. Platts-Mills, MD PhD FAAAAI FRS*

**8:45** **Mechanisms of IgE Production and Its Regulation**
*Hannah J. Gould, PhD*

**9:15** **Role and Limitations of IgE in Diagnosis and Treatment of Allergic Disease**
*Thomas B. Casale, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe the historic aspects and key scientists involved in discovery of IgE; Discuss the role of IgE in pathogenesis and diagnosis of allergic disease, and mechanisms of its regulation of production; Identify the disorders that can be successfully treated by targeting allergen specific IgE.

## Workshop

### 2151 Allied Health: PQRS Compliance in the Allergy Office

9:15 to 10:30 am
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE
*Moderator: John D. Milewski, MSHA*

**9:15** **Speaker**
*Charles F. Furr*

**10:00** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how to meet allergy compliance measures; Identify the timelines and reporting options; Discuss what we know about PQRS audits, appeals and the PQRS Wizard as a tool.

## Posters

7:00 am to 6:00 pm

**Convention Center, Level One, South Exhibit Hall H**

Posters on display from 7:00 am to 6:00 pm. Authors present from 9:45 to 10:45 am.

Credit: No CME/CE

Refer to pages 80 – 169 for abstracts and pages 203 – 225 for authors.

**2201 Asthma Epidemiology**
**2202 Asthma Therapy I: Biologics**
**2203 Common Variable Immunodeficiency (CVID) and Other Hypogammaglobulinemia**
**2204 Advancement in Allergic Diseases**
**2205 Indoor Allergens and Fungi**
**2206 Exposures, Asthma and Allergic Diseases**
**2207 Drug Allergy Diagnosis and Management**
**2208 Anaphylaxis and Venom Immunotherapy**
**2209 Innovations in the Prediction and Treatment of Allergic Diseases**
**2210 Immunotherapy, Anaphylaxis**
**2211 Rhinosinusitis**
**2212 Cytokines, Chemokines and Innate Mechanisms**
**2213 Mast Cells and Basophils**
**2214 Allied Health Saturday Poster Session**

## Workshop

### 2251 Allied Health: The Patient-Centered Specialist Program: Becoming a Medical Neighbor

10:45 am to 12:00 pm

**Convention Center, Level Two, Room 406AB**

Credit: 1.25 CME/CE

*Moderator: Joan E. Hawkins*

**10:45 Is the Patient-Centered Medical Home a Path to NCQA Certification?**
*Thomas J. Derrico*

**11:30 Question & Answer**

Upon completion of this session, participants should be able to: Discuss the development of the medical home model in primary care; Discuss the integration potential between the allergist and the primary care provider; Discuss the NCQA's certification requirements and the path to certification.

## Symposia

### 2301 World Allergy Forum: Role of Intolerance in Food Allergy

10:45 am to 12:00 pm

**Convention Center, Level One, South Exhibit Hall G**

Credit: 1.25 CME/CE

*Moderators: Robert F. Lemanske Jr., MD FAAAAI*
*Mario Sánchez-Borges, MD FAAAAI*

**10:45 Food Allergy: Worldwide Patterns**
*Michael E. Levin, MBChB PhD FAAAAI*

**11:05 Question & Answer**

**11:10 Potential Regimens for Tolerance Inductions**
*Susan Prescott, MD PhD*

**11:30 Question & Answer**

**11:35 Treatment Prevention and Guidelines Worldwide**
*Hugh A. Sampson, MD FAAAAI*

**11:55 Question & Answer**

Upon completion of this session, participants should be able to: Identify the worldwide patterns associated with food intolerances; Describe the regimens used for tolerance inductions; Describe new therapeutic options in prevention of food allergy worldwide.

### 2302 Lessons from Performing Guideline-Driven, Evidence-Based Asthma Interventions in the Real World: Who Benefits?

10:45 am to 12:00 pm

**Convention Center, Level One, Petree Hall D**

Credit: 1.25 CME/CE

*Moderator: To be announced.*

**10:45 Found in Translation: How to Identify Key Elements of an Evidence-Based Intervention and How They are Adapted and Retained in Clinics Serving Diverse Underserved Communities**
*David M. Stevens, MD*

**11:05 Question & Answer**

**11:10 Effectiveness of the CHAMPS Intervention on Asthma Symptoms and Healthcare Utilization: Implications for Populations and Healthcare Centers That May Benefit from an Evidence-Based Intervention**
*Suzanne Kennedy, PhD*

**11:30 Question & Answer**

**11:35 Incremental Cost-Effectiveness of the CHAMPS Intervention: Implications for Supporting an Evidence-Based Intervention**
*Avi Dor, PhD*

**11:55 Question & Answer**

Upon completion of this session, participants should be able to: Describe how to promote effective adaptation when developing an evidence-based intervention, such as ongoing dialogue between researchers and the target healthcare setting to respond to the needs of the clinic while monitoring fidelity to the intervention; Discuss if evidence-based interventions remain effective when translated into populations and healthcare settings that differ from the parent trials, and identify what components may be needed to retain efficacy; Identify and assess if evidence-based asthma interventions are cost effective when translated across several different healthcare settings with various insurance providers, and identify what elements payers are interested in supporting for potential intervention sustainability.

## Symposia (continued)

### 2303 New Molecular Breakthroughs in the Study of Immunoglobulin E

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.25 CME/CE
*Moderator: Donald W. Macglashan, MD PhD*

**10:45** **IgE Repertoire Development: Relevance to Food Allergy and Asthma**
*Duane R. Wesemann, MD PhD*

**11:05** **Posttranslational Modification of IgE is Essential for Function**
*Robert M. Anthony, PhD*

**11:25** **Through IgE, Basophils Are the Gatekeepers to Allergic Inflammation**
*Laurence E. Cheng, MD PhD FAAAAI*

**11:45** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the molecular mechanisms of IgE production and activation of mast cells; Discuss new opportunities for development of drugs that affect mast cell function; Discuss the nature of post-translational modifications that regulate the activities of IgE.

### 2304 Epithelium and Innate Immune Responses: Airways and Skin

10:45 am to 12:00 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 1.25 CME/CE
*Moderator: Robert P. Schleimer, PhD FAAAAI*

**10:45** **The Role of Taste Receptors in Epithelial Immune Responses and Chronic Sinus Disease**
*Robert J. Lee, PhD*

**11:05** **Question & Answer**

**11:10** **Barrier, Innate Immunity, Commensal Bacteria and Inflammation in the Skin**
*Kenji Kabashima, MD PhD*

**11:30** **Question & Answer**

**11:35** **Epithelial Responses in the Lungs Drive Innate and Adaptive Immunity**
*Jay W. Kolls, MD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the presense of bitter and sweet taste receptors in multiple anatomic compartments that can serve as innate immune system sentinels; Discuss the multiple roles that epithelial cells in the skin serve in host defense and regulators of inflammation; Discuss how epithelial cells in the lung produce many secreted molecules that regulate innate and adaptive immune responses.

### 2305 Epigenetic Mechanisms in Allergic Diseases

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 408A**
Credit: 1.25 CME/CE
*Moderator: Kathleen C. Barnes, PhD FAAAAI*

**10:45** **Epigenetic Mechanisms That Modulate Food Allergy**
*Kari C. Nadeau, MD PhD FAAAAI*

**11:05** **Epigenetic Regulation of AERD**
*Benjamin A. Raby, MD MPH*

**11:25** **Epigenetic Regulation of Transcriptional Response to Cytokines in Airway Cells**
*Carole Ober, PhD*

**11:45** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss epigenetic mechanisms that regulate allergic disease; Describe the difference between gene-environment interaction and epigenetics; Discuss gene-environment interactions that regulate cytokine responses.

### 2306 Managing Stinging Insect Allergy in the 21st Century

10:45 am to 12:00 pm
**Convention Center, Level One, Petree Hall C**
Credit: 1.25 CME/CE
*Moderator: Dennis K. Ledford, MD FAAAAI*
***This Session Will Use Audience Response System Technology.***

**10:45** **Mechanism of Tolerance to Venom Induced By Immunotherapy**
*Cezmi A. Akdis, MD FAAAAI*

**11:05** **Question & Answer**

**11:10** **Initiation and Discontinuation of Venom Immunotherapy: How Long is Enough?**
*David B.K. Golden, MD FAAAAI*

**11:30** **Question & Answer**

**11:35** **Anaphylaxis after Hymenoptera Sting-Overlap with Mast Cell Disorder**
*Mariana C. Castells, MD PhD FAAAAI*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the mechanism of tolerance development during venom immunotherapy; Assess the indications for initiation and discontinuation of venom immunotherapy; Evaluate the overlap between venom-induced anaphylaxis and mast cell disorders.

## Symposia (continued)

### 2307 What Do I Do With These Abnormal Newborn Screening Results?

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 502A**
Credit: 1.25 CME/CE
*Moderator: Lisa J. Kobrynski, MD MPH FAAAAI*
***This Session Will Use Audience Response System Technology.***

**10:45** **What Have We Learned So Far?**
*Vincent R. Bonagura, MD FAAAAI*

**11:05** **Question & Answer**

**11:10** **Not SCID but Not Normal**
*Kathleen E. Sullivan, MD PhD FAAAAI*

**11:30** **Question & Answer**

**11:35** **Transplantation Options and Novel Therapies**
*Donald B. Kohn, MD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Identify the incidence of SCID and survival outcomes after implementation of newborn screening programs; Identify idiopathic lymphopenia, dilemmas and strategies for management; Discuss various transplantation protocols and new experimental treatment options for SCID.

### 2308 NHLBI's Clinical Asthma Research Network (AsthmaNet)'s Approach to Key Asthma Questions in Children and Adults

10:45 am to 12:00 pm
**Convention Center, Level One, Concourse Hall, Room 152**
Credit: 1.25 CME/CE
*Moderator: William W. Busse, MD FAAAAI*
***This Session Will Use Audience Response System Technology.***

**10:45** **Are Inhaled Corticosteroids Superior to Leukotriene Antagonists in Toddlers with Early Asthma?**
*Daniel J. Jackson, MD*

**11:05** **Question & Answer**

**11:10** **Does Acetaminophen Use Increase Exacerbations in Children with Early Asthma?**
*William J. Sheehan, MD*

**11:30** **Question & Answer**

**11:35** **Airway and Gut Microbiome and Phenotypes of Mild Asthma**
*Homer A. Boushey, Jr., MD FAAAAI*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss individualized long-term controller therapy in toddlers with asthma; Discuss the effect of acetaminophen versus ibuprofen on asthma exacerbations in children with asthma; Discuss the potential role of airway microbiome on the effect of ICS on adult asthma.

### 2311 Allied Health: Comorbidities of Atopic Dermatitis

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 407**
Credit: 1.25 CME/CE
*Moderator: Sally A. Noone, RN MSN*

**10:45** **Sleep Disturbances in Atopic Dermatitis**
*Anna B. Fishbein, MD MSCI*

**11:05** **Question & Answer**

**11:10** **Mental Health Comorbidity in Atopic Dermatitis**
*Jennifer S. LeBovidge, PhD*

**11:30** **Question & Answer**

**11:35** **Medical Comorbidities of Atopic Dermatitis**
*Kelly D. Stone, MD PhD FAAAAI*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the systemic comorbidities associated with atopic dermatitis; Identify the atopic dermatitis patients at highest risk for systemic comorbidities; Discuss treatment considerations for atopic dermatitis and their impact on associated comorbidities.

### 2312 Allied Health: Cutting Edge: Health Related Quality of Life and Allergy Disease

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 409AB**
Credit: 1.25 CME/CE
*Moderator: Scott H. Sicherer, MD FAAAAI*

**10:45** **Health-Related Quality-of-Life and Food Allergies: What Do We Know?**
*Matthew J. Greenhawt, MD MBA MSc*

**11:05** **Question & Answer**

**11:10** **The Role of the Dietitian in Health-Related Quality-of-Life in Food Allergy: What Can We Do?**
*Carina Venter, PhD RD*

**11:30** **Question & Answer**

**11:35** **How Does Oral Immunotherapy to Food Affect Health-Related Quality-of-Life: What Can We Do?**
*Paul J. Turner, FRACP PhD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the quality of life implications of various food allergy management approaches (including oral immunotherapy); Identify the role of the dietitian in assisting patients in maintaining or improving quality of life.

## Allied Health Session

### 2411 Allied Health Professional Assembly Business Meeting and Oral Abstract Session

12:15 to 1:45 pm

**Convention Center, Level Two, Room 503**

Credit: 1.25 CME/CE

*Moderators: Sally A. Noone, RN MSN*
*Nina A. Zimmermann, MSN RN ANP-BC AE-C*

**12:15** **Business Meeting**

**12:30** **Association Between Outdoor Air Pollution and Acute Exacerbations of Respiratory Diseases in Pittsburgh**
*Nicole Pleskovic, BS*

**12:45** **Patient Use Online Resources and Social Media for Food Allergy Information**
*Beth D. Strong, RN CCRC*

**1:00** **Food Allergy Education Session Improves Nurses' Knowledge, Confidence, and Attitudes Towards managing Food Allergic Children in a School Environment**
*Zara Atal*

**1:15** **Long-Term Follow up after Peanut Immunotherapy**
*Kim Mudd, RN MSN CCRP*

**1:30** **Improving Asthma Outcomes through Systems Change: The Breathe Initiative**
*Claudia Guglielmo, MPA AE-C*

Upon completion of this session, participants should be able to discuss and develop an appreciation for the diversity of topics submitted by Allied Health members which impact the care of patients.

## Seminars

12:30 to 1:30 pm

Pre-registration and ticket required. Fee: $40. Box lunch included. Sessions and meals are limited to 30 people.

Credit: 1.00 CME/CE

### 2501 Understanding the Immune Basis of Drug-Induced Skin Reactions

**Convention Center, Level Two, Room 410**
*Peter Arkwright, MD PhD FAAAAI*
*David H. Dreyfus, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the pathophysiology of drug-induced skin reactions; Discuss the interaction of viruses and drugs in hypersensitivity reactions.

### 2502 Epigenetics in Asthma

**Convention Center, Level Two, Room 501A**
*Faoud T. Ishmael, MD PhD FAAAAI*
*Donata Vercelli, MD*

Upon completion of this session, participants should be able to: Describe DNA methylation and histone modifications that may be important in asthma pathogenesis; Describe post-transcriptional gene regulation by micro RNAs in asthma pathogenesis; Discuss the applications of epigenetics in the diagnosis and therapy of asthma.

### 2503 Immune Deficiency in CRS: Screening and Treatment

**Convention Center, Level Two, Room 501B**
*Leslie C. Grammer, MD FAAAAI*
*Anjeni Keswani, MD*

Upon completion of this session, participants should be able to: Describe the epidemiology of immune dysfunction in patients with chronic rhinosinusitis; Discuss lower airway abnormalities in patients with chronic rhinosinusitis and immune dysfunction.

### 2504 Learning Hereditary Angioedema by Team Based Learning

**Convention Center, Level Two, Room 501C**
*Timothy J. Craig, DO FAAAAI*
*Paul Haidet, MD MPH*

Upon completion of this session, participants should be able to discuss the principles of diagnosis and management of HAE.

### 2505 Latex Allergy: An Update for the Clinician

**Convention Center, Level Two, Room 504**
*Donald H. Beezhold, PhD FAAAAI*
*Kevin J. Kelly, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe clinical immunology of latex allergy; Describe diagnosis and management of latex allergy; Describe changes in the hospital latex precautions.

### 2506 Airway Epithelium as the Interplay Between Type 2 Innate Lymphoid Cells (ILC2) and Th2 Immunity

**Convention Center, Level Two, Room 505**
*Zoulfia Allakhverdi, PhD FAAAAI*
*Roma Sehmi, PhD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the role of epithelial cell-derived cytokines/immune modulators in chronic airway inflammation; Describe the activity of epithelial cell-derived cytokines/immune modulators on ILC2 and allergic airways changes.

### 2507 Allele-Specific PCR to Diagnose D816V+ Clonal Mast Cell Disorders

**Convention Center, Level Two, Room 506**
*Cem Akin, MD PhD FAAAAI*
*Dean D. Metcalfe, MD FAAAAI*

Upon completion of this session, participants should be able to discuss molecular diagnosis and targeted therapy of mastocytosis.

### 2508 Managing Milk Allergy in Children

**Convention Center, Level Two, Room 507**
*Supinda Bunyavanich, MD MPH FAAAAI*
*Marion E. Groetch, MS RD*

Upon completion of this session, participants should be able to: Describe criteria for selecting an alternative formula in a milk-allergic infant; Discuss and compare various hypoallergenic formulas; Describe evaluation and monitoring for milk allergy in infants.

### 2509 Drug Allergy Challenges in the Office

**Convention Center, Level Two, Room 510**
*Miguel A. Park, MD*
*Roland Solensky, MD FAAAAI*

Upon completion of this session, participants should be able to discuss how to safely perform drug challenges in the office.

### 2510 Mechanisms of Allergic Inflammation in Omenn Syndrome

**Convention Center, Level Two, Room 511A**
*Jolan E. Walter, MD PhD*

Upon completion of this session, participants should be able to: Discuss the spectrum of gene mutations that can lead to expression of Omenn Syndrome; Discuss and recognize potential mechanisms by which hypomorphic RAG mutations can lead to the expression of allergic manifestations in these patients.

## Symposia (continued)

### 2511 Molecular Allergy Diagnosis: Does it Help in Managing Your Patient With Multiple Environmental and Food Allergies?

**Convention Center, Level Two, Room 511B**
*Jacob D. Kattan, MD*
*Maria Antonella Muraro, MD PhD*

Upon completion of this session, participants should be able to: Describe the phenomenon of immunologic and clinical cross-reactivity; Discuss and compare the current and future platforms for allergenic components testing; Discuss the role of component testing in food and environmental allergy.

### 2512 Challenging Cases in Venom Immunotherapy (VIT)

**Convention Center, Level Two, Room 511C**
*David B.K. Golden, MD FAAAAI*
*Dennis K. Ledford, MD FAAAAI*

Upon completion of this session, participants should be able to: Identify the indications for initiation of VIT; Discuss and appraise the evidence for the optimal duration of VIT; Describe the evidence of mast cell disorder in patients with anaphylaxis from stinging insects.

## Pro/Con Debates

### 2551 Rhinovirus is More Important Than RSV in the Origin of Asthma

12:30 to 1:30 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.00 CME/CE
*Moderator: Steve N. Georas, MD*

**Pro**
*James E. Gern, MD FAAAAI*

**Con**
*Tina V. Hartert, MD MPH*

Upon completion of this session, participants should be able to: Discuss the asthma outcomes of rhinoviral infection; Identify the asthma outcome of RSV infection; Discuss the different effects of these common viral infections.

### 2552 Are You Nuts? Peanuts Should Not be Removed From Schools and Other Public Places

12:30 to 1:30 pm
**Convention Center, Level Two, Room 408A**
Credit: 1.00 CME/CE
*Moderator: J. Andrew Bird, MD FAAAAI*

**Pro**
*Julie Wang, MD FAAAAI*

**Con**
*David Mark Fleischer, MD FAAAAI*

Upon completion of this session, participants should be able to: Identify the risks of public places (schools, airplanes) for peanut-allergic individuals; Describe the approaches to mitigating risk of peanut allergic reactions in public places.

### 2553 Allergen Immunotherapy: Dose Adjustment: Are They Needed for Local Reactions, Peaks of Season, Gaps in Treatment?

12:30 to 1:30 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.00 CME/CE
*Moderator: Michael R. Nelson, MD PhD FAAAAI*

**Pro**
*Tolly Epstein, MD MS FAAAAI*

**Con**
*Mike Tankersley, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss whether immunotherapy doses need to be altered for local reactions during peak allergen season and if there is a gap in therapy, or maintained; Discuss whether or not large local reactions predict anaphylaxis.

## Symposia

### 2554 Imaging Immunity in Health and Disease

12:30 to 1:30 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 1.00 CME/CE
*Moderator: William T. Shearer, MD PhD FAAAAI*

**12:30** **Kinetic Assessment of In Vivo Immunity**
*Michael D. Cahalan, PhD*
**12:45** **Question & Answer**
**12:50** **Cell-to-Cell Interactions that Define the Immune Response**
*To Be Announced*
**1:05** **Question & Answer**
**1:10** **Dissecting Primary Immunodeficiency through Imaging**
*Jordan S. Orange, MD PhD FAAAAI*
**1:25** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how imaging can be utilized in allergy/immunology; Discuss how imaging can be utilized to help with diagnosis and management of primary immunodeficiency.

### 2555 Maintenance of Certification: Past, Present and Future

12:30 to 1:30 pm
**Convention Center, Level Two, Room 403A**
Credit: 1.00 CME/CE

**12:30** **Discussion Leader**
*Stephen I. Wasserman, MD FAAAAI*
**1:00** **Discussion Leader**
*David Price, MD*

Upon completion of this session, participants should be able to: Describe the history and development of the ABMS MOC program for physicians; Outline the key components that physicians must complete to satisfy MOC requirements.

## Oral Abstract Sessions

### 2601 Asthma Featured Biologics

2:00 to 3:15 pm

**Convention Center, Level Two, Room 502B**

Credit: 1.25 CME/CE

*Moderators: Caroline C. Horner, MD FAAAAI*
*Christopher C. Randolph, MD FAAAAI*

**2:00** **Suppression of Lipid Mediators By the Humanized Anti-IgE Antibody Omalizumab in Aspirin-Exacerbated Respiratory Disease**
*Hiroaki Hayashi, MD*

**2:15** **Efficacy of Reslizumab with Asthma, Chronic Sinusitis with Nasal Polyps and Elevated Blood Eosinophils**
*Steven F. Weinstein, MD FAAAAI*

**2:30** **Efficacy of Reslizumab in Older Patients (≥65 years) with Asthma and Elevated Blood Eosinophils: Results from a Pooled Analysis of Two Phase 3, Placebo-Controlled Trials**
*David I. Bernstein, MD FAAAAI*

**2:45** **Exploratory Analysis of the Roles of Multiple Biomarkers in Predicting Response to Omalizumab in Allergic Asthma**
*William W. Busse, MD FAAAAI*

**3:00** **Omalizumab Decreases Rates of Cold Symptoms in Inner-City Children with Allergic Asthma**
*Ann T. Esquivel, MD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 2602 From the Bench to the Bedside; When Clinical and Basic Science Research Advance Clinical Care

2:00 to 3:15 pm

**Convention Center, Level Two, Theatre (Room 41)**

Credit: 1.25 CME/CE

*Moderator: Antonella Cianferoni, MD PhD FAAAAI*

**2:00** **Nasal Influenza Immunisation with LAIV (FluMist) Is Safe in Egg-Allergic Children with Asthma or Recurrent Wheeze: Data from the Sniffle-2 Study**
*Paul J. Turner, FRACP PhD*

**2:15** **Maternal DNA Methylation of TH17 Cytokine Genes in Second Half of Pregnancy Changes with Parity**
*Orpita Nilormee*

**2:30** **Epicutaneous Immunotherapy Using Plasma-Derived Factor VIII Reduces the Inhibitory Immune Response to Therapeutic Factor VIII in Experimental Hemophilia a**
*Sébastien Lacroix-Desmazes*

**2:45** **Antiviral Cytotixic T Lymphocytes Can be Rapidly Generated Against an Extended Spectrum of Viruses**
*Michael Keller, MD*

**3:00** **Siglec-Engaging Tolerance-Inducing Antigenic Liposomes (STALs) in the Prevention of Peanut Allergy**
*Kelly Orgel, BS*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 2603 Respiratory Viruses, Illness and Asthma

2:00 to 3:15 pm

**Convention Center, Level Two, Room 502A**

Credit: 1.25 CME/CE

*Moderators: Peter W. Heymann, MD*
*Daniel J. Jackson, MD*

**2:00** **Upper Respiratory Infections during Infancy and Childhood Aeroallergen Sensitization and Asthma**
*Leilanie Perez Ramirez, MD MS*

**2:15** **Rhinovirus C Targets Ciliated Respiratory Epithelial Cells**
*Theodor F Griggs, PhD*

**2:30** **Rhinovirus Infection Results in Increased and More Persistent Dysregulation of Gene Expression**
*Huyen-Tran Nguyen, MD*

**2:45** **TSLP Neutralization Inhibits ILC2 Activation Induced By Multiple Pathogenic Clinical Isolates of RSV**
*Matthew T. Stier, BS*

**3:00** **Interrogation of the Effects of Rhinovirus on Th2 Promoting Pathways in Allergic Asthma**
*Rachana Agrawal, PhD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 2604 Drug Allergy Diagnosis and Management

2:00 to 3:15 pm

**Convention Center, Level Two, Room 515A**

Credit: 1.25 CME/CE

*Moderators: Jean-Christoph Caubet, MD*
*David A. Khan, MD FAAAAI*

**2:00** **Beneficial Outcomes of an Inpatient Penicillin Allergy Testing Protocol**
*Justin R. Chen, MD*

**2:15** **Omalizumab Inhibits Aspirin-Provoked Respiratory Reaction in Patients with Aspirin Exacerbated Respiratory Disease**
*David M. Lang, MD*

**2:30** **Intravenous Iron Hypersensitivity Evaluation and Desensitization**
*Joyce T. Hsu, MD*

**2:45** **Desensitization to Platinums: Our Experience with 153 Desensitizations**
*Meaghan R. Misiasz, MD*

**3:00** **Increased Risk of Antituberculosis Drugs-Induced Maculopapular Eruption in Patients with Superoxide Dismutase 1 Gene Mutation**
*Sang-Heon Kim*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

## Oral Abstract Sessions (continued)

### 2605 Mind the Education Gaps!

2:00 to 3:15 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.25 CME/CE
*Moderators: Asriani M. Chiu, MD FAAAAI*
*Gerald B. Lee, MD*

**2:00** **Comparison of Food Allergy Awareness and Self-Management Among College Students at 3 Large US Universities**
*Marilyn R. Karam, MD*

**2:15** **Quality of Facebook Pages on Food Allergy: Many Food Ingredient Alerts and Event Announcements but Little Research News and Patient Education**
*Mosaab Mohameden*

**2:30** **Level of Knowledge, Concerns and Healthcare Practices Among Physicians Regarding E-Cigarettes**
*Venkatkiran Kanchustambham, MD*

**2:45** **Educational Needs Assessment of US Allergy/Immunology Fellowship Programs: Assessment Methods for Determining Competency of Fellows in-Training**
*Lily C. Pien, MD MHPE FAAAAI*

**3:00** **Immunotherapy Guide Increases Dosing Accuracy**
*Jared I. Darveaux, MD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 2606 Rhinitis, Immunotherapy

2:00 to 3:15 pm
**Convention Center, Level Two, Room 408A**
Credit: 1.25 CME/CE
*Moderators: Christopher W. Calabria, MD*
*Michael R. Nelson, MD PhD FAAAAI*

**2:00** **A Randomized Placebo-Controlled Trial of Intradermal Grass Pollen Immunotherapy for Seasonal Allergic Rhinitis**
*Anna D. Slovick, MRCS DOHNS MBBS BSc*

**2:15** **Vitamin D Level in Allergic Rhinitis: A Systemic Review and Meta-Analysis**
*Yoon Hee Kim, MD*

**2:30** **Nasal Challenge with Ragweed Pollen Extract (RWPE) Increases the Level of Fortilin in Nasal Lavage Fluid from Subjects with Allergic Rhinitis**
*Julia W. Tripple, MD*

**2:45** **IL-2 Mediates Generalized Tfh Downregulation during Allergen-Specific Immunotherapy**
*Véronique M. Schulten, PhD*

**3:00** **A New Digital Tool to Assess Allergic Rhinitis Symptom Control**
*Jean Bousquet, MD PhD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 2607 Microbiome

2:00 to 3:15 pm
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE
*Moderator: Nives Zimmermann, MD FAAAAI*

**2:00** **Monitoring Circulating Virus-Specific CD4+ T Cells and Probiotic Effect in an Experimental Rhinovirus Challenge Model**
*Lyndsey M. Muehling, MS*

**2:15** **Viral Infections and Their Impact on the Respiratory Microbiome in Pediatric Patients with Cystic Fibrosis**
*Gina T. Coscia, MD*

**2:30** **A Prospective Microbiome-Wide Association Study of Childhood Food Sensitization and Allergy**
*Jessica Rabe Savage, MD MHS*

**2:45** **Features of the Bronchial Bacterial Microbiome Associated with Allergy and Mild Allergic Asthma.**
*Juliana Durack, PhD*

**3:00** **A Rationally Designed Microbial Consortium Attenuates Allergic Asthma in a Murine Model**
*Nikole E. Kimes, PhD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 2608 New Approaches to Disease Modification and Prevention

2:00 to 3:15 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.25 CME/CE
*Moderators: Désirée E.S. Larenas Linnemann, MD FAAAAI*
*Rebecca Scherzer, MD FAAAAI*

**2:00** **The Clinical and Immunological Effects of Pru p 3 Slit on Peach and Peanut Tolerance in Patients with Systemic Allergic Reactions.**
*Francisca Gómez, MD PhD*

**2:15** **Immune Tolerance Induction Following AIT Is Associated with Induction of Circulating CD4+CXCR5+PD-1+FoxP3+ T Follicular Regulatory Cells**
*Hjh Hanisah Hj Awg Sharif, BHSc MSc*

**2:30** **Early Introduction of Egg for Infants with Atopic Dermatitis to Prevent Egg Allergy: A Double-Blind Placebo-Controlled Randomized Clinical Trial**
*Osamu Natsume, MD*

**2:45** **Farm Exposure Is Associated with Reduced Rates of Viral Respiratory Illnesses in Early Life**
*Jamee R. Castillo, MD*

**3:00** **Could Allergen Immunotherapy be a Therapeutic Intervention in Eosinophilic Oesophagitis?**
*Moises A. Calderon, MD PhD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

## Workshops

### 2611 Allied Health Travel Grant Recipients

2:00 to 3:15 pm
**Convention Center, Level Two, Room 409AB**
Credit: 1.25 CME/CE
*Moderator: Stephen J. McGeady, MD FAAAAI*

**2:00** **Common Variable Immune Deficiency (CVID)**
*Olivia Rae Ackerman, MSN APRN PPCNP-BC*

**2:05** **Food Allergy**
*Alexia K. Beauregard, MS RD CSP LD*

**2:10** **Driven Inpatient Penicillin Allergy Testing Program**
*Scott A. Tarver, PharmD BCPS*

**2:15** **Question & Answer**

**2:30** **Work Related Asthma**
*Joshua C. Lipszyc, BA MSc*

**2:35** **Asthma Impact Model for Fresno**
*Stephani A. Pineda, BSPH*

**2:40** **Georgia Asthma Coalition**
*Jon Allan Ramsey, RN*

**2:45** **Question & Answer**

**3:00** **Complex Asthma Clinic**
*Sabrina Jalleh Smith, RN*

**3:05** **Allergic/Asthmatic Reactions in Dental Field**
*Darshna Yagnik, MS PhD*

**3:10** **Question & Answer**

Upon completion of this session, participants should be able to discuss activities by Allied Health members which contribute to the overall care of patients.

### 2612 Allied Health: Collecting and Managing Data from an Environmental Home Assessment

2:00 to 3:15 pm
**Convention Center, Level Two, Room 403A**
Credit: 1.25 CME/CE
*Moderator: Susan L. Balcer-Whaley, MPH*

**2:00** **Conducting an Environmental Home Assessment**
*Susan L. Balcer-Whaley, MPH*

**2:20** **Question & Answer**

**2:25** **Tools of the Trade**
*Michelle Newman, RN*

**2:45** **Question & Answer**

**2:50** **Managing and Measuring Environmental Data**
*Jean Curtin-Brosnan, MA*

**3:10** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss various strategies for collecting environmental home assessments; Identify equipment used for a home assessment; Identify how environmental samples are collected, measured and managed.

## Keynote

### 2701 The Past, Present and Future of Asthma

3:30 to 4:30 pm
**Convention Center, Level One, South Exhibit Hall G**
Credit: 1.00 CME/CE
*Moderator: Robert F. Lemanske Jr., MD FAAAAI*
*Stephen T. Holgate, MD DSc FAAAAI*
*Holgate is Medical Research Council Clinical Professor of Immunopharmacology and Honorary Consultant Physician at the University of Southampton Foundation Hospital Trust. He has utilized many approaches to study the mechanisms of asthma including epidemiology, genetics, pathology, microbiology, immunology, pharmacology, biochemistry and experimental medicine. This research has informed guidelines on asthma management and has identified and validated novel therapeutic targets.*

Upon completion of this session, participants should be able to: Explain how knowledge gained over the last five decades has transformed the way allergy and asthma are diagnosed and treated; Recognize the huge steps that have been made in unravelling the genetic code in determining new mechanisms and therapeutic targets for the treatment of allergy and asthma, the biological revolution; Realize that we are at the start of a further revolution, the digitalization of biology and the convergence of the physical and biological sciences to create a new precision and personalized approach to chronic diseases such as asthma.

## Workshops

### 2801 AAP: Hot Topics in Pediatric Allergy

4:45 to 6:00 pm
**Convention Center, Level One, Petree Hall C**
Credit: 1.25 CME/CE
*Moderator: Elizabeth Matsui, MD MHS*
***This Session Requires Pre-Meeting Reading.***

**4:45** **Food Allergy**
*Corinne Keet, MD PhD*

**5:00** **Question & Answer**

**5:10** **Eczema**
*Lynda C. Schneider, MD FAAAAI*

**5:25** **Question & Answer**

**5:35** **Asthma**
*Chitra Dinakar, MD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the latest developments in pediatric allergy and immunology; Discuss how these latest developments might affect the care of pediatric patients.

## Workshops (continued)

### 2802 Vocal Cord Dysfunction (VCD): More Common Than You Think

4:45 to 6:00 pm
**Convention Center, Level Two, Room 403B**
Credit: 1.25 CME/CE
*Moderator: Mark F. Sands, MD FAAAAI*

**4:45** **Vocal Cord Dysfunction: More Common Than You Think**
*Stephen A. Tilles, MD FAAAAI*

**5:00** **Question & Answer**

**5:10** **Practical Approach to VCD Diagnosis: Laryngoscopy and More**
*Andrej A. Petrov, MD*

**5:25** **Question & Answer**

**5:35** **Principles of Speech Therapy in the Management of VCD**
*Gerriann Jackson, MS CCC-SLP*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss that VCD exists on a spectrum of airway disorders and is probably under-diagnosed in many patients with severe, difficult-to-control asthma; Discuss a rational approach to VCD diagnosis, including characteristic features in history, physical exam and pulmonary function tests; Describe an approach to VCD management via speech therapy.

### 2803 How Allergic Immune Responses are Initiated and Regulated: The Role of Epithelial Cells and Immune System in Allergic Diseases

4:45 to 6:00 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.25 CME/CE
*Moderator: Michiko K. Oyoshi, PhD MSc FAAAAI*

**4:45** **Friend or Foe: Pathogenic and Protective Roles of Epithelial Cell-Derived Cytokines in Allergic Diseases**
*Steven Ziegler, PhD*

**5:00** **Question & Answer**

**5:10** **Epithelial Regulation of Allergic Inflammation**
*David Artis, PhD*

**5:25** **Question & Answer**

**5:35** **Anti-Epithelial Cell-Derived Cytokine Therapies: Basic Mechanisms Underlying the Development of New Therapies**
*Kari C. Nadeau, MD PhD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the role of epithelial cell-derived cytokines in the initiation and amplification of Th-2 immune responses; Describe the relationship of epithelial cell-derived cytokines and allergic responses; Discuss the unique challenges of targeting epithelial cell-derived cytokines in allergic disease.

### 2804 Adherence Challenges in Asthma: Pediatrics, Adolescents and Older Adults

4:45 to 6:00 pm
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE
*Moderator: Andrea J. Apter, MD MA MSc FAAAAI*

**4:45** **Adherence Challenges in Pediatric Asthma**
*Bruce G. Bender, PhD FAAAAI*

**5:00** **Adherence Challenges in Adolescents with Asthma**
*Giselle Mosnaim, MD MS FAAAAI*

**5:15** **Adherence Challenges in Older Adults with Asthma**
*Sharmilee M. Nyenhuis, MD FAAAAI*

**5:30** **Case Presentation Audience Challenge**

Upon completion of this session, participants should be able to: Discuss issues of adherence to asthma medications unique for each age group; Discuss how to approach patients about medication adherence; Describe specific strategies to improve medication adherence in each age group.

### 2805 Immune Deficiency Lurking in the Allergy Clinic

4:45 to 6:00 pm
**Convention Center, Level Two, Room 408A**
Credit: 1.25 CME/CE
*Moderator: Rebecca Scherzer, MD FAAAAI*
***This Session Will Use Audience Response System Technology.***

**4:45** **Eczema As a Sign of Immune Deficiency**
*Elena E. Perez, MD PhD FAAAAI*

**5:00** **Question & Answer**

**5:10** **Ruling out Immune Deficiencies in Eosinophilia**
*Amy D. Klion, MD*

**5:25** **Question & Answer**

**5:35** **When a High IgE Means More Than a High IgE**
*Alexandra F. Freeman, MD*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Distinguish allergy phenotypes from immune deficiencies; Discuss primary immune deficiencies from the perspective of a practicing allergist.

### 2806 Chronic Rhinosinusitis in Children

4:45 to 6:00 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.25 CME/CE
*Moderator: Robert Naclerio, MD FAAAAI*
***This Session Will Use Audience Response System Technology.***

**4:45** **Clinical Presentation and Pathophysiology of Chronic Rhinosinusitis in Children**
*Daniel L. Hamilos, MD FAAAAI*

**5:00** **Question & Answer**

**5:10** **Medical Treatment of Rhinosinusitis in Children**
*David W. Hauswirth, MD FAAAAI*

**5:25** **Question & Answer**

**5:35** **Surgical Options in Children with Chronic Rhinosinusitis**
*Fuad M. Baroody, MD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss aspects of CRS pathophysiology that are relevant to children; Demonstrate particularities of CRS symptoms and clinical presentation in children; Discuss pediatric aspects of medical treatment of CRS and the features, indications and contraindications of sinus surgery in children with CRS.

## Workshops (continued)

### 2807 How Bronchial Smooth Muscle Cells Make Airways Hyper-Responsive

4:45 to 6:00 pm
**Convention Center, Level Two, Room 409AB**
Credit: 1.25 CME/CE
*Moderator: Reynold A. Panettieri, MD*

**4:45** **Hard-Wired Defects in RGS4 and Severe Asthma**
*Kirk M. Druey, MD*

**5:00** **Question & Answer**

**5:10** **ASM Signaling Defects and Airway Hyperresponsiveness**
*Michael M. Grunstein, MD PhD*

**5:25** **Question & Answer**

**5:35** **Bitter Taste Receptors and Bronchodilation**
*Stephen Liggett, MD*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the effect of bronchial smooth muscle cells in AHR; Describe signaling in smooth muscle cells and their effect on AHR.

### 2808 Advances in Natural Killer Cell and Natural Killer T Cell Biology

4:45 to 6:00 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 1.25 CME/CE
*Moderator: Antonella Cianferoni, MD PhD FAAAAI*

**4:45** **Natural Killer T Cells as Immunoregulators**
*Mitchell Kronenberg, PhD*

**5:05** **Inherited Deficiency of NK Cell Function**
*Jordan S. Orange, MD PhD FAAAAI*

**5:25** **Immunologic Recognition by NK Cells**
*Wayne M. Yokoyama, MD*

**5:45** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss specific signals that stimulate the activation of NKT cells so that they can modulate the innate and adaptive immune responses; Discuss the spectrum of immunologic consequences that accrue in the setting of deficiency of NK cell function; Describe the mechanisms that NK cells use to recognize immunologic targets.

### 2809 Novel Biologicals for Asthma and Allergic Rhinosinusitis

4:45 to 6:00 pm
**Convention Center, Level Two, Room 502A**
Credit: 1.25 CME/CE
*Moderator: Hirohisa Saito, MD PhD FAAAAI*

**4:45** **Biologicals in Allergy and Asthma**
*Sally E. Wenzel, MD FAAAAI*

**5:00** **Question & Answer**

**5:10** **Novel Allergen-Specific Immunotherapies and Biologicals for Allergic Rhinosinusitis**
*Claus Bachert, MD PhD*

**5:25** **Question & Answer**

**5:35** **Immunologic Mechanisms of Novel Allergen-Specific Immunotherapies**
*Cezmi A. Akdis, MD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss novel biologicals in allergy and immunology; Discuss mechanisms underlying novel immunologic therapies.

### 2810 Clinical Implications of Microbiome in Chronic Respiratory Disease

4:45 to 6:00 pm
**Convention Center, Level Two, Room 502B**
Credit: 1.25 CME/CE
*Moderator: Amber U. Luong, MD PhD*

**4:45** **Fungal Microbiome: Why is the Fungal Microbiome so Hard to Describe?**
*David B. Corry, MD*

**5:00** **Question & Answer**

**5:10** **Host-Microorganism Interactions in Chronic Respiratory Disease**
*Yvonne Huang, MD*

**5:25** **Question & Answer**

**5:35** **Relationship of the Upper and Lower Respiratory Tract Microbiome**
*Gary Huffnagle, PhD*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the deep sequencing technology, its limitations and consequences on the understanding of the microbiome, especially the limited understanding of the fungal microbiome; Identify current knowledge of airway microbiota and outline how host-microorganism interactions influence health and disease; Discuss how the microbiota in the mouth and nose influences the microorganism communities in the lungs and implications on disease.

### 2811 ABAI: How to Use the ABAI WebPortal for Maintenance of Certification (MOC) Activities

4:45 to 6:00 pm
**Convention Center, Level Two, Room 503**
Pre-registration and ticket required.
Credit: 1.25 CME/CE
*Moderator: Stephen I. Wasserman, MD FAAAAI*

**4:45** **Overview of ABAI MOC Components**
*Rayné Harrison*

**4:55** **Overview of ABAI WebPortal**
*Gina Capozzoli*

**5:05** **Question & Answer**

**5:15** **Hands-On Instruction**

Upon completion of this session, participants should be able to: Discuss the four major components of the ABAI MOC Program; Discuss how to successfully report MOC activities to the ABAI using the WebPortal; Demonstrate how to access, navigate and utilize the ABAI WebPortal for tracking and documenting personal progress through the MOC program.

### 2812 A Comparison of HAE Guidelines: What's New?

4:45 to 6:00 pm
**Convention Center, Level Two, Room 515A**
Credit: 1.25 CME/CE
*Moderator: Teresa Caballero, MD PhD*
***This Session Requires Pre-Meeting Reading.***

**4:45** **2012 HAE Evidence-Based Recommendations (Hereditary Angioedema International Working Group: HAWK)**
*Bruce L. Zuraw, MD*

**5:00** **2014 HAE Canadian Guidelines**
*Stephen D. Betschel, MD*

**5:15** **WAO Guideline for the Management of Hereditary Angioedema**
*Timothy J. Craig, DO FAAAAI*

**5:30** **Panel Discussion with Question & Answer**

Upon completion of this session, participants should be able to discuss the multiple guidelines for the management of HAE.

## Workshops (continued)

### 2813 NSAID-Exacerbated Respiratory Disease (NERD)

4:45 to 6:00 pm
**Convention Center, Level Two, Room 515B**
Credit: 1.25 CME/CE
*Moderator: Marek L. Kowalski, MD PhD*

**4:45** **Panel Discussion**
*Speaker to be announced.*
*Martin Wagenmann, MD FAAAAI*
*Andrew A. White, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss and outline current knowledge and open questions in NERD; Discuss knowledge gaps in the natural course of NERD; Describe indications, contraindications and limitations of aspirin desensitization in asthma and nasal polyposis.

### 2814 Problem-Based Learning: Doctor, Can You Prevent My Baby from Developing Peanut Allergy? TICKET

4:45 to 6:00 pm
**Convention Center, Level Two, Room 518**
Pre-registration and ticket required.
Credit: 1.25 CME/CE
***This Session Will Use a Problem-Based Learning Approach.***

**4:45** **Case-Based Discussion**

**5:30** **Target Lecture**

**Facilitator**
*Ray S. Davis, MD FAAAAI*

**Content Expert**
*Hugh A. Sampson, MD FAAAAI*

Upon completion of this session, participants should be able to: Assess known risk factors for peanut allergy; Appraise the results of the LEAP study; Assess the screening for peanut allergy in infants at risk.

### 2815 When Writing a Script Just Isn't Enough: Strategies to Overcome Barriers Associated with Poor Asthma Control in Older Adults V

4:45 to 6:00 pm
**Convention Center, Level One, Concourse Hall, Room 152**
Credit: 1.25 CME/CE
*Moderator: Alan P. Baptist, MD MPH FAAAAI*

**4:45** **Diagnostic and Management Approaches for Asthma in Older Adults with Significant Co-Morbidities**
*Tolly Epstein, MD MS FAAAAI*

**5:00** **Question & Answer**

**5:10** **Non-Medication Approaches to Improve Asthma Control in Older Adults**
*Carol A. Saltoun, MD FAAAAI*

**5:25** **Question & Answer**

**5:35** **Developing Shared Goals for Asthma Management in Older Adults: Acknowledging the Impact of Financial Concerns and Medication-Related Side Effects**
*Dennis K. Ledford, MD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Describe diagnostic and therapeutic approaches to the elderly asthmatic; Describe the effect of financial concerns and medication related side-effects on asthma management in the elderly; Explain how non-pharmaceutical interventions including pulmonary rehabilitation impact the elderly asthmatic.

### 2816 FIT Workshop: Interesting Cases Part 1

4:45 to 6:00 pm
**JW Marriott, Platinum Ballroom Level, Salon C**
Credit 1.25 CME/CE
*Moderators: T. Prescott Atkinson, MD PhD FAAAAI*
*Katherine Gundling, MD*

**4:45** **Unanticipated Immune Complications from Tumor Immunotherapy**
*Bharat Kumar, MD*

**5:00** **CNS Histoplasmosis in an Adult with Idiopathic CD4+ T-Lymphocytopenia (ICL)**
*Anar Dossumbekova, MD*

**5:15** **Warts and Small Stature – Indications of Considering Underlying Immunodeficiency**
*Jacqueline Eastman, MD*

**5:30** **An Infant with Absent T-cells, Fevers and Proliferation of Oligoclonal "Rogue" T Cell Population**
*Eric Schauberger, DO PhD*

**5:45** **Abnormal Newborn Screening in a Patient with CHARGE Syndrome**
*Britta Sundquist, MD*

Upon completion of this session, participants should be able to: Evaluate the management of challenging patient cases by trainees in allergy/immunology; Compare and contrast management strategies for challenging patient cases with peers.

### 2821 Allied Health: What Allied Health Professionals Need to Know about Drug Sensitivity

4:45 to 6:00 pm
**Convention Center, Level Two, Room 403A**
Credit: 1.25 CME/CE
*Moderator: Sally A. Noone, RN MSN*
***This Session Will Use Audience Response System Technology.***

**4:45** **Clinical Approach to Drug Allergy**
*Miguel A. Park, MD*

**5:15** **Overcoming the Intricacies of Drug Sensitivity**
*Roland Solensky, MD FAAAAI*

**5:45** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss methods to obtain appropriate history of past and present drug reactions and analyze temporal patterns between drug administration and onset of symptoms; Identify the types of allergic reactions most often caused by various classes of drugs and objective testing for the diagnosis of drug allergy.

### 2822 Allied Health: Skin Testing: Getting to the Point TICKET

4:45 to 6:00 pm
**Convention Center, Level Two, Room 405**
Pre-registration and ticket required.
Credit: 1.25 CME/CE
*Moderator: Karol G. Timmons, RN MS CPNP*

**4:45** **Overview of Devices**
*Carla M. Duff, CPNP MSN CCRP IgCN*

**4:55** **Overview of Challenges**
*William R. Blouin, MSN ARNP CPNP*

**5:05** **Hands-On Instruction**

Upon completion of this session, participants should be able to: Discuss correct methods for application of skin tests in patients with obesity, tattoos and/or aging skin; Discuss and adequately interpret skin testing in patients with obesity, tattoos and/or aging skin; Describe the problems encountered with skin testing in patients who are obese, have tattoos or have aged skin.

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## Seminars

6:45 to 7:45 am
Pre-registration and ticket required. Fee: $40. Continental breakfast included. Sessions and meals are limited to 30 people.
Credit: 1.00 CME/CE

### 3001 Mast Cell Activation Syndrome(s): Diagnosis and Treatment

**JW Marriott, Diamond Ballroom Level, Salon 1**
*Mariana C. Castells, MD PhD FAAAAI*
*Lawrence B. Schwartz, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: Discuss mast cell activation syndrome diagnosis; Discuss mast cell activation syndrome treatment options.

### 3002 Eosinophil Cytolysis: Programmed Death Pathways and Significance in Disease

**JW Marriott, Diamond Ballroom Level, Salon 2**
*Hans-Uwe Simon, MD PhD FAAAAI*
*Nives Zimmermann, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the role of pathologic eosinophil cell death in eosinophilic diseases; Describe the power of clinical investigations as an *in vivo* approach to understand eosinophil biology; Discuss the clinical value of analyzing eosinophil cytolysis including cell-free granules in sputum and tissue samples.

### 3003 Chronic Rhinosinusitis: The Evidence Base for Current Treatments

**JW Marriott, Diamond Ballroom Level, Salon 3**
*Robert C. Kern, MD*
*Anju T. Peters, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the current and future options of CRS treatment; Describe the different types of CRS and the relevance of this distinction for therapy; Describe the role of established medical treatments and discuss alternative options; List the indications for surgical treatment of FESS and its outcome.

### 3004 Chronic Rhinosinusitis in Children

**JW Marriott, Diamond Ballroom Level, Salon 6**
*Daniel L. Hamilos, MD FAAAAI*
*David W. Hauswirth, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the pathophysiology of chronic rhinosinusitis in children; Discuss treatment strategies for chronic rhinosinusitis in children; Discuss the surgical options for children with chronic rhinosinusitis who fail medical therapy.

### 3005 Recurrent Infection in Adults

**JW Marriott, Diamond Ballroom Level, Salon 7**
*Ralph Shapiro, MD*
*Mark R. Stein, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the indications for an evaluation of the immune system in adult patients; Describe the appropriate work-up for an immunodeficiency disorder in adults and how the changes in the immune response as people age might influence the results; Discuss the treatment approaches for adult patients with primary immunodeficiency disease.

### 3006 Exercise-Induced Anaphylaxis: Food-Dependent and -Independent

**JW Marriott, Diamond Ballroom Level, Salon 8**
*Anna M. Feldweg, MD*
*Mario Geller, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe mechanism of EIA; Identify common triggers in FDEIA; Describe approach to diagnosis and management.

### 3007 Helpful Advice in Improving Asthma Adherence

**JW Marriott, Diamond Ballroom Level, Salon 9**
*Bruce G. Bender, PhD FAAAAI*
*Andrew G. Weinstein, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the causes of non-adherence; Identify the impact of non-adherence on control of asthma; Identify effective strategies to improve adherence.

### 3008 Mold: Facts & Fiction

**JW Marriott, Diamond Ballroom Level, Salon 10**
*James J. Anderson, MLT*
*Peter J. Pityn, PhD*

Upon completion of this session, participants should be able to: Discuss evidence that the risk of mold is often overstated, misstated or misunderstood; Discuss the proven risk presented by mold; Identify mycotoxins, mVOCs and current mold guidelines.

### 3009 When Do You Give SLIT vs. SCIT?

**JW Marriott, Platinum Ballroom Level, Salon A**
*Joerg R. Kleine-Tebbe, MD FAAAAI*
*Richard F. Lockey, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the advantages and disadvantages of SCIT vs. SLIT; Describe the limitations of current evidence; Discuss typical clinical scenarios where SLIT or SCIT would be preferable.

### 3010 Nasal Allergen Provocation Test: A Real Challenge

**JW Marriott, Platinum Ballroom Level, Salon B**
*Paloma Campo, MD PhD*
*Carmen Rondon, MD PhD*

Upon completion of this session, participants should be able to: Describe the different methods for performing nasal allergen provocation test (NAPT) and the real dificulties and challenges; Discuss the different methods of evaluation and sources of variability (extracts, protocols, etc); Discuss the applications in diferent entities and settings (diagnosis of local allergic rhinitis, clinical trials, research, private practice).

### 3011 Challenges in the Diagnosis and Treatment of Exercise-Induced Bronchoconstriction (EIB)

**JW Marriott, Platinum Ballroom Level, Salon F**
*Christopher C. Randolph, MD FAAAAI*
*William W. Storms, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the diagnosis of EIB, including the use of provocative testing methods; Discuss the current therapies for EIB.

### 3012 AERD: More Than Asthma

**JW Marriott, Platinum Ballroom Level, Salon G**
*Sven-Erik Dahlén, MD PhD*
*Tanya M. Laidlaw, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss mechanisms by which aspirin may modulate several types of respiratory disease; Describe current approaches to diagnosis and avoidance of AERD.

### 3013 Gene Therapy as a Treatment of Primary Immune Defects

**JW Marriott, Platinum Ballroom Level, Salon H**
*Donald B. Kohn, MD*
*Matthew Porteus, MD PhD*

Upon completion of this session, participants should be able to: Discuss and analyze general information about gene therapy; Discuss current indications for gene therapy in patients with primary immunodeficiency; Evaluate considerations of future use of gene therapy in primary immunodeficiency disorders.

## Allied Health Seminars

6:45 to 7:45 am
Pre-registration and ticket required. No fee. Sessions are limited to 30 people.
Credit: 1.00 CME/CE

### 3021 Allied Health: Tips and Tricks on Starting and Managing a Research Center

**JW Marriott, Platinum Ballroom Level, Salon I**
*Sonia C. Mancia, BSN RN*
*Kim E. Mudd, RN MSN CCRP*

Upon completion of this session, participants should be able to: Describe the resources needed to establish a research center; Describe the challenges in maintaining a successful research center.

### 3022 Allied Health: Lessons Learned from a Multidisciplinary Eosinophilic Esophagitis Clinic

**JW Marriott, Platinum Ballroom Level, Salon J**
*Hemant P. Sharma, MD MHS FAAAAI*
*Amanda Troger, BSN RN CPN*

Upon completion of this session, participants should be able to: Identify and build a multidisciplinary team to manage eosinophilic esophagitis (EoE); Discuss the needs of different patient populations in the management of EoE.

### 3050 Are LABAs Safe in Asthma? Are They Effective?

7:00 to 8:00 am
**Convention Center, Level One, Petree Hall D**
Credit: 1.00 CME/CE
*Moderator: Stanley J. Szefler, MD FAAAAI*

**7:00** **Overview of LABA Safety and Efficacy**
*Stanley J. Szefler, MD FAAAAI*

**7:15** **GSK Results of FDA Safety Trial**
*Christine A. Sorkness, PharmD*

**7:30** **ALA-LASST Long-Acting Beta Agonist Step-Down Study) Trial**
*Linda Rogers, MD*

**7:45** **Panel Discussion**

Upon completion of this session, participants should be able to: Review treatment positioning of LABA in asthma therapy and safety concerns; Report on one segment of FDA LABA safety trials; Discuss how to best use LABA in asthma.

## Plenary

### 3101 Clinical Insights Into the Prevention and Modification of Atopic Disease

8:15 to 9:45 am
**Convention Center, Level One, South Exhibit Hall G**
Credit: 1.50 CME/CE
*Moderator: Stephen A. Tilles, MD FAAAAI*

**8:15** **Surprising Lessons from Allergen Avoidance in Food Allergy**
*Gideon Lack, MD*

**8:45** **Breaking the Barrier to Eczema Prevention and Treatment**
*Lisa A. Beck, MD FAAAAI*

**9:15** **Preventing Asthma Exacerbations: Lessons Learned from Biologic Trials**
*William W. Busse, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss basic principles of immune tolerance, and how the timing of allergen exposure can exert a profound influence on subsequent sensitization and symptoms of food allergy in susceptible children; Discuss new thinking about the mechanisms and consequences of skin barrier breakdown for atopic dermatitis and allergen sensitization, including how barrier function impacts microbial colonization, and is attenuated by new biologic therapies; Discuss the effects of asthma exacerbation on disease natural history, including how new biologic therapies targeting eosinophils and Th2 pathways are providing unexpected new insights into disease pathobiology (an example of bidirectional translational research).

## Posters

7:00 am to 6:00 pm
**Convention Center, Level One, South Exhibit Hall H**
Posters on display from 7:00 am to 6:00 pm. Authors present from 9:45 to 10:45 am.
Credit: No CME/CE
Refer to pages 80 – 169 for abstracts and pages 203 – 225 for authors.

- **3201** Asthma Genotypes, Phenotypes and Management
- **3202** Asthma Infection, Biomarkers and Inflammation
- **3203** Molecular Mechanism of Immunological Diseases
- **3204** Immunodeficiency Associated with Other Diseases
- **3205** Pollens
- **3206** Food Allergy: Diagnosis and Management
- **3207** Atopic Dermatitis and Food Allergy (Allergens, Mechanism, Risk Factors, Epidemiology)
- **3208** New Strategies for Patient and Provider Education
- **3209** Rhinitis, Diagnosis and Therapy
- **3210** Eosinophils
- **3211** IgE and Other Immunoglobulins
- **3212** Late Breaking Poster Session

## Symposia

### 3301 EAACI: Managing Allergy at the Frontline

10:45 am to 12:00 pm
**Convention Center, Level One, Petree Hall C**
Credit: 1.25 CME/CE
*Moderators: Maria Antonella Muraro, MD PhD*
*Ioana O. Agache, CME*

**10:45** **Anaphylaxis Severity Score: Towards a Harmonized Approach?**
*Maria Antonella Muraro, MD PhD*

**11:05** **Question & Answer**

**11:10** **Molecular Diagnosis: How to Move Forward? Diagnostic Algorithms and Beyond**
*Carsten Bindslev-Jensen, MD PhD DMSci FAAAAI*

**11:30** **Question & Answer**

**11:35** **Allergen-Specific Immunotherapy: Dealing with Personalized Medicine**
*Marek Jutel, MD PhD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Describe a new severity score for anaphylaxis and the potential of harmonized evaluation; Identify properly the relevance of components in daily practice for diagnosis and treatment; Discuss how allergen-specific immunotherapy can fit in the framework of personalized medicine.

### 3302 T Cell Determination Heterogeneity and Hijacking in Allergic Disease

10:45 am to 12:00 pm
**Convention Center, Level One, Petree Hall D**
Credit: 1.25 CME/CE
*Moderator: David D. Chaplin, MD PhD FAAAAI*

**10:45** **IL-2-Dependent Tissue-Resident Th2 Memory Cells Drive Asthma**
*Marion Pepper, PhD*

**11:05** **Question & Answer**

**11:10** **Reprogramming of T Regulatory Cells In Allergic Disease**
*Talal A Chatila, MD MSc*

**11:30** **Question & Answer**

**11:35** **Novel Pathways for Th9 Cell Development and Allergic Lung Disease**
*Richard Siegel, MD PhD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Recognize unique functions of memory T Cells in allergic disease; Identify the extent of plasticity in differentiated T Cell lineages and implications in allergic disease; Identify heterogeneity of T Cell differentiation pathways and implications in allergic disease.

### 3303 Difficult Viral Infections Due to Defects in Innate Immunity

10:45 am to 12:00 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 1.25 CME/CE
*Moderator: Lisa R. Forbes, MD*

**10:45** **Innate Immune Control of Influenza**
*To Be Announced*

**11:05** **Question & Answer**

**11:10** **Defects in the PI-3 Kinase Signaling Pathway**
*Carrie L. Lucas, PhD*

**11:30** **Question & Answer**

**11:35** **NK Cell Deficiency**
*Emily Mace, PhD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of PI-3 kinase defects in viral susceptibility; Discuss presentations and causes of NK cell deficiency; Identify defects in innate immune function that lead to severe influenza infections.

### 3304 Emerging and Current Diagnostics and Therapies for Eosinophilic Esophagitis

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 408A**
Credit: 1.25 CME/CE
*Moderator: John J. Lee, MD*

**10:45** **Current Therapeutic Approaches in the Management of Eosinophilic Esophagitis**
*Douglas R. McDonald, MD PhD*

**11:05** **Question & Answer**

**11:10** **Biomarkers in Eosinophilic Esophagitis**
*Gisoo Ghaffari, MD FAAAAI*

**11:30** **Question & Answer**

**11:35** **Use of Biologic Therapy in Eosinophilic Esophagitis**
*Amal H. Assa'ad, MD FAAAAI*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to discuss current and emerging therapies as well as biomarkers in patients with EOE.

### 3305 Severe Asthma in Children: From Mechanisms to Disease Modification

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.25 CME/CE
*Moderator: William W. Busse, MD FAAAAI*
***This Session Will Use Audience Response System Technology.***

**10:45** **Asthma Epidemiology and Alternate Diagnoses to Consider**
*Theresa W. Guilbert, MD MS*

**11:05** **Question & Answer**

**11:10** **Mechanisms of Severe Asthma in Children**
*Leonard B. Bacharier, MD FAAAAI*

**11:30** **Question & Answer**

**11:35** **The Role of Biologic Therapies: Are There Opportunities for Disease Modification?**
*Daniel J. Jackson, MD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the frequency and common features of severe asthma in children; Identify common underlying mechanisms of severe asthma in children; Discuss the efficacy of omalizumab and the potential for disease modification in children.

## Symposia (continued)

### 3306 Using SCIT vs. SLIT to Modify Allergic Disease

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 502A**
Credit: 1.25 CME/CE
*Moderator: Linda Cox, MD FAAAAI*

**10:45** **SCIT vs. SLIT: Efficacy in Clinical Trials**
*Stephen R. Durham, MA MD FRCP*

**11:05** **Question & Answer**

**11:10** **Nasal and Systemic Biomarkers for Immunotherapy Efficacy: Lessons Learned from the SLIT-SCIT Trial**
*Mohamed H. Shamji, PhD FAAAAI*

**11:30** **Question & Answer**

**11:35** **SLIT-SCIT Safety and Adherence: Do They Matter?**
*Giovanni Passalacqua, MD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the latest data on the efficacy and safety of SCIT compared to SLIT for grass pollen allergy; Identify several newly discovered biomarkers for AIT efficacy; Discuss and explain safety and adherence issues of SLIT and SCIT and utilize resources to try to overcome them.

### 3307 New Strategies for the Prevention of Allergic Diseases

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 502B**
Credit: 1.25 CME/CE
*Moderator: Désirée E.S. Larenas Linnemann, MD FAAAAI*

**10:45** **Preventing Food Allergy By Early Weaning: Remaining Questions**
*Gideon Lack, MD*

**11:05** **The GAP Trial: Can Sublingual Immunotherapy Prevent the Development of Allergic Asthma?**
*Erkka J. Valovirta, MD PhD*

**11:25** **Can Bacterial Vaccine Reduce Ongoing Allergic Inflammation?**
*Erika Von Mutius, MD MSc*

**11:45** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the more in-depth consequences and public health implications of data presented in the LEAP study; Describe trials to detect the preventive effects of allergen immunotherapy; Identify the latest data concerning stimulation of the innate immune system in allergic and asthma inflammation.

### 3311 Allied Health: Determining Bioequivalence of Generic Inhalers

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE
*Moderator: Anne E. Borgmeyer, DNP RN CPNP AE-C*

**10:45** **Use of Methacholine Challenge to Determine Bioequivalence of Beta Agonist Inhalers**
*Leslie Hendeles, PharmD*

**11:05** **Question & Answer**

**11:10** **FDA Requirements**
*Gunther Hochhaus, PhD*

**11:30** **Question & Answer**

**11:35** **Pharmacokinetics of Inhaled Drugs**
*Antonina G. Evans, BSPharm AE-C*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Identify the differences in regulatory requirements for inhalers; Discuss the different methods of determining bioavailability of inhalers; Describe the pharmacokinetic studies of inhalers.

### 3312 Allied Health: Advocacy for Patients with Primary Immune Deficiency Disease (PIDD)

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 409AB**
Credit: 1.25 CME/CE
*Moderator: Stephen J. McGeady, MD FAAAAI*

**10:45** **Advocacy for Patients with Primary Immune Deficiency Disease (PIDD): Assuming the Reins of Clinical Care**
*Carla M. Duff, CPNP MSN CCRP IgCN*

**11:05** **Question & Answer**

**11:10** **Advocacy for Patients with Primary Immune Deficiency Disease (PIDD): Advocacy for Life**
*William R. Blouin, MSN ARNP CPNP*

**11:30** **Question & Answer**

**11:35** **Strategies to Develop and Advocate Positive Relationships Between the Patient, Provider and Payer**
*Debbie Manning, RN BSN IgCN*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the approaches to use to assist PIDD patients to be a self-advocate; Discuss techniques to support patients to manage the challenges of living with a chronic illness.

## Basic Science Poster Discussion Workshop

### 3401 Molecular Mediators of Mucosal Damage in the Gut and Airway

12:15 to 1:30 pm

**Convention Center, Level Two, Room 403B**

Credit: 1.25 CME/CE

*Moderators: Dorothy S. Cheung, MD FAAAAI*
*Christina L. Nance, PhD*

**12:15** **Poster Viewing**

**12:55** **Discussion of the following Posters:**

**Toll-like Receptor 4 Signaling Pathway Mediates Inhalant Organic Dust-Induced Bone Loss**
*Jill A. Poole, MD FAAAAI*

**Microrna-155 Regulates Cockroach Allergen Induced Cyclooxygenase-2 Expression in Airway Epithelium**
*Lipeng Qiu, PhD*

**RNA-Binding Protein Hur Regulates CD4+ T Cell Differentiation and Is Required for Normal IL-2 Homeostasis and Allergic Airway Inflammation**
*Ulus Atasoy, MD FAAAAI*

**Impaired Efferocytosis and Production of Mitochondrial Reactive Oxygen Species (mitoROS) By Monocytes in Human Chronic Granulomatous Disease (CGD) Is Reversed By Treatment with the Ppargamma Agonist Pioglitazone (Pio)**
*Donna Bratton, MD*

**Forkhead Box Protein 3 (FoxP3) Demethylation Is Associated with Tolerance Induction in Peanut-Induced Intestinal Allergy**
*Meiqin Wang, MD PhD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

## Seminars

12:30 to 1:30 pm

Pre-registration and ticket required. Fee: $40. Box lunch included. Sessions and meals are limited to 30 people.

Credit: 1.00 CME/CE

### 3501 Rhinolaryngoscopy Case Presentations

**Convention Center, Level Two, Room 410**
*Mandel R. Sher, MD FAAAAI*
*Gary J. Stadtmauer, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss typical, relevant and interesting clinical cases where rhinolaryngoscopy will be relevant for diagnosis and treatment of chronic rhinitis and rhinosinusitis.

### 3502 The Microbiome and Food Allergy

**Convention Center, Level Two, Room 501A**
*Christina E. Ciaccio, MD MSc FAAAAI*
*Cathryn R. Nagler, PhD*

Upon completion of this session, participants should be able to: Discuss the role of the microbiome in food allergy; Discuss future directions in microbiome research.

### 3503 Newborn Screening for SCID: What Every Clinician Should Know

**Convention Center, Level Two, Room 501B**
*Elena E. Perez, MD PhD FAAAAI*
*Jennifer M. Puck, MD*

Upon completion of this session, participants should be able to: Discuss how to interpret newborn screening results; Discuss challenges in infrastructure development, diagnostic testing and management of newborn screening.

### 3504 Allergenic Components: The Clinical Application

**Convention Center, Level Two, Room 501C**
*Matthew J. Greenhawt, MD MBA MSc*
*Maria Antonella Muraro, MD PhD*

Upon completion of this session, participants should be able to: Describe technical platforms for molecular diagnosis; Describe indications for molecular diagnosis in food allergy and environmental allergy; Identify potential pitfalls in molecular diagnosis.

### 3505 Inflammasomes in Inflammatory Diseases

**Convention Center, Level Two, Room 504**
*Suzanne L. Cassel, MD FAAAAI*
*Hal Hoffman, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe the basics of how the inflammasome works; Discuss and outline the current state of inflammasome disorders and what is new in the allergy field; Discuss novel therapeutic approaches to treating inflammasome disorders.

### 3506 Mastocytosis in the Young Child: Diagnosis, Management and Prognosis

**Convention Center, Level Two, Room 505**
*Melody C. Carter, MD FAAAAI*
*Dean D. Metcalfe, MD FAAAAI*

Upon completion of this session, participants should be able to discuss the diagnosis and management of mastocytosis in the young child.

### 3507 Approach to Rhinitis in Older Adults

**Convention Center, Level Two, Room 506**
*Jayant M. Pinto, MD*
*Raymond Slavin, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe changes in the upper airway with aging; Discuss the spectrum of rhinitis that occurs in older adults; Discuss the approach to treating rhinitis in older adults.

### 3508 Rethinking Corticosteroid Safety Based on Growth Studies in Children with Asthma

**Convention Center, Level Two, Room 507**
*Heather K. Lehman, MD FAAAAI*
*David P. Skoner, MD*

Upon completion of this session, participants should be able to: Describe the short-term growth effects of inhaled corticosteroids in children; Describe the long-term effects of inhaled corticosteroids in children.

### 3509 Urticaria: Beyond Antihistamines and Omalizumab

**Convention Center, Level Two, Room 510**
*David A. Khan, MD FAAAAI*
*Jill A. Poole, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss difficult to treat urticaria; Identify situations where alternative immune suppressive medications are indicated; Discuss risks and benefits of these medications in their use.

## Seminars (continued)

### 3510 What's New in Chronic Cough?

**Convention Center, Level Two, Room 511A**
*Kenneth W. Altman, MD PhD*
*Karin A. Pacheco, MD MSPH FAAAAI*

Upon completion of this session, participants should be able to: Discuss and apply new and updated knowledge in chronic cough; Describe updated strategies for diagnosis and management of chronic cough.

### 3511 Novel Approaches for Smoking Cessation and Tobacco Harm Reduction: Do E-Cigarettes Have a Role?

**Convention Center, Level Two, Room 511B**
*Chitra Dinakar, MD FAAAAI*
*Riccardo Polosa, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: Discuss harm caused by cigarette smoking in atopic and asthmatic patients; Describe benefits of smoking cessation and tobacco harm reduction, including e-cigarettes, relative to asthma and allergic rhinitis; Discuss specific treatment options and strategies in achieving tobacco control in the smoking allergy patient.

### 3512 Sleep Disordered Breathing (SDB) and its Relation to Allergy

**Convention Center, Level Two, Room 511C**
*Fuad M. Baroody, MD FAAAAI*
*Samuel L. Friedlander, MD*

Upon completion of this session, participants should be able to: Describe the clinical spectrum of sleep disordered breathing and the specific role of the allergists in its diagnosis; Discuss the possibilities of medical treatment with specific focus on intranasal corticosteroids; Describe the relation between SDB and attention behavioral disorders.

## Allied Health Seminars

12:30 to 1:30 pm
Pre-registration and ticket required. No fee. Sessions are limited to 30 people.
Credit: 1.00 CME/CE

### 3521 Allied Health: Psychosocial Assessment and Intervention with Pediatric Asthma Patients

**Convention Center, Level Two, Room 512**
*Jennifer M. Darr, MSW LCSW*
*Melissa T. Korenblat-Hanin, ACSW LCSW*

Upon completion of this session, participants should be able to: Discuss the importance of understanding and identifying the psychosocial dynamics in the management of asthma; Describe the importance of understanding the psychosocial assessment methodology in effectively managing asthma; Describe the needs, strategies and interventions that address the psychosocial dimension.

### 3522 Allied Health: Ayurvedic Approaches to the Diagnosis, Understanding and Treatment of Allergy, Asthma and Immunology

**Convention Center, Level Two, Room 513**
*Denise M. Kearney, MD*
*Sunil K. Saini, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the use of complementary and alternative medicine in the treatment of atopy and immunologic diseases in the U.S.; Describe the principals of ayurvedic therapies for the treatment of immunologic diseases.

## Pro/Con Debates

### 3551 Eosinophilic Esophagitis: A Primary Disease of the Esophageal Mucosa

12:30 to 1:30 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.00 CME/CE
*Moderator: Brett V. Kettelhut, MD FAAAAI*
**Pro**
*Juan Pablo Abonia, MD*
**Con**
*Jonathan M. Spergel, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: Describe basic pathophysiology and therapy of EoE; Discuss whether EoE should be treated as a systemic disease or as a primary disease of the esophageal mucosa.

### 3552 Skin Testing is Necessary Before Early Introduction of Peanut for Prevention of Peanut Allergy

12:30 to 1:30 pm
**Convention Center, Level One, South Exhibit Hall G**
Credit: 1.00 CME/CE
*Moderator: Anna H. Nowak-Wegrzyn, MD FAAAAI*
***This Session Requires Pre-Meeting Reading.***
**Pro**
*Hugh A. Sampson, MD FAAAAI*
**Con**
*Mimi Tang, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: Discuss and evaluate the evidence for a preventive effect of early food protein introduction such as peanut, egg, and milk in infants at risk; Identify the feasibility of screening with skin prick testing in infants at risk prior to peanut introduction; Describe the practical aspects of oral food challenges in infants.

### 3553 Should Antibiotic Prophylaxis Be Routinely Used in Patients With Antibody-Mediated Primary Immunodeficiency?

12:30 to 1:30 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.00 CME/CE
*Moderator: Vivian P. Hernandez-Trujillo, MD FAAAAI*
**Pro**
*Kenneth Paris, MD MPH*
**Con**
*Mark Ballow, MD FAAAAI*

Upon completion of this session, participants should be able to discuss whether and when prophylactic antibiotics are appropriate in the management of primary immunodeficiency.

## Workshops

### 3554 Allied Health: Allergen Immunotherapy in the Hospital and Community Setting

12:30 to 1:45 pm

**Convention Center, Level Two, Theatre (Room 411)**

Credit: 1.25 CME/CE

*Moderator: Sonia C. Mancia, BSN RN IgCN*

***This Session Requires Pre-Meeting Reading.***

**12:30** **Allergen Immunotherapy in the Hospital Setting**
*Amanda Troger, BSN RN CPN*

**1:00** **Allergen Immunotherapy in the Community Setting**
*Humaira Robinson, MS-NLM RN*

**1:30** **Question & Answer**

Upon completion of this session, participants should be able to discuss practice parameters and adapt them into practice.

### 3555 FIT Workshop: Interesting Cases Part 2

12:30 to 1:45 pm

**Convention Center, Level Two, Room 403A**

Credit 1.25 CME/CE

*Moderators: Kelly D. Stone, MD PhD FAAAAI*
*Paul J. Dowling, MD FAAAAI*

**12:30** **Schnitzler Syndrome**
*Sultan Alandijani, MD*

**12:45** **Orofacial Granulomatosis Masquerading as "Angioedema"**
*Chen Hsing Lin, MD*

**1:00** **All That is Red and Bumpy Is Not Eczema**
*Schweta Arakali, MD*

**1:15** **Hemothorax Associated with Status Asthmaticus**
*Peter A. Ricketti, DO*

**1:30** **Recurrent Anaphylaxis to Cat, or is It?**
*Jay Jin, MD PhD*

Upon completion of this session, participants should be able to: Evaluate the management of challenging patient cases by trainees in allergy/immunology; Compare and contrast management strategies for challenging patient cases with peers.

## Oral Abstract Sessions

### 3601 Asthma Diagnosis and Biomarkers

2:00 to 3:15 pm

**Convention Center, Level Two, Room 502B**

Credit: 1.25 CME/CE

*Moderators: Avraham Beigelman, MD MSCI FAAAAI*
*Bradley E. Chipps, MD FAAAAI*

**2:00** **Non Type-2 Severe Asthma Has Increased Bronchoalveolar Mast Cell Mediator Release and Health Care Utilization**
*Merritt L. Fajt, MD*

**2:15** **Endotypes of Difficult-to-Control Asthma in Inner City Children Differ By Race**
*Kari R. Brown, MD MS*

**2:30** **MIP-1alfa Level in Nasopharyngeal Aspirates at First Wheezing Episode Is a Predictor of Recurrent Wheezing**
*Kazuko Sugai, MD PhD*

**2:45** **Allergen-Induced Increase in Group 2 Innate Lymphoid Cells in the Airways of Mild Asthmatics**
*Ruchong Chen, MD*

**3:00** **PAI-1, Early Life Infections and Asthma Risk, Exacerbations, and Reduced Lung Function**
*Kumar Rajesh, MD MS FAAAAI*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 3602 Common Variable Immunodeficiency (CVID) From the Bench to the Bedside

2:00 to 3:15 pm

**Convention Center, Level Two, Room 408A**

Credit: 1.25 CME/CE

*Moderators: Patricia L. Lugar, MD MS*
*Elena E. Perez, MD PhD FAAAAI*

**2:00** **Body Weight and Infectious Outcomes in Patients with Primary Immunodeficiency Diseases: Outcomes from within the US Immunodeficiency Network (USIDNET).**
*Melanie A. Ruffner, MD PhD*

**2:15** **Clinical Experience of CVID Enteropathy**
*Edith Schussler, MD*

**2:30** **Interrogating Genetic Susceptibility Loci in CVID and Autoimmunity**
*Luanna Yang*

**2:45** **Extra-Immunologic Manifestations of Common Variable Immunodeficiency in Pediatric Versus Adult Patients**
*Lauren A Sanchez, MD MA*

**3:00** **Role of B Cell Activating Factor in CVID Lung Disease**
*Paul J. Maglione, MD PhD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

## Oral Abstract Sessions (continued)

### 3603 Fungal and Mouse Allergens and Allergy

2:00 to 3:15 pm
**Convention Center, Level Two, Room 502A**
Credit: 1.25 CME/CE
*Moderators: Sachin N. Baxi, MD*
*Amber U. Luong, MD PhD*

**2:00** **IgE Antibodies to Fungi Among Asthmatic Children Living in Homes Damaged By Hurricane Sandy in New York City**
*Adnan Divjan, BA*

**2:15** **Fungal Metagenomic Analysis of Indoor Evaporative Cooler Environments in the Great Basin Desert Region**
*Angela R. Lemons, MS*

**2:30** **Internal Transcribed Spacer rRNA Gene Sequencing Analysis of Dustborne Fungi in a Water-Damaged Office Building**
*Brett J. Green, PhD FAAAAI*

**2:45** **The Murine Pulmonary Proteomic Profile Associated with Allergic Aspergillus Fumigatus Exposure**
*Ajay P. Nayak, PhD*

**3:00** **Measurement of Major Allergen Mus m 1 in Commercial Mouse Allergen Extracts and Mouse Urine**
*Taruna Khurana, PhD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 3604 Atopic Dermatitis

2:00 to 3:15 pm
**Convention Center, Level Two, Room 515A**
Credit: 1.25 CME/CE
*Moderator: Anna De Benedetto, MD*
*Lynda C. Schneider, MD FAAAAI*

**2:00** **Filaggrin Associated Risk for Atopic Dermatitis Is Offset By Protective Missense Variants in Rptn and LCE1B Genes in the Epidermal Differentiation Complex.**
*Rasika A. Mathias, ScD*

**2:15** **The Role of Gastrin Releasing Peptide (GRP) in Atopic Dermatitis (AD) Induced By Interleukin 13 (IL-13)**
*Eun Byul Choi*

**2:30** **Novel Gene Signatures Observed in the Nonlesional Skin from European American Atopic Dermatitis Subjects Who Are Colonized with Staphyloccoccus Aureus**
*Takeshi Yoshida, PhD*

**2:45** **Staphylococcus Aureus Colonization Is Associated with Increased Peanut Allergy Sensitization in Children with Atopic Dermatitis (AD)**
*Andrea L. Jones, MD*

**3:00** **Distinct Features Identified in Adult Atopic Dermatitis Subjects Based on Age of Onset**
*Peck Y. Ong, MD FAAAAI*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 3605 Improving Self Management with Innovative Technologies

2:00 to 3:15 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 1.25 CME/CE
*Moderators: Giselle Mosnaim, MD MS FAAAAI*
*David R. Stukus, MD FAAAAI*

**2:00** **Adherence Barriers and Dulera Adherence in an Asthma Adherence Management Study: Preliminary Results**
*Andrew G. Weinstein, MD FAAAAI*

**2:15** **Self-Injectable Epinephrine Adherence Survey Amongst Veterans**
*Anil M. Patel, MD*

**2:30** **Association Between Medication Adherence Report Scale (MARS-5) and Caregiver-Reported Inhaled Corticosteroid Use in Inner City Children with Asthma**
*Lena Truong, PharmD*

**2:45** **Remote Monitoring of Patients: Two New Smartphone App Symptom Severity Tests for Asthma and Allergic Rhinitis.**
*Steven L. Kagen, MD FAAAAI*

**3:00** **On-Line Monitoring Tool for Recommended Data Collection of Angioedema Attacks in Patients with Hereditary Angioedema**
*Jaclyn Bjelac, MD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 3606 Rhinosinusitis & Sleep

2:00 to 3:15 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.25 CME/CE
*Moderators: Paloma Campo, MD PhD*
*Mike Tankersley, MD FAAAAI*

**2:00** **Sleep-Disordered Breathing and Upper Airway Allergy: A Survey of Allergists' Practices**
*Dennis Shusterman, MD MPH*

**2:15** **High Burden of Obstructive Sleep Apnea in Subgroups of Chronic Rhinosinusitis: Importance of Phenotyping Chronic Rhinosinusitis Patients for Stratifying Risk Factors for This Major Comorbidity**
*Jessica W. Hui, MD*

**2:30** **3D Quantitation of Sinonasal Inflammation Correlates with Symptoms and Disease-Specific Quality of Life in Patients with Rhinosinusitis**
*Sooyoung Lim, BS*

**2:45** **Cross-Talk Between Human Mast Cells and Epithelial Cells By IgE-Mediated Periostin Production in Eosinophilic Nasal Polyps**
*Dae Woo Kim, MD*

**3:00** **Eosinophil Production of PGD2 in Aspirin-Exacerbated Respiratory Disease**
*John W. Steinke, PhD FAAAAI*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

## Oral Abstract Sessions (continued)

### 3607 T Cells and Innate Lymphoid Cells

2:00 to 3:15 pm
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE
*Moderators: Becky J. Buelow, MD*
*Mitchell H. Grayson, MD FAAAAI*

**2:00** **Contributions of Two Distinct T Cell Subsets (CD4+, CD8+CD60+) to Induction of Specific Memory IgE Responses**
*Charles J. Kim, BS*

**2:15** **Identification of Functional Peanut-Responsive Tregs in Peanut Allergic Human Blood**
*David Chiang, MS*

**2:30** **Ovarian Hormones Increase Alternaria Extract Induced ILC2 Activation**
*Dawn Newcomb, PhD*

**2:45** **Expression of Micro RNA-155 Is Induced By Dust Mite Extract in CD4+ T-Cells of Dust Mite Allergic Subjects and Is Inhibited By Glucocorticoids**
*Elizabeth M. Balraj*

**3:00** **Identification of Tr1 Cells in a Pediatric Population**
*Jenna R. Bergerson, MD MPH*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 3611 Late Breaking Oral Abstract Session: Clinical/ Translational Sciences

2:00 to 3:15 pm
**Convention Center, Level One, Petree Hall D**
Credit: 1.25 CMR/CE
*Moderators: Steve N. Georas, MD*
*Daniel J. Jackson, MD*

**2:00** **The Skin Microbiome Differs with Age in Atopic Dermatitis**
*Baochen Shi, PhD*

**2:15** **Enhanced Efficacy and Confirmed Safety of a Two-Year Epicutaneous Immunotherapy (EPIT) Treatment of Peanut Allergy with Viaskin® Peanut: The Continuation of the Vipes Phase IIb Randomized Controlled Trial (RCT)**
*Hugh A. Sampson, MD FAAAAI*

**2:30** **The Efficacy of AR101, a Peanut-Derived Pharmaceutical for Oral Immunotherapy (OIT), Is Maintained and Tolerability Is Increased with Low-Dose Maintenance Therapy**
*J. Andrew Bird, MD FAAAAI*

**2:45** **Efficacy and Safety of the SQ-House Dust Mite Sublingual Immunotherapy Tablet in North American Children and Adults: Findings From a Large Randomized, Placebo-Controlled Clinical Trial**
*Hendrik Nolte, MD PhD*

**3:00** **Pathogenic Autoantibodies in Patients with Severe Asthma and Sputum Eosinophils**
*Manali Mukherjee, PhD*

## Interest Section Forums

### 3701 ADT: Asthma Endotypes: What are the Therapeutic Implications?

3:30 to 4:30 pm
**Convention Center, Level One, Petree Hall C**
Credit: 0.50 CME/CE
*Moderator: Mark F. Sands, MD FAAAAI*

**3:30** **Business Meeting**
*Mark F. Sands, MD FAAAAI*

**4:00** **Asthma Endotypes: What are the Therapeutic Implications?**
*Mario Castro, MD MPH*

**4:25** **Question & Answer**

Upon completion of this session, participants should be able to: Describe asthma endotypes; Discuss therapeutic options to appropriate asthma sub-groups.

### 3702 BCI: Traffic Pollution Exposure and Allergic Disease: New Insights

3:30 to 4:30 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 0.50 CME/CE
*Moderator: Gurjit K. Khurana Hershey, MD PhD FAAAAI*

**3:30** **Business Meeting**
*Gurjit K. Khurana Hershey, MD PhD FAAAAI*

**4:00** **Traffic Pollution Exposure and Allergic Disease: New Insights**
*Talal A. Chatila, MD MSc*

**4:25** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss impact of traffic pollution on allergic disease; Discuss mechanistic basis of impact of traffic pollution on allergic disease.

### 3703 EORD: Importance of School Environments for Children with Asthma

3:30 to 4:30 pm
**Convention Center, Level Two, Room 403A**
Credit: 0.50 CME/CE
*Moderator: Jeffrey G. Demain, MD FAAAAI*

**3:30** **Business Meeting**
*Jeffrey G. Demain, MD FAAAAI*

**4:00** **Importance of School Environments for Children with Asthma**
*Wanda Phipatanakul, MD MS FAAAAI*

**4:25** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the up do date leadership, committee activities and future directions of the EORD section; Identify the potential impact of the school environment on the respiratory health of children.

## Interest Section Forums (continued)

### 3704 FADDA: Novel IgE-Independent Pathways for Drug Reactions

3:30 to 4:30 pm
**Convention Center, Level Two, Room 515B**
Credit: 0.50 CME/CE
*Moderator: Sarbjit S. Saini, MD FAAAAI*

**3:30** **Business Meeting**
*Sarbjit S. Saini, MD FAAAAI*

**4:00** **Identification of a Mast-Cell-Specific Receptor Crucial for Pseudo-Allergic Drug Reactions**
*Xinzhong Dong, PhD*

**4:25** **Question & Answer**

Upon completion of this session, participants should be able to discuss recent advances in the understanding of IgE independent pathways that could be linked to pseudo-allergic drug reactions or anaphylactoid reactions.

### 3705 HEDQ: Teleallergy: The Use of Technology to Enhance Practice and Research in Allergy/Immunology

3:30 to 4:30 pm
**Convention Center, Level Two, Room 403B**
Credit: 0.50 CME/CE
*Moderator: Bruce G. Bender, PhD FAAAAI*

**3:30** **Business Meeting**
*Bruce G. Bender, PhD FAAAAI*

**4:00** **The Use of Technology to Enhance Practice and Research in Allergy/Immunology**
*Giselle Mosnaim, MD MS FAAAAI*

**4:25** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the emerging technologies making their way into medicine; Identify how these technologies may be used by allergists to enhance clinical care and research.

### 3706 IRSO: New Perspectives in Allergy: The Relationship Between IgE Polysensitization and Multimorbidity

3:30 to 4:30 pm
**Convention Center, Level One, Petree Hall D**
Credit: 0.50 CME/CE
*Moderator: Martin Wagenmann, MD FAAAAI*

**3:30** **Business Meeting**
*Martin Wagenmann, MD FAAAAI*

**4:00** **A New Classification of Allergy: Mutlimorbidity and IgE Polysensitization**
*Jean Bousquet, MD PhD*

**4:25** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss new data based on large cohorts concerning the relation between IgE sensitization and allergic phenotypes; Describe the value of prospective cohorts in understanding the development of different phenotypes of allergic diseases; Define the relationship between IgE sensitization patterns and their role in determining the allergic phenotype.

### 3707 MAAI: Mechanistic Dissection of IgG4-Related Disease

3:30 to 4:30 pm
**Convention Center, Level Two, Room 409AB**
Credit: 0.50 CME/CE
*Moderator: Nives Zimmermann, MD FAAAAI*

**3:30** **Business Meeting**
*Nives Zimmermann, MD FAAAAI*

**4:00** **Mechanistic Dissection of IgG4-Related Disease**
*Shiv Pillai, MBBS PhD*

**4:25** **Question & Answer**

Upon completion of this session, participants should be able to discuss the pathophysiology of IgG4-related diseases and how they relate to allergic diseases.

## Featured Poster Session and Reception

4:45 to 6:15 pm
**Convention Center, Level One, Concourse Foyer**
All Annual Meeting delegates and their guests are invited to attend this event. No fee and no pre-registration required.
Credit: No CME/CE
Featured Posters highlight the highest quality abstracts submitted for presentation at the Annual Meeting. During the Featured Poster Session and Reception on Sunday evening, authors will be present with their posters to discuss their research. Take this opportunity to talk with these authors and network with other meeting delegates.

**3801** Featured Asthma Therapy
**3802** Research Advancement in Allergy and Inflammation
**3803** Hazardous Exposures in Public and Work Places
**3804** Immunotherapy for Food Allergy: Mechanism and Clinical Outcome
**3805** Unleashing the Power of Health Information Technology
**3806** Best of IRSO
**3807** Mechanisms of Allergic Inflammation
**3811** Best of Allied Health

## Seminars

6:45 to 7:45 am
Pre-registration and ticket required. Fee: $40. Continental breakfast included. Sessions and meals are limited to 30 people.
Credit: 1.00 CME/CE

### 4001 Practical Approach to Infants with Abnormal SCID Newborn Screening Results

**JW Marriott, Diamond Ballroom Level, Salon 1**
*Jennifer Heimall, MD*
*Jennifer M. Puck, MD*

Upon completion of this session, participants should be able to: Discuss how to approach the identification of patients with low TRECs; Discuss strategies to follow-up on abnormal newborn screenings; Discuss recommendations for treatment of abnormal newborn screenings while diagnostic testing is being performed.

### 4002 Review and Discussion of Fungus Health Effects

**JW Marriott, Diamond Ballroom Level, Salon 2**
*Sachin N. Baxi, MD*
*Ginger L. Chew, ScD MSPH*

Upon completion of this session, participants should be able to: Discuss the evidence suggesting adverse health effects from fungus exposure; Discuss what is known about allergy testing to fungus; Discuss when to consider a home assessment.

### 4003 Improving Compliance and Retention of Patients of Varied Cultural Backgrounds

**JW Marriott, Diamond Ballroom Level, Salon 3**
*Adrian M. Casillas, MD FAAAAI*
*Jorge A. Quel, MD FAAAAI*

Upon completion of this session, participants should be able to discuss how to improve compliance and retention of patients of various cultural origins.

### 4004 How to Write a Manuscript and an IRB Protocol

**JW Marriott, Diamond Ballroom Level, Salon 6**
*Christina E. Ciaccio, MD MSc FAAAAI*
*Anne Marie Singh, MD*

Upon completion of this session, participants should be able to: Discuss the components of a comprehensive human studies protocol that can achieve approval by an institutional review board; Describe and list the steps required to write a well-structured research manuscript.

### 4005 A Successful Approach to Food Allergy Diagnostic Dilemmas

**JW Marriott, Diamond Ballroom Level, Salon 7**
*Kirsi M. Jarvinen-Seppo, MD PhD FAAAAI*
*Scott H. Sicherer, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe indications for peanut oral food challenge; Describe management of solid food FPIES; Identify the pitfalls of panel testing for food panels.

### 4006 Asthma in the Older Adult

**JW Marriott, Diamond Ballroom Level, Salon 8**
*Alan P. Baptist, MD MPH FAAAAI*
*Paula J. Busse, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the assessment and diagnosis of asthma in the elderly; Discuss the treatment and monitoring of asthma in the elderly.

### 4007 Anti-Eosinophil Biologic Therapies in Allergic Diseases

**JW Marriott, Diamond Ballroom Level, Salon 9**
*Steven J. Ackerman, PhD*
*Sameer K. Mathur, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: Describe the currently available anti-eosinophil biologic therapies; Discuss the pros and cons of the currently available anti-eosinophil biologic therapies; Discuss future approaches to targeting eosinophils.

### 4008 CD34+Cells: Naive but Not Innocent Players of Allergic Inflammation

**JW Marriott, Diamond Ballroom Level, Salon 10**
*Zoulfia Allakhverdi, PhD FAAAAI*
*Patricia C. Fulkerson, MD PhD*

Upon completion of this session, participants should be able to: Discuss the role of CD34 cells in allergic inflammation; Discuss hematopoietic progenitors and their role in allergic inflammation.

### 4009 Optimal SCIT Prescribing Using Optimal Dosing

**JW Marriott, Platinum Ballroom Level, Salon A**
*Richard F. Lockey, MD FAAAAI*
*Harold S. Nelson, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe the dose ranges for optimal dosing for SCIT; Discuss the efficacy data for optimum dose ranges; Describe prescription writing based on optimal dosing.

### 4010 Office-Based Clinical Teaching of Residents and Students

**JW Marriott, Platinum Ballroom Level, Salon B**
*Mark H. Moss, MD*
*Lily C. Pien, MD MHPE FAAAAI*

Upon completion of this session, participants should be able to discuss and demonstrate proficiency with two office-based techniques for providing feedback to learners: the one-minute-preceptor and SNAPPS.

### 4011 Work-Exacerbated Asthma

**JW Marriott, Platinum Ballroom Level, Salon F**
*Paul K. Henneberger, ScD*
*Santiago Quirce, MD PhD*

Upon completion of this session, participants should be able to discuss and apply new and updated knowledge in work-exacerbated asthma.

## Plenary

### 4101 The Exposome: The Dynamic Role of the Environment in Shaping Risk for Disease

8:15 to 9:45 am

**Convention Center, Level One, South Exhibit Hall G**

Credit: 1.50 CME/CE

*Moderator: Wanda Phipatanakul, MD MS FAAAAI*

**8:15** **Metabolomics of Asthma and Allergic Disease**
*Darryl James Adamko, MD*

**8:45** **What Have We Learned from Birth Cohorts and Asthma About the Effects of Environmental Exposures on Allergic and Immunologic Diseases?**
*Peter J. Gergen, MD MPH*

**9:15** **How the Exposome Influences Clinical Outcomes in Eosinophilic Esophagitis: Opportunities for Disease Modification**
*Seema Sharma Aceves, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the role of metabolomics, the study of small molecules generated from cellular metabolic activity, in defining unique metabolic profiles in asthma and other chronic diseases; Discuss what current epidemiologic studies have taught us about the interaction of the environment and genetics in defining complex, chronic diseases such as asthma, cystic fibrosis, and COPD; Discuss environmental factors that influence outcomes in eosinophilic esophagitis.

## Course

### 4150 Allied Health: Association of Asthma Educators: Becoming an Asthma Educator and Care Manager

9:00 am to 4:00 pm

**Convention Center, Level Two, Room 407**

Pre-registration and ticket required.

Credit: 6.00 CME/CE

**9:00** **Becoming an Asthma Educator and Care Manager**
*Maureen George, PhD RN AE-C*

**9:45** **Assessment and Monitoring**
*Dewey F. Hahlbohm, PA-C AE-C*

**10:30** **Break**

**10:45** **Controlling Environmental Factors Contributing to Asthma**
*Dewey F. Hahlbohm, PA-C AE-C*

**11:45** **Medications**
*Maureen George, PhD RN AE-C*

**12:45** **Lunch on Your Own**

**1:15** **Inhalation Devices**
*Dewey F. Hahlbohm, PA-C AE-C*

**2:15** **Education for Partnership in Care**
*Maureen George, PhD RN AE-C*

**3:00** **Break**

**3:15** **Case Studies/Evaluation**
*Maureen George, PhD RN AE-C*

Upon completion of this session, participants should be able to: Describe the burden of asthma in the United States; Describe key components of asthma management from EPR-3; Identify and evaluate patients' and caregivers' educational needs and select management tools to optimize partnerships in care.

## Posters

7:00 am to 6:00 pm

**Convention Center, Level One, South Exhibit Hall H**

Posters on display from 7:00 am to 6:00 pm. Authors present from 9:45 to 10:45 am.

Credit: No CME/CE

Refer to pages 80 – 169 for abstracts and pages 203 – 225 for authors.

**4201** Asthma Diagnosis
**4202** Asthma Therapy II: Steroids, Bronchodilators, Other Therapies
**4203** Primary Immunodeficiency
**4204** Replacement Therapy in the Treatment of Immune Defects
**4205** Eosinophilic Gastrointestinal Disorders and Food Allergy
**4206** Urticaria and Angioedema
**4207** New Approaches to Tracking Health Outcomes
**4208** New Insights into Medication-Related Outcomes
**4209** Rhinitis, Diagnosis and Therapy
**4210** Immunotherapy, Rhinoconjunctivitis
**4211** T Cells and Allergens
**4212** Microbiome, Immunogenetics, Molecular Biology

## Symposia

### 4301 Novel Endotypes of Asthma: Lessons from the AADCRC

10:45 am to 12:00 pm
**Convention Center, Level One, Petree Hall C**
Credit: 1.25 CME/CE
*Moderator: John V. Fahy, MD*
***This Session Will Use Audience Response System Technology.***

**10:45** **Aspirin-Exacerbated Respiratory Disease**
*Tanya M. Laidlaw, MD FAAAAI*

**11:05** **Question & Answer**

**11:10** **Pollution-Induced Asthma**
*Eric B. Brandt, PhD FAAAAI*

**11:30** **Question & Answer**

**11:35** **Allergic "Th2 High" Asthma**
*Prescott Woodruff, MD MPH*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Describe Th2 High asthma phenotype and treatment; Describe presentation and management of AERD; Discuss the role of pollution in asthma pathogenesis, from mechanism to management.

### 4302 Environmental and Lifestyle Influences on Childhood Asthma

10:45 am to 12:00 pm
**Convention Center, Level One, Petree Hall D**
Credit: 1.25 CME/CE
*Moderator: Gang Dong, MD PhD*

**10:45** **Preschool Exposures That Influence the Development of Asthma**
*Leonard B. Bacharier, MD FAAAAI*

**11:05** **Question & Answer**

**11:10** **Immunologic Correlates of Multiple Early Sensitization Progressing to Childhood Asthma**
*Matthew C. Altman, MD*

**11:30** **Question & Answer**

**11:35** **Microbiome Effects on Frequency of Viral Infection and Virus-Induced Exacerbations of Asthma**
*Daniel J. Jackson, MD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: List the factors contributing to asthma development in pre-schoolers; Describe the immunologic basis for early life sensitization which increases asthma risk; Describe microbiome-virus interrelationships in asthma and strategies for asthma prevention in childhood.

### 4303 State-of-the-Art: Update from the AADCRC Food Allergy Research Centers

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.25 CME/CE
*Moderator: Brian P. Vickery, MD FAAAAI*

**10:45** **Mechanistic Studies in T Cells During Food Allergen Immunotherapy**
*Kari C. Nadeau, MD PhD FAAAAI*

**11:05** **Question & Answer**

**11:10** **Microengaving-Based Profiling of Human Food Allergic Immune Processes**
*Erik R. Wambre, PhD MBE*

**11:30** **Question & Answer**

**11:35** **Surrogates of Persistent Tolerance Among the T and B Lymphocyte Antigen-Specific Responses During Peanut Oral Immunotherapy**
*Wayne Shreffler, MD PhD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the T Cell responses during food immunotherapy; Describe the approaches to profiling food allergic processes; Describe the B and T lymphocyte surrogates of tolerance.

### 4304 Phospholipases A2 and Lipid Mediators in the Pathogenesis of Asthma

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE
*Moderator: Joshua A. Boyce, MD FAAAAI*

**10:45** **Role of Group X sPLA2 and Epithelial Cells in Asthma**
*Teal S. Hallstrand, MD MPH*

**11:05** **Question & Answer**

**11:10** **Role of Group V sPLA2 and Macrophages in Asthma**
*Barbara Balestrieri, MD*

**11:30** **Question & Answer**

**11:35** **Influence of Human Genetic Variation on the Biosynthesis, Metabolism and Impact of Arachidonic Acid in Inflammatory Processes**
*Floyd H. Chilton, PhD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Describe how lipids are major mediators of asthma; Discuss the role of phospholipases $A_2$, enzymes for the generation of lipids; Describe the role of innate immune cells that produce these enzymes and initiate asthma pathogenesis in humans.

## Symposia (continued)

### 4305 Immunologic Insights into Environmental Triggers of Asthma

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 408A**
Credit: 1.25 CME/CE
*Moderator: John W. Steinke, PhD FAAAAI*

**10:45** **How Do Rhinovirus Infections Cause Asthma Exacerbations?**
*James E. Gern, MD FAAAAI*

**11:05** **Mold Exposure and Asthma: A New IgE-Independent Mechanistic Link**
*Gurjit K. Khurana Hershey, MD PhD FAAAAI*

**11:25** **Controlled Human Exposures Unravel the Association Between Air Pollution Exposures and Asthma**
*Chris Carlsten, MD MPH*

**11:45** **Question & Answer**

Upon completion of this session, participants should be able to: Identify how environmental triggers of asthma can promote frequent exacerbation phenotypes; Discuss new immunologic mechanisms by which common environmental triggers promote asthma; Discuss how environmental allergens can act as immunomodulators independent of their antigenicity.

### 4306 Allergen Immunotherapy: From Mechanisms to Biomarkers

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.25 CME/CE
*Moderator: Stephen R. Durham, MA MD FRCP*

**10:45** **Mechanisms of Allergen Specific Immunotherapy: What's New?**
*Mohamed H. Shamji, PhD FAAAAI*

**11:05** **Question & Answer**

**11:10** **Novel Biomarkers for Monitoring AIT**
*William W. Kwok, PhD*

**11:30** **Question & Answer**

**11:35** **Use of Molecular Allergology to Monitor AIT: Are We There Yet?**
*Rudolf Valenta, MD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Describe novel local and systemic responses following allergen immunotherapy; Discuss how Th2A cells can be used to monitor tolerance induction during allergen immunotherapy; Discuss how molecular allergology can be utilized to select patients and monitor the effects allergen immunotherapy.

### 4307 Surviving and Optimizing ICD-10

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 502A**
Credit: 1.25 CME/CE
*Moderator: Melinda M. Rathkopf, MD FAAAAI*

**10:45** **Overview and Impact of ICD-10 Since Going Live: Common Problems**
*Teresa Thompson, CPC CMSCS CCC*

**11:05** **Question & Answer**

**11:10** **Strategies for ICD-10 Simplification and Optimization**
*A. Sean McKnight, MD FAAAAI*

**11:30** **Question & Answer**

**11:35** **Panel Discussion: ICD-10 Cases: How to Code the Difficult Cases**
*A. Sean McKnight, MD FAAAAI*
*Teresa Thompson, CPC CMSCS CCC*

Upon completion of this session, participants should be able to: Discuss the update on ICD-10 and its impact since the October 2015 go live date; Discuss common problems and identify strategies to optimize ICD-10 in clinical practice; Discuss difficult coding cases from attendees' own clinical practices.

### 4308 The Spectrum of Angioedema: Bench to Bedside

10:45 am to 12:00 pm
**Convention Center, Level Two, Room 502B**
Credit: 1.25 CME/CE
*Moderator: Paula J. Busse, MD FAAAAI*
***This Session Will Use Audience Response System Technology.***

**10:45** **Pathophysiology of Angioedema: Role of Histamine, Leukotrienes and Bradykinin**
*Bruce L. Zuraw, MD*

**11:05** **Question & Answer**

**11:10** **Bradykinin-Induced Angioedema (ACE-I, HAE, AAE): Evaluation and Management**
*Aleena Banerji, MD*

**11:30** **Question & Answer**

**11:35** **NSAIDs-Induced Angioedema: Pathophysiology, Evaluation and Management**
*Rebecca Saff, MD PhD*

**11:55** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the mechanisms of angioedema in nonhistaminergic angioedema including mediators such as histamine, leukotrienes and bradykinin; Discuss the mechanism of angioedema with NSAIDs.

## Oral Abstract Sessions

### 4601 Asthma Immunology and Inflammation

2:00 to 3:15 pm

**Convention Center, Level Two, Room 502B**

Credit: 1.25 CME/CE

*Moderators: Maleewan Kitcharoensakkul, MD*
*Sameer K. Mathur, MD PhD FAAAAI*

**2:00** **Th17/Treg Disregulation in Allergic Asthmatic Children Is Associated with Elevated Notch Expression**
*W. X. Zhang, MD PhD*

**2:15** **The Effect of Age on Airway Inflammation in Older Versus Younger Patients with Asthma**
*Janette Birmingham, MS*

**2:30** **Eosinophilia-Associated Coronary Artery Vasospasm in Patients with Aspirin-Exacerbated Respiratory Disease**
*Neelam H. Shah, MD*

**2:45** **Airway but Not Blood Type 2 Innate Lymphoid Cells (ILC2s) from Asthmatic Patients Are Steroid-Resistant, Which Is Induced By IL7R-Alpha Ligands**
*Rafeul Alam, MD PhD FAAAAI*

**3:00** **Mast Cell-Derived PAI-1 Promotes Airway Inflammation and Remodeling in a Murine Model of Asthma**
*Ara Jo*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 4602 Severe Combined Immunodeficiency (SCID)

2:00 to 3:15 pm

**Convention Center, Level Two, Room 408A**

Credit: 1.25 CME/CE

*Moderators: Francisco A. Bonilla, MD PhD FAAAAI*
*Michael Keller, MD*

**2:00** **Using EMR Data Collections to Outline SCID Clinical Phenotypes**
*Shradha Agarwal, MD FAAAAI*

**2:15** **Predicting Optimal Timing of Halting IVIG Therapy after HSCT for SCID**
*Sarah E. Henrickson, MD PhD*

**2:30** **Use of Rabies Virus Vaccine As a Neoantigen to Evaluate Humoral Immune Function in Patients with Primary Immunodeficiency Disorders Receiving Immunoglobulin Replacement Therapy**
*Suvanee Charoenlap, MD*

**2:45** **Outcomes for Umbilical Cord Blood Transplantation in Severe Combined Immunodeficiency Disorders: Ten-Year Experience**
*Carrie N. Caruthers, MD*

**3:00** **Newborn Screening for Severe Combined Immune Deficiency with T Cell Receptor Excision Circle Assay in Mississippi 2012 – 2014**
*Anne B. Yates, MD FAAAAI*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 4603 EORD Potpourri

2:00 to 3:15 pm

**Convention Center, Level Two, Room 502A**

Credit: 1.25 CME/CE

*Moderator: William J. Sheehan, MD*

**2:00** **Eosinophil Mediators in Nasal Washes Obtained during Experimental Infections with Rhinovirus-16 in Subjects with and without Asthma**
*Evan Rajadhyaksha, BS*

**2:15** **Tracking and Characterizing Human B-Cell Responses in Rhinovirus Infection**
*Jacob D. Eccles*

**2:30** **Induction of Airway BAFF during Upper Respiratory Infections in Patients with Asthma**
*Sergio E. Chiarella, MD*

**2:45** **Increasing Cupressaceae Pollen: A Growing Threat**
*Estelle Levetin, PhD FAAAAI*

**3:00** **Rapid Quantification of Juniperus Pollen Proves Overlapping Pollen Seasons**
*Rashmi Prava Mohanty*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 4604 Eosinophilic Esophagitis: Pathophysiology and Genetic Susceptibility

2:00 to 3:15 pm

**Convention Center, Level Two, Room 408B**

Credit: 1.25 CME/CE

*Moderators: Mirna Chehade, MD MPH*
*Antonella Cianferoni, MD PhD FAAAAI*

**2:00** **11q13 Is an Allergic Risk-Locus That Increases Eoe Risk and Increases LRRC32 Expression**
*Leah C. Kottyan, PhD*

**2:15** **Group 2 Innate Lymphoid Cells and IL-9 Receptor Are Increased in Active Eosinophilic Esophagitis**
*Ashmi Doshi, MD*

**2:30** **Eosinophil-Related Gene Expression in Children with Eosinophilic Gastrointestinal Disorders (EGIDs)**
*Tetsuo Shoda, MD PhD*

**2:45** **Loss of SPINK7 in Esophageal Epithelial Cells Unleashes a Pro-Inflammatory Response Characterized By Excessive Cytokine Production and Loss of Barrier Function**
*Nurit Pereg Azouz*

**3:00** **Eosinophilic Esophagitis Is a Trait of Netherton Syndrome**
*Nathalia Bellon, MD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

## Oral Abstract Sessions (continued)

### 4605 Best of FADDA

2:00 to 3:15 pm
**Convention Center, Level Two, Room 515A**
Credit: 1.25 CME/CE
*Moderators: Emily C. McGowan, MD*
*Sarbjit S. Saini, MD FAAAAI*

**2:00** **D-Dimer Levels May Identify Chronic Urticaria Patients Who Would More Likely Fail H2 Blockers or Omalizumab**
*Tho Q. Truong, MD*

**2:15** **Sonographic Assessment of Optimal Needle Length for Epinephrine Autoinjectors in Infants and Toddlers**
*Harold L. Kim, MD*

**2:30** **Constitutive KIT Activity and IL-6 Production in Mast Cells Alters Levels of Reactive Oxygen Species (ROS) and the Scavenger Protein DJ-1 in Mastocytosis**
*Dokyun Kim, PhD*

**2:45** **IgE-Mediated Atopic Dermatitis-like Skin Inflammation Is Downregulated By the Application of Allergen-Specific Monoclonal Antibody IgG1 Fab Fragments to the Skin**
*Shin Yoshino*

**3:00** **Ibuprofen and Other Arylpropionic Acid Derivatives Can be Responsible for Immediate Selective Responses to Nsaids.**
*Diana Perez-Alzate, MD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 4606 Creating Quality Health Care

2:00 to 3:15 pm
**Convention Center, Level Two, Room 406AB**
Credit: 1.25 CME/CE
*Moderators: Andrea J. Apter, MD MA MSc FAAAAI*
*Paige G. Wickner, MD MPH FAAAAI*

**2:00** **Anaphylaxis Preparedness Initiative for Allergen Immunotherapy – Implementation of a Policy for Carrying Autoinjectable Epinephrine**
*Ahila Subramanian, MD MPH*

**2:15** **Underutilization of Penicillin Skin Testing: A Call for Verifying Penicillin Allergy and Antibiotic Stewardship**
*Roxanne C. Oriel, MD*

**2:30** **Health-Related Quality of Life Is Impaired in Families with Wheat Allergy Vs. Grass Allergy**
*Nora Borres*

**2:45** **Socioeconomic Disparities in the Economic Impact of Childhood Food Allergy**
*Lucy A. Bilaver, PhD*

**3:00** **Allergy Misconceptions Among Attending Physicians, Resident Physicians and Mid-Level Providers**
*Kaitlyn M. Jackson*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 4607 Rhinosinusitis, Local IgE

2:00 to 3:15 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 1.25 CME/CE
*Moderators: Kathryn E. Hulse, PhD*
*Anjeni Keswani, MD*

**2:00** **Unified Airway Theory: Association of Bronchiectasis and Chronic Rhinosinusitis**
*Sumit Bose, MD*

**2:15** **A Novel Method of Measuring Nasal Specific IgE in Systemic and Local Allergic Rhinitis Patients**
*Paloma Campo, MD PhD*

**2:30** **Chronic Rhinosinusitis Patients with Gastroesophageal Reflux Disease Have Significantly Higher Prevalence of Atopic Conditions**
*Erica L. Palmisano, MD*

**2:45** **Proton Pump Inhibitors (PPIs) May Modulate More Than Just Reflux in Chronic Rhinosinusitis with Nasal Polyps**
*Jin Young Min, MD PhD*

**3:00** **Heterogenous Inflammation in Chronic Rhinosinusitis without Nasal Polyps**
*Atsushi Kato, PhD*

Upon completion of this session, participants should be able to discuss recent research developments in the field of allergy/immunology.

### 4611 Late Breaking Oral Abstract Session: Basic Science

2:00 to 3:15 pm
**Convention Center, Level Two, Room 403A**
Credit: 1.25 CMR/CE
*Moderators: Mitchell H. Grayson, MD FAAAAI*
*R. Stokes Peebles, Jr., MD FAAAAI*

**2:00** **The Leukotriene E4 Receptor, GPR99 Mediates Mast Cell-Dependent Mucosal Responses to the Mold Allergen, Alternaria Alternata**
*Lora G. Bankova, MD*

**2:15** **Human Airway Epithelial Cells Express Functional IL-5 Receptors**
*Karina T. Barretto*

**2:30** **Impairment of Autophagy in Pulmonary CD11c+ Cells Induces Corticosteroid-Unresponsive Airway Hyperreactivity**
*Hadi Maazi, PhD*

**2:45** **Ara h 1 Peptide Immunotherapy Protects Against Peanut-Induced Anaphylaxis in a Dose-Dependent Manner**
*Elizabeth Simms, MSc*

**3:00** **Identification of Tr1 Cells and Other CD4+ T Cell Subsets in Humans Using Mass Cytometry: A Tool for Understanding Asthma**
*Mary Prunicki, PhD MD*

## Seminars

3:30 to 4:30 pm
Pre-registration and ticket required. Fee: $40. Refreshments included.
Sessions and refreshments are limited to 30 people.
Credit: 1.00 CME/CE

### 4701 There's an App for That: iPhone/iPad, Android and Web Tools for Clinical Practice

**Convention Center, Level Two, Room 410**
*Tao T. Le, MD MHS FAAAAI*
*Melinda M. Rathkopf, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss how to select mobile technology applications to enhance practice; Discuss how to use mobile technology applications to improve practice efficiency; Discuss how to use mobile technology applications for communication with patients and colleagues.

### 4702 Oral Immunotherapy for Food Allergy

**Convention Center, Level Two, Room 501A**
*Jacqueline A. Pongracic, MD FAAAAI*
*Anne Marie Singh, MD*

Upon completion of this session, participants should be able to: Discuss and compare published evidence regarding food OIT; Discuss and appraise safety of food OIT; Discuss and compare desensitization and tolerance.

### 4703 So the Patient Has Eosinophilia: What Next?

**Convention Center, Level Two, Room 501B**
*Gerald J. Gleich, MD FAAAAI*
*Amy D. Klion, MD*

Upon completion of this session, participants should be able to: Identify the causes of eosinophilia and the definitions of hypereosinophilic syndrome (HES); Discuss the varied therapy of eosinophilia based on the underlying disorder.

### 4704 State-of-the-Art: Understanding the Genetics of CVID: Bench to Bedside

**Convention Center, Level Two, Room 501C**
*Michael Keller, MD*
*John Sleasman, MD*

Upon completion of this session, participants should be able to: Discuss the current field of next generation sequencing and utility of this technology in the study of complex medical disorders including CVID; Describe the current understanding of the genetics of CVID, including newly discovered genes; Define the relationship between CVID genetics and patient prognosis and medical decision making; Discuss how understanding the genetics of CVID affects family planning, testing of minor children and genetic counseling.

### 4705 Evaluation and Management of the Difficult-to-Treat Rhinitis Patient

**Convention Center, Level Two, Room 504**
*Jonathan A. Bernstein, MD FAAAAI*
*Mark S. Dykewicz, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the consensus definitions of chronic rhinitis subtypes; Describe clinical tools readily available that will improve diagnosis of chronic rhinitis subtypes; Identify how improved diagnosis can lead to improved treatment outcomes of patients with chronic rhinitis.

### 4706 Mastocytosis Mimics: Cutting Through the Clutter

**Convention Center, Level Two, Room 505**
*Joseph H. Butterfield, MD FAAAAI*
*Todd M. Wilson, DO FAAAAI*

Upon completion of this session, participants should be able to discuss mastocytosis mimic and approaches to distinguish related disorders.

### 4707 Approaching the Pediatric Patient with Recurrent Infections

**Convention Center, Level Two, Room 506**
*Kenneth Paris, MD MPH*
*Richard L. Wasserman, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the differential diagnosis of recurrent infections in children; Discuss how to initiate the appropriate evaluation of patients with recurrent infections based on their histories; Appreciate the variety of treatment modalities that are used in patients with recurrent infections.

### 4708 Dysregulation Coagulation System in Airway Inflammation and Remodeling

**Convention Center, Level Two, Room 507**
*David B. Corry, MD*
*Robert P. Schleimer, PhD FAAAAI*

Upon completion of this session, participants should be able to describe the pathophysiology of the coagulation system and its role in airway inflammation.

### 4709 Bacterial Influence on Asthma

**Convention Center, Level Two, Room 510**
*Yvonne Huang, MD*
*Kirsten Kloepfer, MD MS*

Upon completion of this session, participants should be able to: Identify bacteria linked to asthma development; Identify how bacteria alter the immune system; Identify methods to prevent and/or treat bacterial changes associated with asthma.

### 4710 Mouse Models of Asthma, Food Allergy and Skin Disease

**Convention Center, Level Two, Room 511A**
*Paul Bryce, PhD*
*James J. Lee, PhD*

Upon completion of this session, participants should be able to: Discuss examples of mouse models for study of food allergy and allergic skin diseases; Discuss the strengths and weaknesses of the major mouse models of allergic diseases of the airways, GI tract and skin.

## Pro/Con Debate

### 4752 Rhinitis Guidelines Around the Globe: The Differences in the U.S. Practice Parameters on Rhinitis Translate into Better Clinical Applicability Than the ARIA 2015 and Integrated Care Pathways

3:30 to 4:30 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.00 CME/CE
*Moderator: Daniel L. Hamilos, MD FAAAAI*
***This Session Requires Pre-Meeting Reading.***
**Pro**
*Dana V. Wallace, MD FAAAAI*
**Con**
*Jean Bousquet, MD PhD*
**3:30 Question & Answer**

Upon completion of this session, participants should be able to: Discuss, compare and contrast U.S. practice parameters on rhinitis with guidelines from around the globe; Discuss the ARIA 2015 report as compared to the Integrated Care Pathways approach and determine which is best for patient care; Discuss and evaluate the EPOS and U.S. rhinosinusitis guidelines to determine how their convergence could enhance patient care.

## Workshops

### 4801 Update from the U.S. Food and Drug Administration (FDA)

4:45 to 6:00 pm
**Convention Center, Level Two, Room 403A**
Credit: 1.25 CME/CE
*Moderator: Jay E. Slater, MD*

**4:45** **Year-in-Review: An Update from the U.S. Food and Drug Administration**
*Badrul A. Chowdhury, MD PhD FAAAAI*

**5:00** **Question & Answer**

**5:10** **Development of New Treatments in Severe Asthma**
*Sofia Chaudhry, MD*

**5:25** **Question & Answer**

**5:35** **Perioperative Drug Allergy**
*Erika Torjusen, MD*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Identify recent issues of scientific importance at the FDA and their clinical implications; Discuss and recognize new data regarding potential treatment options in severe asthma; Discuss issues regarding perioperative drug allergy and its clinical implications.

### 4802 Advocacy: A Success Story

4:45 to 6:00 pm
**Convention Center, Level Two, Room 403B**
Credit: 1.25 CME/CE
*Moderator: Theodore M. Freeman, MD FAAAAI*

**4:45** **Unassigned Epinephrine: The Federal Effort**
*Lynn Morrison*

**4:55** **Legislation in Florida**
*Miguel J. Lanz, MD FAAAAI*

**5:05** **Legislation in Texas**
*Wesley W. Stafford, MD FAAAAI*

**5:15** **How to Advocate**
*Emily Graham, RHIA CCS-P*

**5:30** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss and outline the useful tactics for advocacy; Discuss and critique advocacy efforts.

### 4803 New Biological Therapies on the Horizon for Severe Allergic Diseases of the Airways and Skin

4:45 to 6:00 pm
**Convention Center, Level Two, Room 404AB**
Credit: 1.00 CME/CE
*Moderators: David D. Chaplin, MD PhD FAAAAI*
*Robert P. Schleimer, PhD FAAAAI*

**4:45** **Prospects for New Biological Therapies for Severe Asthma**
*Mark C. Liu, MD FAAAAI*

**5:15** **Question & Answer**

**5:22** **New Biological Therapies on the Horizon for Allergic Skin Diseases**
*Mark Boguniewicz, MD FAAAAI*

**5:52** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss new pathways that are being targeted using biological therapies in allergic airway diseases; Discuss the rationale for novel biologic therapies targeting allergic diseases of the skin.

### 4804 Oral Food Challenges in the Office: Opportunities for Early Introduction of Native and Heated Food Proteins to Prevent Food Allergy and Accelerate Tolerance Development

4:45 to 6:00 pm
**Convention Center, Level One, Petree Hall D**
Credit: 1.25 CME/CE
*Moderator: Anna H. Nowak-Wegrzyn, MD FAAAAI*

**4:45** **Who, Where and How to Challenge?**
*S. Allan Bock, MD FAAAAI*

**5:00** **Question & Answer**

**5:10** **Special Considerations for Challenges in Infants and Adults**
*J. Andrew Bird, MD FAAAAI*

**5:25** **Question & Answer**

**5:35** **Baked Milk and Egg Challenges**
*Stephanie A. Leonard, MD*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the rationale for selecting patients for oral food challenges and the criteria for implementation of safety and monitoring; Describe how to conduct baked milk and egg challenges; Describe how to conduct oral food challenges to peanut in infants.

### 4805 Experimental Models of Allergic Rhinitis: Evaluation and Utilization

4:45 to 6:00 pm
**Convention Center, Level Two, Room 408A**
Credit: 1.25 CME/CE
*Moderator: Fuad M. Baroody, MD FAAAAI*

**4:45** **Environmental Exposure Unit Studies of Allergic Rhinitis**
*Anne K. Ellis, MD MSc FAAAAI*

**5:00** **Nasal Allergen Challenge: Optimal Biomarkers to Study Allergic Rhinitis**
*Helen Neighbour, MB BS MRCP PhD*

**5:15** **Nasal Allergen Challenge: Optimal Methodologies**
*Martin Wagenmann, MD FAAAAI*

**5:30** **Panel Discussion with Question & Answer**

Upon completion of this session, participants should be able to: Discuss and increase the knowledge regarding the methodology of experimental models of allergic rhinitis (environmental exposure chambers) and their application in the development of novel therapeutics for the treatment of allergic rhinitis; Review the most updated data regarding biomarkers used in the study of allergic rhinitis; Discuss the optimal methodology for the nasal allergen challenge.

## Workshops (continued)

### 4806 Clinical Quality Measures for Allergy/ Immunology

4:45 to 6:00 pm
**Convention Center, Level Two, Room 408B**
Credit: 1.25 CME/CE
*Moderator: Kaiser G. Lim, MD FAAAAI*

**4:45** **The Affordable Care Act: Changing from Volume-Based to Value-Based Reimbursement**
*John Oppenheimer, MD FAAAAI*

**5:00** **Question & Answer**

**5:10** **Process Measures, Outcomes Measures and Evidence Based Guidelines**
*David M. Lang, MD FAAAAI*

**5:25** **Question & Answer**

**5:35** **The AAAAI Qualified Clinical Data Registry**
*Linda Cox, MD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how the Affordable Care Act will impact clinical practice reimbursement; Discuss how process measures, outcomes measures and evidence-based guidelines implementation will impact clinical practice; Discuss how the AAAAI Qualified Clinical Data Registry may benefit your clinical practice.

### 4807 T Cell Plasticity and Functional Impact on Allergic Diseases

4:45 to 6:00 pm
**Convention Center, Level Two, Room 409AB**
Credit: 1.25 CME/CE
*Moderator: Larry Borish, MD FAAAAI*

**4:45** **Regulatory Affairs of GATA3**
*Elizabeth Wohlfert, PhD*

**5:00** **Question & Answer**

**5:10** **T Cell Lineage Commitment and Specification**
*Kiyoshi Hirahara, MD PhD*

**5:25** **Question & Answer**

**5:35** **Th2 Lineage Heterogeneity**
*Calman Prussin, MD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of GATA3 in regulatory T Cell function and its role in therapeutics; Describe the commitment of CD4 T Cells to specific lineages; Describe the heterogeneity and inter-convertibility of T Cell lineages.

### 4808 Autologous Correction of Primary Immunodeficiency Diseases

4:45 to 6:00 pm
**Convention Center, Level Two, Theatre (Room 411)**
Credit: 1.25 CME/CE
*Moderator: Troy R. Torgerson, MD PhD*

**4:45** **Update on Gene Therapy**
*Harry L. Malech, MD*

**5:00** **Question & Answer**

**5:10** **Potential Applications for Induced-Pluripotent Stem Cells**
*Katja G. Weinacht, MD PhD*

**5:25** **Question & Answer**

**5:35** **Novel Tools for Gene Editing**
*Caroline Y. Kuo, MD*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss current progress in gene therapy trials for primary immunodeficiency diseases; Discuss potential uses of induced pluripotent stem cells for both diagnosis and treatment of primary immunodeficiency diseases; Describe the Cas9/CRISPR system and potential methods for site-specific correction of genetic defects in autologous cells.

### 4809 Indoor Air Pollution: New Risks and Health Effects

4:45 to 6:00 pm
**Convention Center, Level Two, Room 502A**
Credit: 1.25 CME/CE
*Moderators: Kent Pinkerton, PhD*
*Mark R. Windt, MD*

**4:45** **Environmental and Biological Impact of Nanoparticles and Manufacturing**
*Kent Pinkerton, PhD*

**5:00** **Question & Answer**

**5:10** **Indoor Air Pollution in the Developing World**
*William J. Martin II, MD*

**5:25** **Question & Answer**

**5:35** **Respiratory Health Risks of Indoor Dampness**
*Mark J. Mendell, PhD*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the current worldwide trends and impacts of pollution; Discuss the association between damp buildings and respiratory disease; Discuss and list possible new health effects from nanotechnology and manufacturing.

## Workshops (continued)

### 4810 Sensitization to Food Allergens: Role of the Adaptive and Innate Immune System

4:45 to 6:00 pm
**Convention Center, Level Two, Room 502B**
Credit: 1.25 CME/CE
*Moderator: Jonathan M. Spergel, MD PhD FAAAAI*

**4:45** **T Cell Response to Food Allergens: A Fine Balance Between Tolerance and Allergy**
*Cecilia Berin, PhD*

**5:00** **Question & Answer**

**5:10** **Sensitization Through the Skin: Relevance to Disease Pathogenesis**
*Sara Brown, MBChB MD*

**5:25** **Question & Answer**

**5:35** **Innate Immune Cells and Sensitization to Specific Allergen: Lessons Learned From Eosinophilic Esophagitis**
*Antonella Cianferoni, MD PhD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the role of T Cells in specific allergen sensitization and tolerance; Describe how skin and epithelium may favor sensitization to major allergens; Describe the role of innate immune cells (iNKT cells, basophils) in specific food allergy development.

### 4811 Siglecs in Immunity And Inflammation

4:45 to 6:00 pm
**Convention Center, Level Two, Room 503**
Credit: 1.25 CME/CE
*Moderator: Nives Zimmermann, MD FAAAAI*

**4:45** **Role of Sialoadhesin in Immune Responses**
*James C. Paulson, PhD*

**5:00** **Question & Answer**

**5:10** **Siglecs and Tumor Immunity**
*Ajit P. Varki, MD*

**5:25** **Question & Answer**

**5:35** **Siglecs and Control of Mucosal Inflammation**
*Bruce S. Bochner, MD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Describe the role of glycosylated proteins in immune responses; Discuss the role of siglecs in tumor immunity; Discuss how siglecs control mucosal inflammation.

### 4812 Viral Infection and Innate Immune Modulation: Implications for Allergy and Asthma

4:45 to 6:00 pm
**Convention Center, Level Two, Room 515A**
Credit: 1.25 CME/CE
*Moderator: Mitchell H. Grayson, MD FAAAAI*

**4:45** **Viral Alteration of the Innate Immune System**
*Michael Teng, PhD*

**5:00** **Question & Answer**

**5:10** **Host Factor Variability in Response to Viral Infection**
*Allan Brasier, MD*

**5:25** **Question & Answer**

**5:35** **Innate Immune Dysfunction and the Development of Antiviral Adaptive Immunity**
*R. Stokes Peebles, Jr., MD FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how viruses can alter innate immune responses; Describe the differences in innate immune responses between individuals and their effects on antiviral responses; Discuss how alterations of innate immunity affect the development of antiviral adaptive immune responses.

### 4813 How to Present Like a Pro and Make It Look Easy: Engaging the 21st Century Audience

4:45 to 6:00 pm
**Convention Center, Level Two, Room 515B**
Credit: 1.25 CME/CE
*Moderator: Mary Beth Fasano, MD FAAAAI*

**4:45** **How to Structure an Engaging Presentation Using Adult Learning Principles**
*Asriani M. Chiu, MD FAAAAI*

**5:00** **Question & Answer**

**5:10** **Presenting Your Graphic Data Effectively for Scientific Presentations**
*Gerald B. Lee, MD*

**5:25** **Question & Answer**

**5:35** **Beyond PowerPoint: When Other Tools Can Tell the Story**
*Tao T. Le, MD MHS FAAAAI*

**5:50** **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how to structure an engaging presentation using adult learning principles; Discuss how to present your graphic data effectively for scientific presentations; Describe how to use tools other than PowerPoint to deliver effective presentations.

## Workshops (continued)

### 4814 Pulmonary Function Testing (PFT) TICKET

4:45 to 6:00 pm

**Convention Center, Level Two, Room 518**

Pre-registration and ticket required.

Credit: 1.25 CME/CE

*Moderator: Mark F. Sands, MD FAAAAI*

**Instructor**

*Donald W. Cockcroft, MD FAAAAI*

**4:45 Small Group Discussion**

**Instructors**

*Riccardo Polosa, MD PhD FAAAAI*
*Mark F. Sands, MD FAAAAI*
*Donald P. Tashkin, MD*
*John M. Weiler, MD FAAAAI*
*Eric Kleerup, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe PFT manifestations of obstructive and restrictive lung disease; Recognize obstructive and restrictive lung disease patterns on the flow volume loop; Recognize variable and fixed obstructive patterns including vocal cord dysfunction and describe technically acceptable PFTs; Recognize fixed vs. reversible obstruction; Differentiate parenchymal from extrinsic restrictive defects.

### 4815 Update on Asthma Treatment: Evidence-Based Recommendations for 2016

4:45 to 6:00 pm

**Convention Center, Level One, Concourse Hall, Room 152**

Credit: 1.25 CME/CE

*Moderator: Steve N. Georas, MD*

**4:45 Panel Discussion**

*Matthew A. Rank, MD FAAAAI*
*Sally M. Seymour, MD*
*Stanley J. Szefler, MD FAAAAI*

**5:30 Question & Answer**

Upon completion of this session, participants should be able to: Describe current controversies about the use of LABA in asthma, including FDA guidelines about step-down therapy, and describe post-marketing studies currently being conducted to examine LABA safety by comparing LABA/ICS combination inhalers with ICS alone; Discuss and examine the clinical evidence behind use of LAMA in asthma and evidence-based criteria guiding patient selection; Discussthe basis for and practical approaches to step-down therapy once asthma control has been achieved.

### 4816 New Approaches to Induce Tolerance and Modify the Natural History of Allergic Diseases V

4:45 to 6:00 pm

**Convention Center, Level One, Petree Hall C**

Credit: 1.25 CME/CE

*Moderator: Paul Bryce, PhD*

**4:45 Immunological Routes We Can Influence to Enhance Tolerance**

*Mubeccel Akdis, MD PhD*

**5:00 Question & Answer**

**5:10 Epicutaneous Immunotherapy: Could This be the Food Allergy Treatment for the Future?**

*A. Wesley Burks, MD FAAAAI*

**5:25 Question & Answer**

**5:35 B and T Cell Epitope Peptides: Ultra-Short AIT Schedules Can be Effective**

*Rudolf Valenta, MD*

**5:50 Question & Answer**

Upon completion of this session, participants should be able to: Identify new studies into alternatives to SCIT and SLIT and analyze trial results; Investigate the immunological bases for allergy and determine how to influence them from very early inception onward; Develop new methods of administration, including epicutaneous immunotherapy.

FRIDAY

# Scientific Abstract Sessions

## Cellular Effectors of Allergy and Disturbed Immunity

### Basic Science Workgroup

1351
Friday, March 4th, 2016, 12:30 PM - 1:45 PM

1 **Group 2 Innate Lymphoid Cells Directly Induce B Cell Activation in Humans**
**Richard Kasjanski, MS**[1], Atsushi Kato, PhD[1], Julie A Poposki, MS[1], Bruce S. Bochner, MD, FAAAAI[1], Yun Cao, BSc[1], James E. Norton, MS[1], Lydia Suh, BSc[1], Roderick G. Carter, BSc[1], Robert C. Kern, MD[2], Stephanie S. Smith, MD[2], David B. Conley, MD[2], Anju T. Peters, MD[1], Leslie C. Grammer, MD[1], Whitney W. Stevens, MD, PhD[1], Kathleen E. Harris, BSc[1], Bruce Tan, MD[2], Robert P. Schleimer, PhD[1] and Kathryn E. Hulse, PhD[3], [1]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

2 **Novel IL-9-Producing Mucosal Mast Cells Promote IgE-Mediated Food Allergy**
**Yui-Hsi Wang, PhD**, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

3 **Follicular Helper T (Tfh) Cells Are Indispensable for IgE Antibody Responses to Airborne Allergens**
**Takao Kobayashi, PhD**[1], Koji Iijima, PhD[1], Chien-Chang Chen[1], Alexander L Dent, PhD[2] and Hirohita Kita, MD[1], [1]Mayo Clinic, Rochester, MN, [2]Indiana University, Indianapolis, IN

4 **Copy Number Variation in Donor KIR Genes and Motifs Titrates Natural Killer (NK) Cells' Functional Response to EBV Infections and Influences the Risk of Developing Post-Transplant Lymphoproliferative Disease (PTLD) after Allogeneic HCT**
**Rehan M. Faridi, PhD**[1], Taylor Kemp, BHSc[1], Poonam Dharmani, PhD[1], Victor Lewis, MD[2], Noureddine Berka, PhD[3], Jan Storek, MD, PhD[1] and Faisal Khan, PhD[1], [1]University of Calgary, Calgary, AB, Canada, [2]Alberta Children's Hospital, Calgary, AB, Canada, [3]Calgary Laboratory Services, Calgary, AB, Canada

5 **Allergen-Specific CD4+ T Cells in Human Asthma Have an Increased Capacity to Respond to Innate Type 2 Signals**
**Morris F. Ling, MD**[1,2], Sabina A. Islam, MD[1,2], Daniel L. Hamilos, MD, FAAAAI[1,2], Josalyn L. Cho, MD[1,2], Jason W. Griffith, MD, PhD[1,2], R. Scott Harris, MD[1,2], William W. Kwok, PhD[3], James J. Moon, PhD[1,2], Benjamin D. Medoff, MD[1,2] and Andrew D. Luster, MD, PhD[1,2], [1]Massachusetts General Hospital, Boston, MA, [2]Harvard Medical School, Boston, MA, [3]Benaroya Research Institute at Virginia Mason, Seattle, WA

### Asthma Epidemiology

### ADT

2201
Saturday, March 5th, 2016, 9:45 AM - 10:45 AM

6 **Psychosocial Associations with Life-Threatening Asthma in Inner City Children**
**Mary E. Bollinger, DO**[1], Arlene Butz, ScD, CRNP[2], Cassie Lewis-Land, MS[2] and Tricia Morphew, MSc[3], [1]Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD, [2]Johns Hopkins University School of Medicine, Baltimore, MD, [3]Morphew Consulting, LLC, Manhattan Beach, CA

7 **Prevalence of Asthma-Chronic Obstructive Pulmonary Disease (COPD) Overlap Syndrome in Brazilian Elderly Patients**
**Tamara A de Freitas**[1], Antonio Godinho Netto[1], Beatriz Aarestrup[2] and Fernando M. Aarestrup, MD, PhD[3], [1]SUPREMA, [2]Universidade Federal de juiz de Fora- MG - Brazil, Brazil, [3]Universidade Federal de Juiz de Fora - MG- Brazil, Juiz de Fora, Brazil

8 **Negative Skin Prick Test Predicts Asthma Remission in Preschool Children**
**Noppasorn Sitthisarunkul, MD**[1], Pasuree Sangsupawanich, MD, PhD[2] and Wanaporn Anuntaseree, MD[2], [1]Prince of Songkla University, Hat-yai, Songkhla Province, Thailand, [2]Prince of Songkla University, Hat-yai, Thailand

9 **Early Diagnosis of Asthma and Allergies Among Wroclaw Children**
**Andrzej M. Fal**[1,2], Dorota Kiedik[3], Agnieszka Muszynska[3] and Iwona Pirogowicz[3], [1]Wroclaw Medical University, [2]National Institute of Public Health, [3]Wroclaw Medical University, Poland

10 **Spice Allergy: Asthma in the Food Industry**
**Mariangelica Bermudez Martinez**[1], Ricardo Moreno-Borque[2], Paula Sanchez-Lopez[1] and Pilar Gajate- Fernandez[1], [1]Hospital Rey Juan Carlos, Mostoles, Spain, [2]Hospital Rey Juan Carlos, Spain

11 **Characteristics of Asthma Exacerbations in the Emergency Department at a Tertiary Hospital**
**Beatriz Pola**, La Paz Hospital, Madrid, Madrid, Spain

12 **The Association with Exercise Capacity and Anemia in Chronic Airway Disease**
**Hyun Jung Jin, MD**, Yeungnam University College of Medicine, Daegu, South Korea and Jin Hong Chung, Yeungnam University College of Medicine, South Korea

13 **Retrospective Analysis of Allergy Skin Testing Results and Relationship to Asthma in the Tucson Adult Population**
**Ryan Buckley, MD**[1], Snehal Patel, DO[1] and Tara F. Carr, MD[2], [1]University of Arizona, Tucson, AZ, [2]Banner University Medical Center, Division of Pulmonary, Allergy, Critical Care and Sleep Medicine, Tucson, AZ

14 **Persisting Long Term Benefits of Smoking Abstinence and Reduction in Asthmatic Smokers Who Have Switched to Electronic Cigarettes**
**Davide Campagna, MD**[1,2], Jaymin B. Morjaria[3], Pasquale Caponnetto[4], Massimo Caruso, PhD, FIT AAAAI[1], Maria Domenica Amaradio[2], Giovanni Ciampi[5], Cristina Russo, MD[5] and Riccardo Polosa, MD, PhD, FAAAAI[1,4], [1]Department of Clinical and Experimental Medicine, University of Catania, Italy, [2]Internal and Emergency Medicine, "Policlinico - V. Emanuele", University of Catania, Italy, [3]Dept of Academic Respiratory Medicine, University of Hull, Castle Hill Hospital, Cottingham, East Yorkshire, United Kingdom, HU16 5JQ, [4]Centro per la Prevenzione e Cura del Tabagismo (CPCT), "Policlinico - V. Emanuele", University of Catania, Italy, [5]Accident and Emergency Department, Garibaldi-Central Hospital, Catania, Italy

15 **Cost and Healthcare Utilization in Asthma Patients with High Oral Corticosteroid Use**
**Karina Raimundo, BPharm, MS**[1], Ka M Ngai, MD, MPH[2], Eunice Chang, PhD[2], Michael Broder, MD, MSHS[2] and

Noelle M. Griffin, PhD[3], [1]Genentech, Inc., South San Francisco, CA, [2]Partnership for Health Analytic Research, LLC, Beverly Hills, CA, [3]Genentech, South San Francisco, CA

**16 Lung Function, Allergic Sensitization and Respiratory Symptoms Among Children and Adolescents with Sickle Cell Disease**

**Gustavo Wandalsen, MD**[1], Maíra Moya[2], Carolina Cobra[2], Cíntia Jonhston[2], Josefina Braga[2], Dirceu Sole, MD, PhD, FAAAAI[1], Fernanda C Lanza[2] and Andrea Angel[2], [1]Federal University of São Paulo, São Paulo, Brazil, [2]Federal University of Sao Paulo

**17 Risk of Developing Rheumatoid Arthritis in Adults with Asthma: A Population-Based Case-Control Study**

**Mary C Rolfes**[1], Youn Ho Shin, MD[2,3], Chung I. Wi, MD[4], Cynthia S Crowson, MS[3], Richard S Pendegraft[3], Euijung Ryu, PhD[3] and Young J. Juhn, MD, MPH[4], [1]Mayo Medical School, Rochester, MN, [2]Department of Pediatrics, CHA Gangnam Medical Center, CHA University School of Medicine, Seoul, Korea, South Korea, [3]Mayo Clinic, Rochester, MN, [4]Dept of Pediatric and Adolescent Medicine, Mayo Clinic, Rochester, MN

**18 Treatment Patterns of Recurrent Wheezing in Infants: Two Surveys Separated By Seven Years**

**Herberto J. Chong Neto, MD, PhD, FAAAAI**[1], Nelson A. Rosario, MD, PhD, FAAAAI[1], Dirceu Sole, MD, PhD, FAAAAI[2], and Javier Mallol, MD, PhD[3], [1]Federal University of Paraná, Curitiba, Brazil, [2]Federal University of São Paulo, São Paulo, Brazil, [3]University of Santiago de Chile.

**19 The Association Between Pollutant Levels and Asthma-Related Emergency Department Visits in the Bronx after the World Trade Center Attacks**

**Kunwar Ishan Sharma**[1], Jennifer Toh, MD[2], Tulsi Desai[3], Mili Shum, MD[4], Priyank Patel[3], David L. Rosenstreich, MD, FAAAAI[2] and Sunit P. Jariwala, MD[2], [1]Einstein/Montefiore, [2]Albert Einstein/Montefiore Medical Center, Bronx, NY, [3]Albert Einstein College of Medicine, Bronx, NY, [4]Montefiore Medical Center, Bronx, NY

**20 An Analysis of Obesity and Asthma Morbidity in Patients Managed at the Children's Hospital at Montefiore's Asthma Center**

**Gary K. Soffer, MD**, Children's Hospital at Montefiore, Bronx, NY, Jennifer Toh, MD, Albert Einstein/Montefiore Medical Center, Bronx, NY, Sunit P. Jariwala, MD, Division of Allergy and Immunology, Department of Medicine, Montefiore Medical Center, Bronx, NY and Deepa Rastogi, MD, Division of Pulmonology, Children's Hospital at Montefiore

**21 Predicting Factors for Asthma Remission in Children**

**Natcha Siripattarasopon, MD**, Punchama Pacharn, MD, Orathai Jirapongsananuruk, MD, Nualanong Visitsunthorn, MD, Pakit Vichyanond, MD, FAAAAI and Jittima Veskitkul, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand

**22 Risk Factors for Asthma at Age 7 to 8 in Early Childhood Wheezers: Results from a Japanese Asthma Cohort Study**

**Mayumi Furukawa, MD**[1], Mari Sasaki, MD[1], Hiroko Watanabe, MD[2], Koichi Yoshida, MD[1], Takao Fujisawa, MD, PhD, FAAAAI[3], Motohiro Ebisawa, MD, PhD, FAAAAI[4], Hiroshi Odajima, MD, PhD[5] and Akira Akasawa, MD, PhD[1], [1]Division of Allergy, Tokyo Metropolitan Children's Medical Center, Tokyo, Japan, [2]National Hospital Organization Kanagawa Hospital, Kanagawa, Japan, [3]Allergy Center and Institute for Clinical Research, Mie National Hospital, Japan, [4]Clinical Research Center for Allergy and Rheumatology, Sagamihara National Hospital, Sagamihara, Japan, [5]Fukuoka National Hospital, Fukuoka, Japan

**23 Impact of Asthma Exacerbations on Health Status in Patients with Severe Asthma**

**Sarah Cockle**, GlaxoSmithKline, Value Evidence and Outcomes, Stockley Park, United Kingdom, Linda Nelsen, GlaxoSmithKline, King of Prussia, PA, Miriam Kimel, Evidera, Bethesda, MD, Frank C. Albers, MD, PhD, GlaxoSmithKline, Research Triangle Park, NC and Paul Jones, GlaxoSmithKline, Stockley Park, United Kingdom

**24 Persistence of Airflow Obstruction in Asthmatic Children**

**Lori Banka, DO**[1], Yang Lu, PhD[2], Lyne G. Scott, MD[3], Salima A. Thobani, MD[4], Marilyn Li, MD[5], Cindy Xi, MD[6] and Kenny Y. Kwong[6], [1]LAC+USC Medical Center, Los Angeles, CA, [2]Harbor-UCLA Medical Center, [3]University of Southern California, CA, [4]University of Southern California, Los Angeles, [5]University of Southern California, [6]LAC+USC Medical Center

**25 Characteristics That Distinguish Difficult-to-Control Asthma in Inner-City Children**

**Jacqueline A. Pongracic, MD, FAAAAI**[1], Rebecca A. Zabel, MS[2], Denise C. Babineau, PhD[2], Edward M. Zoratti, MD, FAAAAI[3], George T. O'Connor, MD[4], Robert A. Wood, MD, FAAAAI[5], Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[6], Carolyn Kercsmar, MD[7], Rebecca S. Gruchalla, MD, PhD, FAAAAI[8], Meyer Kattan, MD[9], Stephen J. Teach, MD[10], Samuel J. Arbes Jr.[2], William W. Busse, MD, FAAAAI[11], Peter J. Gergen, MD, MPH[12], Alkis Togias, MD, FAAAAI[13], Cynthia Visness, PhD, MPH[2] and Andrew H Liu, MD, FAAAAI[14,15], [1]Ann and Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [2]Rho Federal Systems Division Inc, Chapel Hill, NC, [3]Henry Ford Health System, Detroit, MI, [4]Boston University School of Medicine, Boston, MA, [5]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [6]Cincinnati Children's Hospital, Cincinnati, OH, [7]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [8]UT Southwestern Medical Center, Dallas, TX, [9]College of Physicians and Surgeons, Columbia University, New York, NY, [10]Children's National Health System, Washington, DC, [11]University of Wisconsin School of Medicine and Public Health, Madison, WI, [12]AAIB/DAIT/NIH, Bethesda, MD, [13]NIAID/NIH, Bethesda, MD, [14]Children's Hospital Colorado, Aurora, CO, [15]National Jewish Health, Denver, CO

**26 Income Is an Independent Risk Factor for Worse Asthma Outcomes**

**Juan Carlos Cardet, MD**[1], Tonya S. King[2], Margee Louisias, MD[3], Mario Castro, MD, MPH[4], Christopher D. Codispoti, MD, PhD[5,6], Ryan Dunn, MD[7], Brenda L. Giles, MD[8], Fernando Holguin, MD, MPH[9], John Lima, MD[10], Dayna Long, MD[11], Njira Lugogo, MD[12], Sharmilee M. Nyenhuis, MD, FAAAAI[13], Victor E. Ortega, MD[14], Sima Ramratnam, MD[15], Michael E. Wechsler, MD, MMSc[16], Elliot Israel, MD, FAAAAI[3] and Wanda Phipatanakul, MD, MS[17], [1]Medicine, Brigham and Women's Hospital, Boston, MA, [2]Penn State University, Hershey, PA, [3]Brigham and Women's Hospital, Boston, MA, [4]Division of Pulmonary and Critical Care Medicine, Department of Medicine, Washington University School of Medicine, Saint Louis, MO, [5]Department of Immunology and Microbiology, Allergy/Immunology Section, Rush University Medical Center, Chicago, IL, [6]Rush University Medical Center, Chicago, IL, [7]National Jewish, [8]University of Chicago, [9]The University of Pittsburgh Asthma Institute at UPMC and the University of Pittsburgh School of Medicine, Department of Pulmonary, Allergy and Critical Care Medicine, Pittsburgh, PA, [10]American Lung Assn, Jacksonville, FL, [11]University of California at San Francisco, [12]Duke University, [13]MC 719, University of Illinois at Chicago, Chicago, IL, [14]Wake Forest University, [15]Pediatric Pulmonary Clinic, [16]National Jewish Health, Denver, CO, [17]Division of Pediatric Allergy/Immunology, Boston Children's Hospital, Harvard University School of Medicine, Boston, MA

**27 Higher Immunoglobulin E (IgE) Levels Are Associated with Greater Emergency Care and Other Healthcare Utilization Among Asthma Patients in a Real-World Data Setting**

**Allan T. Luskin, MD**[1], Evgeniya Antonova, MS, PhD[2], Michael Broder, MD, MSHS[3], Eunice Chang, PhD[3] and Theodore A. Omachi, MD, MBA[2], [1]University of Wisconsin, Madison, Madison, WI, [2]Genentech, Inc., South San Francisco, CA, [3]Partnership for Health Analytic Research, LLC, Beverly Hills, CA

SATURDAY

SATURDAY

**28** **Impact of a Mobile Health and Sensor-Driven Asthma Management Pilot Study on Symptoms, Control, and Self-Management**
**David Van Sickle, PhD**[1], Meredith Barrett, PhD[1], Olivier Humblet, ScD[1], Jason Su, PhD[2], Kelly Henderson[1] and Ted Smith, PhD[3], [1]Propeller Health, [2]University of California Berkeley, [3]Louisville Metro Government Department of Economic Growth and Innovation

**29** **Is Unrecognized Food Allergy or Aeroallergen Sensitization Responsible for Emergency Department Visits Attributed to Asthma?**
**Jennifer Dantzer, MD**, Torie Grant, MD, Elizabeth Matsui, MD, MHS and Corinne Keet, MD, PhD, Division of Pediatric Allergy/Immunology, Johns Hopkins School of Medicine, Baltimore, MD

**30** **Insulin Resistance Modifies the Association Between Obesity and Current Asthma in Adults**
**Samuel Y. Ash, MD**[1], Juan Carlos Cardet, MD[2], Tope Kusa, MBBS, MPH[3], Carlos Camargo, Jr, MD, DrPH[4] and Elliot Israel, MD, FAAAAI[1], [1]Brigham and Women's Hospital, Boston, MA, [2]Medicine, Brigham and Women's Hospital, Boston, MA, [3]Harvard School of Public Health, Boston, MA, [4]Department of Emergency Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA

**31** **Identification of Pathways to Asthma Severity in Inner-City Children**
**Andrew H Liu, MD, FAAAAI**[1,2], Denise C. Babineau, PhD[3,4], Rebecca A. Zabel, MS[4], Edward M. Zoratti, MD, FAAAAI[5,6], Jacqueline A. Pongracic, MD, FAAAAI[7], George T. O'Connor, MD[8], Robert A. Wood, MD, FAAAAI[9], Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[10,11], Carolyn Kercsmar, MD[12], Rebecca S. Gruchalla, MD, PhD, FAAAAI[13], Meyer Kattan, MD[14,15], Stephen J. Teach, MD[16], Samuel J. Arbes Jr.[3], Peter J. Gergen, MD, MPH[17,18], Alkis Togias, MD, FAAAAI[18], Cynthia Visness, PhD, MPH[3,4] and William W. Busse, MD, FAAAAI[19], [1]Children's Hospital Colorado, University of Colorado School of Medicine, Aurora, CO, [2]National Jewish Health, Denver, CO, [3]Rho, Inc, Chapel Hill, NC, [4]Rho Federal Systems Division Inc, Chapel Hill, NC, [5]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI, [6]Henry Ford Health System, Detroit, MI, [7]Ann and Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [8]Boston University School of Medicine, Boston, MA, [9]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [10]Cincinnati Children's Hospital, Cincinnati, OH, [11]University of Cincinnati, Cincinnati, OH, [12]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [13]UT Southwestern Medical Center, Dallas, TX, [14]NewYork-Presbyterian/Columbia, New York, NY, [15]College of Physicians and Surgeons, Columbia University, New York, NY, [16]Children's National Health System, Washington, DC, [17]AAIB/DAIT/NIH, Bethesda, MD, [18]NIAID/NIH, Bethesda, MD, [19]University of Wisconsin School of Medicine and Public Health, Madison, WI

**32** **Association Between Asthma Symptom Scores and Increased Perceived Stress and Trait Anxiety in Asthmatic Adolescents**
**Cathryn J. Luria, MD**[1], Alexandra R. Sitarik, MS[2], Suzanne Havstad, MA[2], Ganesa R Wegienka, PhD[2], Haejin Kim, MD[2,3], Edward M. Zoratti, MD, FAAAAI[2,4], Christine L.M. Joseph, PhD[2] and Andrea Cassidy-Bushrow, PhD[2], [1]Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, [2]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI, [3]Henry Ford Health System, Division of Allergy and Clinical Immunology, Detroit, MI, [4]Henry Ford Health System, Detroit, MI

**33** **Risk Factors Associated with Asthma-Related Hospitalizations Among Older Adults**
**Joy Hsu, MD, MSCI**, Centers for Disease Control and Prevention, Atlanta, GA, Jessica Chen, BA, Emory University and Maria C. Mirabelli, PhD, Centers for Disease Control and Prevention

**34** **Influence of Depression on Asthma Outcomes in Older Adults – Results from the National Health and Nutrition Examination Survey (2007-2012)**
**Pooja M. Oza, MD**[1], Minal R. Patel, PhD, MPH[2] and Alan P. Baptist, MD, MPH FAAAAI[1], [1]University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI, [2]University of Michigan School of Public Health, Ann Arbor, MI

## Asthma Therapy I: Biologics

### ADT

2202
Saturday, March 5th, 2016, 9:45 AM - 10:45 AM

**35** **Retrospective Observational Study to Evaluate Long-Term Effectiveness and Safety of Omalizumab Treatment in Real-Life Setting in Allergy Centre of Spain**
**Dorkas Margarita Marquez Hernandez**, Jose A Bastidas, Lys Herraez, Elena Mederos, A. Enriquez Matas, MD, Ruth Mielgo Ballesteros, MD and Consuelo Fernandez, Hospital Universitario 12 de Octubre, Madrid, Spain

**36** **Efficacious Use of Omalizumab in the Treatment of Cystic Fibrosis**
**Diana Pham**[1], Hoang Pham, MD 2016, BSc, BA[2], Ena Gaudet, RN[3], Shawn Aaron, MD[3,4], Stephanie Santucci, RN[1] and William H. Yang, MD[1,4], [1]Ottawa Allergy Research Corporation, Ottawa, ON, Canada, [2]University of Ottawa, Faculty of Medicine, Ottawa, ON, Canada, [3]Division of Respiratory Medicine, The Ottawa Hospital, Ottawa, ON, Canada, [4]University of Ottawa Medical School, Faculty of Medicine, Ottawa, ON, Canada

**37** **Effectiveness of Omalizumab in Asthmatics with Baseline Serum IgE>1500 IU/Ml Using a Novel Method for Assessing Response: Reality Study**
**Joseph D. Diaz, MD**[1], Jay Peters, MD[2], Yogeet Kaur, MS[1] and Harjinder Singh, MD[1], [1]Allergy, Asthma and Immunology Associates of South Texas, San Antonio, TX, [2]Univ. Texas Health Science Center San Antonio, San Antonio, TX

**38** **Impact of Visit Compliance on Response to Omalizumab Therapy in a Real-Life Clinical Setting: Reality Study**
**Harjinder Singh, MD**[1,2], Jay Peters, MD[1], Yogeet Kaur, MS[2] and Joseph D. Diaz, MD[2], [1]Univ. Texas Health Science Center San Antonio, San Antonio, TX, [2]Allergy, Asthma and Immunology Associates of South Texas, San Antonio, TX

**39** **Omalizumab Can be Effective in Patients with Allergic Bronchopulmonary Aspergillosis**
**John W. O'Quinn, MD**[1], Diana Pham[1], Hoang Pham, MD 2016, BSc, BA[2], Gonzalo G. Alvarez, MD[3,4], Istvan T. Bencze, MD[3,4], Krishna B. Sharma, MD[3,4], Mark Smith, MD[4], Shawn Aaron, MD[3,4], Jennifer Block, MD[4], Tara Keays, MD[4,5], Judith Leech, MD[3,4], David Schneidermen, MD[4,5], Jodi Cameron, RPN[1], Jennifer Forgie, RN[6], Alicia Ring, RPN[1], Stephanie Santucci, RN[1] and William H. Yang, MD[1,4], [1]Ottawa Allergy Research Corporation, Ottawa, ON, Canada, [2]University of Ottawa, Faculty of Medicine, Ottawa, ON, Canada, [3]Division of Respiratory Medicine, The Ottawa Hospital, Ottawa, ON, Canada, [4]University of Ottawa Medical School, Faculty of Medicine, Ottawa, ON, Canada, [5]Division of Internal Medicine, Monfort Hospital, Ottawa, ON, Canada, [6]Ottawa Allergy Research Coproration, Ottawa, ON, Canada

**40** **Rapid Lung Function Improvement with Lebrikizumab in Patients with Uncontrolled Asthma**
**Jonathan Corren, MD**[1], Nicola A. Hanania, MD[2], Phillip E. Korenblat, MD, FAAAAI[3], Julie K. Olssen, MD, MS[4], Nikhil Kamath, MD[5], Sarah Gray, PhD[6], Nicolas Martin[7],

Cecile T.J. Holweg, PhD[6], John G. Matthews, MB, BS, MRSCP, PhD[6], Susan L. Limb, MD[4] and Stephan Korom[7], [1]Asthma and Allergy Research Foundation, Los Angeles, CA, [2]Pulmonary, Critical Care and Sleep Medicine, Baylor College of Medicine, Houston, TX, [3]The Clinical Research Center LLC, St. Louis, MO, [4]Genentech Inc. (a member of the Roche Group), South San Francisco, CA, [5]Roche Products Limited, Welwyn Garden City, United Kingdom, [6]Genentech, Inc. (a member of the Roche Group), South San Francisco, CA, [7]F. Hoffmann-La Roche Ltd, Basel, Switzerland

**41** **Biomarkers Associated with Response in Patients Initiating Omalizumab: Baseline Levels Among Patients in the Prospective Observational Study to Evaluate Predictors of Clinical Effectiveness in Response to Omalizumab (PROSPERO) Study**

**Bradley E. Chipps, MD, FAAAAI**[1], William W. Busse, MD, FAAAAI[2], Allan T. Luskin, MD[3], Robert S. Zeiger, MD, PhD, FAAAAI[4], Benjamin Trzaskoma, MS[5], Hooman Pazwash[5], Theodore A. Omachi, MD, MBA[5] and Thomas B. Casale, MD, FAAAAI[6], [1]Capital Allergy & Respiratory Disease Center, Sacramento, CA, [2]University of Wisconsin, Madison, WI, [3]HealthyAirways, Madison, WI, [4]Departments of Allergy and Research and Evaluation, Kaiser Permanente Southern California, San Diego, CA, [5]Genentech, Inc., South San Francisco, CA, [6]University of Southern Florida, Tampa, FL

**42** **Poor Asthma Control Is Associated with Overall Daily Activity Impairment: 3-Year Data from the EXCELS Study of Omalizumab**

**Evgeniya Antonova, MS, PhD**[1], Benjamin Trzaskoma, MS[1], Theodore A. Omachi, MD, MBA[1] and Michael Schatz, MD, MS, FAAAAI[2], [1]Genentech, Inc, South San Francisco, CA, [2]Kaiser Permanente Southern California, San Diego, CA

**43** **Long-Term Safety and Efficacy of Mepolizumab in Patients with Severe Eosinophilic Asthma**

**Frank C. Albers, MD, PhD**[1], Njira Lugogo[2], Martyn J Gilson[3], Robert Price[4] and Steven W Yancey[1], [1]GlaxoSmithKline, Respiratory Medical Franchise, Research Triangle Park, NC, [2]Duke Asthma, Allergy and Airway Center, Duke University Medical Center, Durham, NC, [3]GlaxoSmithKline, Respiratory Research and Development, Uxbridge, United Kingdom, [4]GlaxoSmithKline, Clinical Statistics, Uxbridge, United Kingdom

**44** **Improvements in Asthma Quality of Life Questionnaire (AQLQ) Domains with Reslizumab in Patients with Inadequately Controlled Asthma and Elevated Blood Eosinophils**

**Jorge Maspero**, Allergy and Respiratory Research Unit, Fundación Cidea, Buenes Aires, Argentina, Joshua Jacobs, Allergy and Asthma Clinical Research, Inc, Walnut Creek, CA and Margaret Garin, Teva Pharmaceuticals, PA

**45** **Interleukin-15 Overexpression Protect Mice from the Allergen-Induced Airway Obstruction**

**Sathisha Upparahalli Venkateshaiah, PhD**, Murli Manohar, Chandrashekara Puthanapura Mahadevappa, PhD and Anil Mishra, PhD, FAAAAI, Department of Medicine, Pulmonary Diseases, Tulane Eosinophilic Disorder Center, Tulane University School of Medicine, New Orleans, LA

**46** **The Extent of Serum Periostin Reduction in Asthma Patients Treated with Lebrikizumab Is Related to Baseline Periostin Levels: A Pooled Analysis of Phase II Studies**

**David F. Choy**[1], Cecile T.J. Holweg, PhD[2], Fang Cai[3], Joseph R. Arron[1], John G. Matthews, MB, BS, MRSCP, PhD[2] and Heleen Scheerens, PhD[1], [1]Genentech, Inc., South San Francisco, CA, [2]Genentech, Inc. (a member of the Roche Group), South San Francisco, CA, [3]Genentech, Inc

**47** **Response to Omalizumab Therapy Based on Level of IgE: A Two Year Observational Study (REALITY Study)**

**Jay Peters, MD**[1], Harjinder Singh, MD[2], Yogeet Kaur, MS[2] and Joseph D. Diaz, MD[2], [1]Univ. Texas Health Science Center San Antonio, San Antonio, TX, [2]Allergy, Asthma and Immunology Associates of South Texas, San Antonio, TX

**48** **Blood Eosinophils and Serum IgE Predict Response to Omalizumab in Patients with Severe Allergic Asthma: Innovate Trial Post-Hoc Analysis**

**Volkan Manga, MD**[1], Marc Humbert, MD, PhD[2], Ratko Djukanovic[3], Steve Greenberg, MD[4], Theodore A. Omachi, MD, MBA[5], Benjamin Trzaskoma, MS[5] and Roland Buhl[6], [1]Novartis Pharma AG, Basel, Switzerland, [2]Hospital Antoine Beclere, Unversite Paris-Sud, Clamart, France, [3]University of Southampton, Southampton, United Kingdom, [4]Novartis Pharmaceutical Corporation, East Hanover, NJ, [5]Genentech, Inc., South San Francisco, CA, [6]University Hospital Mainz, Mainz, Germany

**49** **Steroid Sparing Response with Mepolizumab: Durability of Steroid Reduction in Severe Asthma**

**Charlene M. Prazma, PhD**[1], Elisabeth H. Bel, MD, PhD[2], Neil C Barnes, MD[3,4], Robert Price[5], Frank C Albers[1] and Steven W Yancey[6], [1]GlaxoSmithKline, Research Triangle Park, NC, [2]University of Amsterdam, Amsterdam, Netherlands, [3]GlaxoSmithKline, Uxbridge, United Kingdom, [4]The London School of Medicine and Dentistry, London, United Kingdom, [5]GlaxoSmith Kline, Clinical Statistics, Uxbridge, United Kingdom, [6]GlaxoSmith Kline, Respiratory Medical Franchise, Research Triangle Park, NC

**50** **Omalizumab and Severe Alergic Asthma : Assessment after 1 Year of Treatment**

**Rita Aguiar, MD**, Ana M. Mendes, MD, Ana Célia Costa, MSc, Fatima Duarte, MD, Estrella Alonso, Anabela Lopes, MD, Elisa Pedro, MD and Manuel Pereira-Barbosa, Hospital de Santa Maria - Immunoallergology Department, Lisbon, Portugal

SATURDAY

## Common Variable Immunodeficiency (CVID) and Other Hypogammaglobulinemia

### BCI

2203
Saturday, March 5th, 2016, 9:45 AM - 10:45 AM

**51** **Use of Rituximab in Late Onset Leaky SCID**

**Diana X. Nichols-Vinueza, MD**[1,2], Hung S. Luu, MD[2,3], Norberto Rodriguez Baez, MD[1,2], Yadira Rivera-Sanchez, MD[1,2], Kenneth S. Chen, MD[2,4], Lee-Jun Wong, PhD[5], Hui Yu, PhD[6] and M. Teresa De La Morena, MD[7,8], [1]Department of Pediatrics, [2]University of Texas Southwestern Medical Center Dallas, TX, [3]Department of Pathology Children's Health, [4]Center for Cancer and Blood Disorders Children's Health, [5]Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, TX, [6]Baylor Miraca Genetic Laboratories, Houston, TX, [7]The Division of Allergy and Immunology, [8]Department of Pediatrics and Internal Medicine, University of Texas Southwestern Medical Center Dallas, TX

**52** **Anti-GAD65 Positive Stiff-Person Syndrome: Novel Association with Common Variable Immune Deficiency**

**Jack G. Ghably, MD**[1], Mark Guido, MD[2], Sara Atwater, MD[2] and Guha Krishnaswamy, MD, FAAAI, CC-D, ABIHM[3], [1]University of Alabama at Birmingham, Birmingham, AL, [2]WAKE FOREST BAPTIST MEDICAL CENTER, [3]WAKE FOREST BAPTIST MEDICAL CENTER, WINSTON SALEM, NC

**53** **The Effect of Immunoglobulin Levels on CVID Enteropathy Pathogenesis and Clinical Severity**

**Meng Chen, MD**[1], Edith Schussler, MD[2], Mabel Ko, MD[2], Paul J. Maglione, MD, PhD[2] and Charlotte Cunningham-Rundles, MD, PhD[2], [1]New York University Langone Medical Center, New York, NY, [2]Icahn School of Medicine at Mount Sinai, New York, NY

SATURDAY

**54** **An Older Gentleman with Common Variable Immunodeficiency (CVID): A Question of Primary Immunodeficiency Versus Secondary Belimumab-Induced Immunodeficiency**
**Amy B Schiffman, MD**, Tulane University School of Medicine, New Orleans, LA and Laurianne G. Wild, MD, FAAAAI, Tulane University, New Orleans, LA

**55** **31 Year Old Caucasian Male Presenting with Hypogammoglobulinemia and T/B-Cell Lymphopenia**
**Nicholas L. Hartog, MD**[1], John Chrisinger, MD[1] and H. James Wedner, MD, FAAAAI[2], [1]Washington University School of Medicine, Saint Louis, MO, [2]Washington University School of Medicine, St. Louis, MO

**56** **An Unusual Presentation of Cutaneous Leukocytoclastic Vasculitis to Subcutaneous but Not IV Insulin in a Patient with Common Variable Immunodeficiency (CVID), Type I DM (T1D), and Autoimmune Enteropathy (AIE)**
**Julie J. Kim-Chang, MD**, Duke University Medical Center, Durham, NC and Patricia L. Lugar, MD, MS, Medicine, Duke University Medical Center, Durham, NC

**57** **A Case of Concurrent Hypogammaglobulinemia, Cancer, and Cardiomyopathy: A Beta-Catenin Connection?**
**Camellia Hernandez, MD** and Cecilia Mikita, MD, MPH, FAAAAI, Walter Reed National Military Medical Center, Bethesda, MD

**58** **Three Cases of Elevated IL-1beta in Common Variable Immunodeficiency (CVID) with Autoimmune Complications**
**Jennifer Toh, MD**, Albert Einstein/Montefiore Medical Center, Bronx, NY, Tatyana Gavrilova, MD, Allergy and Immunology, Montefiore Medical Center, Bronx, NY and Arye Rubinstein, MD, FAAAAI, Albert Einstein College of Medicine and Montefiore Hospital, Bronx, NY

**59** **Quality over Quantity: A New Approach to Diagnose Specific Antibody Deficiency Using a Complement Fixation Assay**
**Charles A. Filion, MD, FRCPC**, Paul J. Maglione, MD, PhD, Lin Radigan and Charlotte Cunningham-Rundles, MD, PhD, Icahn School of Medicine at Mount Sinai, New York, NY

**60** **Common Variable Immunodeficiency in Two Adult Patients Diagnosed after Lymphoma As First Presentation.**
**Maria G Kanariou**[1], Sofia Tantou[1], Marianna Tzanoudaki[1], Marina Siakantari[2] and Angelos Pefanis[3], [1]"Aghia Sophia" Children's Hospital, Athens, Greece, [2]National and Kapodistrian University of Athens, Athens, Greece, [3]"Sotiria" General and Chest Diseases Hospital, Athens, Greece

**61** **T Cell Abnormalities in Patients with Common Variable Immunodeficiency**
**Adrian M Kahn, MD, FAAAAI**[1,2], Gabriela Luque[1], Gerardo M Gatti[3,4], Brenda Ricchi[1], Juan J Garcia[1,2], Eduardo Cuestas[1,2], Ana L Basquiera[1,2] and Virginia E Rivero[4], [1]Hospital Privado Universitario, Cordoba, Argentina, [2]Instituto Universitario de Ciencias Biomedicas de Cordoba, Cordoba, Argentina, [3]Fundación para el Progreso de la Medicina, Laboratorio de Alta Complejidad, Córdoba, Argentina, [4]Centro de Investigaciones en Bioquímica Clínica e Inmunología (CIBICI-CONICET), Facultad de Ciencias Químicas, Universidad Nacional de Córdoba, Cordoba, Argentina

**62** **Recurrent Septic Arthritis with CVID and MGUS: A Chicken and Egg Conundrum**
**Evan M. Atkinson, MD**, Prathyusha Savjani, MD and Laurianne G. Wild, MD, FAAAAI, Tulane University, New Orleans, LA

**63** **Neurologic Complications of Common Variable Immunodeficiency: A Case Report and Review of the Literature**
**Jenna T. Nguyen, MD** and Katherine E. Gundling, MD, UCSF, San Francisco, CA

**64** **A Case of Severe Pneumococcal Pneumonia Requiring Ventilator-Support in a Hypogammaglobulinemia Patient on IVIG Infusion Therapy Despite Adequate IgG Troughs**
**Ammara G. Ahmed, DO** and Kholoud Wishah, MD, Case Western's MetroHealth Medical Center, Cleveland, OH

**65** **A Case of Inflammatory Bowel Disease and Common Variable Immunodeficiency**
**Shahab Virani, MD** and Praveen Govender, MD, Boston University Medical Center

**66** **Two New Mutations in TACI Identified to be Causing Disease in Patients with Common Variable Immunodeficiency**
**Roula Daher, MD**, Detroit Medical Center, Detroit, MI; Children's Hospital of Michigan, Detroit, MI, Elizabeth A. Secord, MD, FAAAAI, Children's Hospital of Michigan Department of Allergy Immunology, Detroit, MI; Wayne State University School of Medicine, Detroit, MI and Pavadee Poowuttikul, MD, Pediatrics-Allergy/Immunology Division, Children's Hospital of Michigan, Detroit, MI; Pediatrics- Allergy/Immunology Division, Wayne State University School of Medicine, Detroit, MI

**67** **Relationship of Specific IgM Responses with Infection and Lymphoproliferative Disease in Common Variable Immunodeficiency**
**Tukisa D. Smith, MD, MS**, Paul J. Maglione, MD, PhD and Charlotte Cunningham-Rundles, MD, PhD, Icahn School of Medicine at Mount Sinai, New York, NY

**68** **Treatment with Azathioprine and Rituximab in a Pediatric Patient with CVID and Granulomatous Liver Disease**
**Tammy Peng, MD**[1], Laura Wozniak[2], Bita V Naini[3] and Maria Garcia-Lloret, MD, FAAAAI[1], [1]Division of Allergy and Immunology, Department of Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, CA, [2]Division of Gastroenterology, Department of Pediatrics David Geffen School of Medicine, [3]Department of Pathology, David Geffen School of Medicine at UCLA, Los Angeles

**69** **Adult-Diagnosed Chronic Granulomatous Disease**
**Derek M. Smith, MD**[1], Charles N. Webb, MD[1] and G. William Palmer, MD, FAAAAI[2], [1]Wilford Hall Ambulatory Surgical Center, San Antonio, TX, [2]Boise Valley Asthma and Allergy Clinic, Boise, ID

**70** **Abnormal Newborn SCID Screen and Lymphopenia in an Infant Exposed to in Utero Folfirinox Chemotherapy**
**Daniel H Petroni, MD, PhD**[1], Kathey Mohan, ARNP[1], Andrew Coveler, MD[2], Troy R. Torgerson, MD, PhD[3] and Suzanne Skoda-Smith, MD[1], [1]Seattle Children's Hospital, Seattle, WA, [2]Seattle Cancer Care Alliance, [3]Seattle Children's Hospital Research Institute, Seattle, WA

**71** **A Case of Acquired C1 Esterase Inhibitor (C1-INH) Deficiency As the Presenting Manifestation of Common Variable Immune Deficiency (CVID)**
**Andrew Parker, MD**[1], David Hagin, MD[1], Summer E. Monforte, MD[2], Andrew G. Ayars, MD[1] and Matthew C. Altman, MD[1], [1]University of Washington, Seattle, WA, [2]St. Peter's Medical Group, Helena, MT

## Advancement in Allergic Diseases

## BCI

2204
Saturday, March 5th, 2016, 9:45 AM - 10:45 AM

**72** **Allergen Exposure Increases Triggering Receptor Expressed on Myeloid Cell (TREM)-2 Expression on Lung Dendritic Cell Subsets in a Murine Model of Asthma**
**Sannette C. Hall**, Department of Biomedical Sinces, Creighton University, Omaha, NE and Devendra K. Agrawal, Department of Biomedical Sciences and Center for Clinical and Translational Science, Creighton University School of Medicine, Omaha, NE

**73** **Cinnamon-Induced Contact Stomatitis: A Propos of Two Cases**
**Ekaterini I. Syrigou, PhD**[1], Photis Psarros[2], Maria Zande[1], Nikolaos K Syrigos[1], Maria Vasiliou[1], Athanasios Sinaniotis[1] and Konstantinos Syrigos[3], [1]Department of Allergy, Sotiria General Hospital, Athens, Greece, [2]Department of Allergy, Athens Naval Hospital ,Greece, [3]Athens School of Medicine, Greece

**74** **A Promising Technology for Characterizing Proteins, Antigens and Allergens in Extracts and Source Materials**
**Jack D. Kelly**, Greer Laboratories

**75** **Molecular Reference Materials for Standardization of Allergen Measurements**
**Sabina Wünschmann, PhD**, Kristie N Prtorich, Cathy Minichino, Heaven Cerritos, Lisa D. Vailes and Martin D. Chapman, PhD, FAAAAI, INDOOR Biotechnologies Inc., Charlottesville, VA

**76** **A Study of Immunogenetic Associations with Peanut Allergy Utilizing a Novel DNA Repository**
**Jonathan A. Hemler, MD**[1], Elizabeth S. Marston, MD[2], Jason H. Karnes, PhD[3], Andrew M. Glazer, PhD[3], Elizabeth J. Phillips, MD[4,5], Simon A. Mallal, MBBS[4,6] and Peggy L. Kendall, MD[1,7], [1]Vanderbilt University School of Medicine, Division of Allergy, Pulmonary, and Critical Care Medicine, Department of Medicine, Nashville, TN, [2]Vanderbilt University School of Medicine, Monroe Carrell, Jr. Children's Hospital Pediatric Residency Program, Nashville, TN, [3]Vanderbilt University School of Medicine, Division of Clinical Pharmacology, Department of Medicine, Nashville, TN, [4]Institute for Immunology & Infectious Diseases, Murdoch University, Murdoch, Australia, [5]Vanderbilt University School of Medicine, Division of Infectious Diseases, Department of Medicine, Nashville, TN, [6]Vanderbilt University School of Medicine, Center for Translational Immunology and Infectious Diseases, Nashville, TN, [7]Vanderbilt University School of Medicine, Department of Pathology, Microbiology and Immunology, Nashville, TN

**77** **The Role of Human Dendritic Cells in Cutaneous Allergen Recognition and Immune Activation**
**Anna R. Wolfson, MD**, Caroline L. Sokol, MD, PhD and Andrew D. Luster, MD, PhD, Massachusetts General Hospital, Boston, MA

**78** **Tacrolimus: A Heart Pill to Swallow**
**Tara V. Saco, MD**[1], Dennis K Ledford, MD[2], Sweta Shah, MD[3], Elimarys Perez-Colon, MD[3] and Lacey Harrington, MS-IV[3], [1]Department of Internal Medicine, Morsani College of Medicine, University of South Florida, Tampa, FL, [2]University of South Florida and the James A. Haley VA Hospital, Tampa, FL, [3]University of South Florida College of Medicine

**79** **Averting Danger: A Case of Anaphylaxis to Rabavert®**
**Sarah W. Spriet, DO**, Taylor A. Banks, MD and Cecilia Mikita, MD, MPH, FAAAAI, Walter Reed National Military Medical Center, Bethesda, MD

**80** **Reduction in Corticosteroid Use Among Patients Receiving Omalizumab in Real World Settings: A Systematic Literature Review of Non-Randomized Studies**
**Reynold A Panettieri, MD**[1], Jonathan Corren, MD[2], Susan Gabriel, MSc[3], Kimberly M. Ruiz, EdM[4], Bethany Sawchyn, PharmD[4], Jennifer A. Colby, PharmD[4] and Meryl Mendelson, MD[3], [1]University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA, [2]David Geffen School of Medicine at UCLA, Los Angeles, CA, [3]Novartis Pharmaceuticals, East Hanover, NJ, [4]Xcenda, Palm Harbor, FL

**81** **Defining the Percentage of T Helper 17 Cells in Patients with Eczema and Allergic Disease**
**Ranjeet Minocha, MD**, John M. Routes, MD, FAAAAI, Mary Hintermeyer, APNP, Trivikram Dasu, PhD, Erin Hammelev, Tucker Keuter, Aniko Szabo, PhD and James W. Verbsky, MD, PhD, Medical College of Wisconsin, Milwaukee, WI

**82** **Prevalence of Atopic Diseases in Patients with Humoral Primary Immunodeficiency: A Comparison of a Single Center and the US Immunodeficiency Network (USIDNET)**
**Alice S. Chau, MD**[1], Artemio M. Jongco III, MD, PhD, MPH[2,3], Laura Helfner, MD[4], James C. Fagin, MD[5] and Vincent R. Bonagura, MD, FAAAAI[2,6], [1]Department of Medicine, Hofstra North Shore-LIJ School of Medicine, Manhasset, NY, [2]Feinstein Institute for Medical Research, Manhasset, NY, [3]Division of Allergy & Immunology Hofstra North Shore-LIJ School of Medicine, Great Neck, NY, [4]Division of Allergy & Immunology, Departments of Medicine and Pediatrics, Hofstra North Shore-LIJ School of Medicine, Great Neck, NY, [5]Allergy & Clinical Immunology, Division of ProHEALTH Care Associates, New Hyde, NY, [6]Division of Allergy and Immunology at North Shore Long Island Jewish Health System, Great Neck, NY

**83** **Evaluation of Antibody, Cytokine and Mirnas in Patients with Ige-Mediated and Non-IgE Mediated Rhinitis in Brazilian Subjects Triggered By House Dust Allergen Exposure**
**Ernesto A Taketomi**[1], Juliana S Miranda[2], Jair Cunha-Júnior, PhD[2] and Ana CAM Pajuaba[2], [1]Federal University of Uberlândia, Uberlandia, Brazil, [2]Federal University of Uberlandia, Uberlandia, Brazil

**84** **Inhibition of Inflammation and Mucus Production By Bordetella Pertussis Whole-Cell Vaccine in a Murine Model of Allergic Rhinitis**
**Marcelo Vivolo Aun, MD**[1], Fernanda Arantes-Costa[2], Francine Maria Almeida[2], Thayse Regina Brüggermann[2], Beatriz Mangueira Saraiva-Romanholo[3,4], Isabella S. Genaro[2,3], Milton Arruda Martins, MD, PhD[2], Jorge Kalil, MD, PhD[1] and Pedro Giavina-Bianchi, MD, PhD[1], [1]Clinical Immunology and Allergy Division, University of Sao Paulo, Sao Paulo, Brazil, [2]Department of Internal Medicine, University of Sao Paulo School of Medicine, Sao Paulo, Brazil, [3]Hospital Public Employee of Sao Paulo (IAMSPE), Sao Paulo, Brazil, [4]University City of Sao Paulo (UNICID), Sao Paulo, Brazil

**85** **Usefulness of Component-Resolved Diagnosis (CRD) in Patients with Pet Allergy**
**Wolfgang Hemmer, PhD**, Gabriele Sesztak-Greinecker, MD, Felix Wantke, MD, FAAAAI and Stefan Wohrl, MD, MSc, FAAAAI, Floridsdorf Allergy Center, Vienna, Austria

**86** **B Cell Isotype Switching Is Dependent upon the Duration of B Cell Activation and Dose of Antigen**
**Tae Kwan Lee**[1], Se Jin An[1], Ji-Mok Kim[1] and Jae Ho Lee, MD, PhD[2], [1]Chungnam National University Hospital, Daejeon, South Korea, [2]Department of Pediatrics, Chungnam National University, Taejeon, South Korea

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## Indoor Allergens and Fungi

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**87** **Vacuolar Serine Protease Major Allergen of Fusarium Proliferatum**
**Horng-Der Shen**, Hsiao-Yun Tai, Chang-Ching Yeh and Keh-Gong Wu, Taipei Veterans General Hospital, Taipei, Taiwan

**88** **Relationship of Der f1 and Der p1 Levels in House Dust in the Midwestern US**
**Charles S. Barnes, PhD**[1], Freddy Pacheco, MS[1] and Jay M. Portnoy, MD, FAAAAI[2], [1]Children's Mercy Hospital, Kansas City, MO, [2]Division of Allergy & Immunology, Children's Mercy Hospitals and Clinics, Kansas City, MO

**89** **An Exploratory Proof of Concept Study to Quantify the Major Cat Allergens, Fel d1 and Fel d4 from Domestic House Cats**
**William H. Yang, MD**[1], Suzanne Kelly, PhD[1], Nate Stepner, D.Litt[1], Douglas Boeckh, DVM[2], Jacob Karsh, MD[1] and

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Jimmy Yang, MBA[1], [1]Red Maple Trials Inc., Ottawa, ON, Canada, [2]Merivale Cat Hospital, Ottawa, ON, Canada

**90** **Modulatory Effects of Aspergillus Colonization and Abpa on Blood and Sputum Granulocytes in CF**

**Yael Gernez**[1], Jeffrey Waters[2], Colleen E. Dunn[2], Zoe Davies[2], Cassie Everson[2], Rabindra Tirouvanziam[3], Leonore Herzenberg[4] and Richard B. Moss, MD[5], [1]Mount Sinai Hospital, [2]Stanford, School of Medicine, [3]Emory University School of Medicine, Department of Pediatrics, Atlanta, GA, [4]stanford, School of Medicine, stanford, [5]Stanford, School of Medicine, Palo Alto, CA

**91** **Mobility of Aeroallergens in Home: Effect of Location of Air Sampling and Implication for Evaluation of Patient Exposure.**

**Julian Gordon, PhD**[1], Paul Detjen, MD[2], Andrea Wachter[1] and Prasanthi Gandhi, MBA, MPH[1], [1]Inspirotec Inc, Glenview, IL, [2]Kenilworth Medical Allergy & Immunology, Kenilworth, IL

**92** **Homes Assessed As a Result of Physician Referral Have Higher Fungal Burden**

**Jill R. Hanson, MD**[1], Charles S. Barnes, PhD[1] and Jay M. Portnoy, MD, FAAAAI[2], [1]Children's Mercy Hospital, Kansas City, MO, [2]Division of Allergy & Immunology, Children's Mercy Hospitals and Clinics, Kansas City, MO

**93** **Prevalence of Sensitization to Mold Allergens in Patients with Respiratory Allergy**

**Barbara Elizondo-Villarreal**, Sandra N. Gonzalez-Diaz, MD, PhD, FAAAAI, Alfredo Arias-Cruz, MD, FAAAAI, Lucia Leal-Villarreal, Maria Del Carmen Zarate-Hernandez, MD, Dulce M Rivero-Arias, Olga P Monge Ortega Jr. and Jesus A Ibarra-Chavez, UANL

**94** **Association of Aspergillus Monosensitization with Asthma and Rhinosinusitis**

**Julie T. Abraham, MD**, Cleveland Clinic, Cleveland, OH, Maria A. Barcena Blanch, MD, Cleveland Clinic Foundation, Cleveland, OH and Roxana I. Siles, MD, Cleveland Clinic

**95** **Is There a Temporal Relationship Between Outdoor Alternaria alternata Spore Counts and Specific IgE Alternaria alternata Levels?**

**Hani Hadi, MD**[1], Jay M. Portnoy, MD, FAAAAI[1], Charles S. Barnes, PhD[1] and Vincent Staggs, PhD[2], [1]Division of Allergy & Immunology, Children's Mercy Hospitals and Clinics, Kansas City, MO, [2]Children's Mercy Hospitals and Clinics, Kansas City, MO

**96** **Aerobiology of Yeasts: Viable Colonies and Molecular Identification from Burkard Samples**

**Josh D. McLoud, MS** and Estelle Levetin, PhD, FAAAAI, University of Tulsa, Tulsa, OK

**97** **Raining Mold?**

**James J. Anderson, MLT**, Environmental Allergy, London, ON, Canada; Environmental Allergy/OSHTECHINC, London, ON, Canada and G. Daniel Brooks, MD, FAAAAI, The Asthma & Allergy Center, Omaha, NE

## Exposures, Asthma and Allergic Diseases

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**98** **Role of Cadmium and Folate Levels in Risks of Allergic and Respiratory Diseases of Early Childhood: The Mothers and Children's Environmental Health Study**

**Ja Hyeong Kim, MD**, University of Ulsan College of Medicine, Ulsan University Hospital, Ulsan, Eun-Hee Ha, MD, Department of Preventive Medicine, School of Medicine, Ewha Womans University, Seoul, South Korea, Hye sook Park, MD, Department of Preventive Medicine, School of Medicine, Ewha Womans University, Cheonan, South Korea, Mina Ha, MD, Department of Preventive Medicine, Dankook University College of Medicine, Seoul, Yun-Chul Hong, MD, Department of Preventive Medicine, Seoul National University College of Medicine, Seoul, South Korea, Jin-A Jung, MD, Dong-A University College of Medicine, Busan, South Korea and Yangho Kim, MD, Department of Occupational and Environmental Medicine, University of Ulsan, Collage of Medicine, Ulsan University Hospital, Ulsan, South Korea

**99** **Prevalence of Respiratory Viruses in Patients with Acute Respiratory Infections in Korea**

**Jin-sung Park**[1], Hee-Dong Jung[2], Hyang-Min Jung[2], Sung-Soon Kim[2] and Chang-Keun Kim, MD, FAAAAI[1], [1]Asthma & Allergy Center, Inje University Sanggye Paik Hospital, Seoul, South Korea, [2]Korea Centers for Disease Control and Prevention, Osong, South Korea

**100** **Prescription of Adrenaline Injector to Outdoor Workers Who Had Experienced an Anaphylactic Reaction after a Hymenoptera Sting in Japan**

**Masamitsu Tatewaki**, Dokkyo Medical University Koshigaya Hospital, Saitama, Japan

**101** **A Two Pronged Approach to the Detection of Cimex Lectularius (common bed bug) Using Novel Bed Bug Proteins**

**Natasha Gordon, PhD**[1], Luke O'Shaughnessy, PhD[1], David Fitzpatrick, PhD[2], Sean Doyle, PhD[2] and Bruce Mitchell, MD[1], [1]airmid healthgroup ltd, Dublin, Ireland, [2]Maynooth University, Maynooth, Ireland

**102** **Delay in Asthma Diagnosis and Risk of Common Respiratory Infection in Young Children**

**Mir Ali**[1], Elizabeth Krusemark[2], Chung I. Wi, MD[2], Sunghwan Sohn, PhD[3], Hongfang Liu, PhD[3], Euijung Ryu, PhD[3] and Young J. Juhn, MD, MPH[2], [1]Sanford Children's Hospital, Sioux Falls, SD, [2]Dept of Pediatric and Adolescent Medicine, Mayo Clinic, Rochester, MN, [3]Mayo Clinic, Rochester, MN

**103** **Prevalence of Sensitization to Airborne Allergens Among Elderly Population**

**Adile Berna Dursun**[1], Filiz Mercantepe[2] and Vehbi Ayhan[2], [1]Recep Tayyip Erdogan University, School of Medicine, Rize, Turkey, [2]Recep Tayyip Erdogan University School of Medicine, Rize, Turkey

**104** **Eosinophilic Bronchitis Caused By Exposure to Wheat Flour in the Workplace**

**Olga Vega Matute, MD**, Marta M. Ferrer, MD, PhD, FAAAAI, Carmen M. Damelio, MD, Amalia Bernad, MD, Roselle Catherine Yu Madamba and Gabriel Gastaminza, MD, PhD, Department of Allergy and Clinical Immunology Clinica Universidad de Navarra, Spain

**105** **Supplementation with the Antioxidant Sulforaphane Does Not Protect Airway Epithelium Against O3-Induced Injury In Vivo**

**Michelle L. Hernandez, MD**[1], Katherine Mills, BA[2], Allison J. Burbank[3], Matthew J Kesic, PhD[4], Charity Duran, PhD[3] and David B. Peden, MD, MS, FAAAAI[5], [1]University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC, [2]University of North Carolina Chapel Hill School of Medicine, Chapel Hill, NC, [3]UNC School of Medicine, Chapel Hill, NC, [4]Methodist University, Fayetteville, NC, [5]Office #544, Campus Box 7310, University of North Carolina at Chapel Hill School Medicine, NC

**106** **The Relevance of Residential Environment to Atopy Prevalence Based on Skin Prick Test in Rural Community Cohort in Korea**

**Eun-Jin Kim, PhD**, Division of Allergy and Chronic Respiratory Diseases, Department of Biomedical Sciences, Korea National Institute of Health, Osong Health Technology Administration Complex, Osong, South Korea, Dankyu Yoon, Korea Institute of Health, South Korea, Hye-Sun Lim, Korea National Institute of Health, South Korea, Jeom-Kyu Lee, Korea National Intitute of

Health, South Korea and Joo Shil Lee, PhD, National Institute of Health, Seoul

**107 Ultraviolet Index Is Associated with the Prevalence of Eczema in Boys**

**Koichi Yoshida, MD**[1], Mari Sasaki, MD[1], Yuichi Adachi, MD, PhD[2], Emi Kawaguchi, MD[3], Masayuki Akashi, MD[4], Yukihiro Ohya, MD, PhD[5], Hiroshi Odajima, MD, PhD[6] and Akira Akasawa, MD, PhD[1], [1]Division of Allergy, Tokyo Metropolitan Children's Medical Center, Tokyo, Japan, [2]Department of Pediatrics, University of Toyama, Toyama, Japan, [3]Clinical Research Support Center, Tokyo Metropolitan Children's Medical Center, Tokyo, Japan, [4]Department of Pediatrics, Saitama City Hospital, Saitama, Japan, [5]Division of Allergy, National Center for Child Health and Development, Japan, [6]Fukuoka National Hospital, Fukuoka, Japan

**108 Occupational Contact Urticaria to Cow's Milk in the Absence of Cow's Milk Allergy in a Cheesemaker**

**Claire Mailhol**, Department of Pulmonology and Allergology, Toulouse cedex 9, France, Anne Marie Rabain, Department of Pulmonology and Allergology, Julie Herry, Department of Occupational Medicine, Fabienne Cantrelle-Mathat, Cabinet médical 4 boulevard Pierre Benoît, Rodez, France and Alain Didier, MD, PhD, Larrey Hospital, CHU, Toulouse, France

**109 Hymenoptera Venom-Induced Anaphylaxis in Acute Care Settings**

**Stephanie Eng, MD**[1,2] and Magee L. DeFelice, MD[1,2], [1]Thomas Jefferson University Hospital, Philadelphia, PA, [2]Nemours/A.I duPont Hospital for Children, Wilmington, DE

**110 Observational Study in Patients with Hymenoptera Allergy: Role of Occupational Exposure, Allergen Immunotherapy, and Indications for Prevention**

**Alessandra Toletone**[1], Susanna Voltolini, MD[2], Donatella Bignardi[2], Paola Minale[2], Costantino Troise, MD[3], Giovanni Passalacqua, MD[4], Guglielmo Dini[5], Emanuela Massa[1], Alessio Signori[1] and Paolo Durando[1], [1]Department of Health Sciences, Postgraduate School in Occupational Medicine, Genoa, Italy, [2]Allergy Unit, Genoa, Italy, [3]Allergy Unit, Genova, Italy, [4]Allergy and Respiratory Diseases, IRCCS San Martino Hospital-IST-University of Genoa, Italy, [5]Department of Health Sciences, iostatistics Unit, Genoa, Italy

## Drug Allergy Diagnosis and Management

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**111 Value of Basophil Activation Test for Evaluating Immediate Reactions to Proton Pump Inhibitors**

**Maria Salas, MD, PhD**[1], Esther Barrionuevo, MD, PhD[2], Inmaculada Doña, MD, PhD[3], Oliver Muñoz-Daga[4], Francisca Gómez, MD, PhD[1], Tahia D. Fernandez, PhD[5], Adriana Ariza, PhD[5], Maria Isabel Montañez, PhD[5,6], Cristobalina Mayorga, PhD[5,7], Miguel Blanca, MD, PhD[8,9] and María José Torres, MD, PhD[2], [1]Allergy Unit, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [2]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Málaga, Spain, [3]IMABIS Foundation, Malaga, Spain, [4]1Allergy Unit, Regional University Hospital of Malaga-IBIMA, UMA, Malaga, Spain, [5]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [6]BIONAND-Andalusian Centre for Nanomedicine and Biotechnology, Spain, [7]Allergy Unit, IBIMA-University Hospital of Malaga, Málaga, Spain, [8]Allergy Service, Carlos Haya Hospital, Málaga, Spain, [9]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain

**112 Evaluated the Diagnostic Utility of Interferon-Gamma Enzyme-Linked Immunospot (ELISPOT) Assays in 117 Patients with Non-Immediate Drug Hypersensitivity Reactions**

**Suda Punrin**[1,2], Pattarawat Thantiworasit, MSc[1], Pungjai Mongkolpathumrat[3] and Jettanong Klaewsongkram, MD[4,5], [1]Division of Allergy and Clinical Immunology, Department of Medicine, Faculty of Medicine, Allergy and Clinical Immunology Research Group, Chulalongkorn University, Bangkok, Thailand, [2]Queen Saovabha Memorial Institute, The Thai Red Cross Society, Bangkok, Thailand, [3]King Chulalongkorn Memorial Hospital, The Thai Red Cross Society, Bangkok, Thailand, [4]Chulalongkorn University, Faculty of Medicine, Department of Medicine, Division of Allergy and Clinical Immunology, Chulalongkorn Allergy and Clinical Immunology Research Group, Bangkok, Thailand, [5]King Chulalongkorn Memorial Hospital, Thai Red Cross Society, Thailand

**113 Diagnostic Tests in Hypersensitivity to Oxaliplatin Beyond Clinical History**

**Paula Lopez-Gonzalez, MD**, Ricardo Madrigal-Burgaleta, MD, Pilar Berges-Gimeno, PhD, Emilio Solano-Solares, MD, Laura Carpio-Escalona, MD and Emilio Alvarez-Cuesta, MD, PhD, Ramon y Cajal University Hospital, Madrid, Spain

**114 Determining Non-Irritating Concentration for Intradermal Skin Test with Commonly Prescribed Antibiotics in Korean Adults**

**Ha Kyeong Won**[1,2], Min-Suk Yang, MD, PhD[1,3], Woo-Jung Song, MD[1,2], Yoon-Seok Chang, MD, PhD[1,4], Sang Heon Cho, MD, PhD[1,2], Heung-Woo Park, MD, PhD[1,2] and Kyung-Up Min, MD, PhD[1,2], [1]Department of Internal Medicine, Seoul National University College of Medicine, Seoul, South Korea, [2]Institute of Allergy and Clinical Immunology, Seoul National University Medical Research Center, Seoul, South Korea, [3]SMG-SNU Boramae Medical Center, Seoul, South Korea, [4]Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam, South Korea

**115 The Effect of Penicillin Allergy Testing on Future Healthcare Utilization and Morbidity: A Case-Control Study**

**Eric M. Macy, MD, FAAAAI**, SCPMG Department of Allergy and Yu-Hsiang Shu, MS PhD, Kaiser Permanente Southern California

**116 The Effect of a Penicillin Allergy Algorithm on Perioperative Antibiotic Choice**

**Joseph A. Grillo, MD**, Nemours A.I. du Pont Hospital for Children, Wilmington, DE, Karen Ravin, MD, Nemours/A.I. duPont Hospital for Children and Magee L. DeFelice, MD, Nemours/A.I duPont Hospital for Children, Wilmington, DE

**117 Safety of Two-Step Graded Challenges to Beta-Lactams Using a Single-Blinded Placebo-Controlled Protocol**

**Melissa Iammatteo, MD**[1], Denisa Ferastraoaru, MD, MSc[2], Santiago Alvarez Arango, MD[3], Niharika Thota, MD[3], Ayobami Akenroye, MD, MPH[3] and Elina Jerschow, MD, MSc[1], [1]Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY, [2]Albert Einstein/Montefiore Medical Center, Bronx, NY, [3]Albert Einstein College of Medicine, Bronx, NY

**118 Amoxicillin Challenges in Marine Recruits Reporting Penicillin Allergy**

**Jeremy D. Waldram, MD**, Scripps Clinic, San Diego, CA and Mark H. Tucker, MD, Naval Branch Health Clinic, Bonita, CA

**119 Outcomes and Safety of Single-Step and Multi-Step Antibiotic Drug Challenges**

**Stephanie L. Mawhirt, DO**[1], Luz S. Fonacier, MD, FAAAAI[1], Rose Calixte, PhD[2], Mark A. Davis-Lorton, MD, FAAAAI[2] and Marcella R. Aquino, MD, FAAAAI[1], [1]Winthrop University Hospital, Allergy & Immunology, Mineola, NY, [2]Winthrop University Hospital, Mineola, NY

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**120 Graded Escalating Doses of Trimethoprim-Sulfamethoxazole in Immunocompetent Patients with Previous History of Delayed Rash to Sulfa Antimicrobials**

**Vuong A. Nayima, DO**, University of Alabama - Birmingham, Birmingham, AL and John T. Anderson, MD, University of Alabama at Birmingham, Birmingham, AL

**121 Evaluating Risk Factors for a Positive Oral Challenge Despite Negative Penicillin Skin Testing**

**Megan S. Motosue, MD**[1], Sara M. May, MD[1], Jay Jin, MD, PhD[1] and Miguel A. Park, MD[2], [1]Mayo Clinic, Rochester, MN, [2]Department of Internal Medicine: Division of Allergic Diseases, Mayo Clinic, Rochester, MN

**122 A Case of Urticaria to Lansoprazole, Confirmed By Challenge**

**Anita N. Wasan, MD**, Allergy and Asthma Center, Lansdowne, VA and Anil Nanda, MD, Asthma and Allergy Center, Lewisville, TX; UT-Southwestern Medical Center, Dallas, TX

**123 Reaction Doses in Aspirin Desensitization for Aspirin-Exacerbated Respiratory Disease**

**Charles Schuler, MD**, University of Michigan, Dept of Internal Medicine, Ann Arbor, MI, James L. Baldwin, MD, FAAAAI, University of Michigan Allergy Immunology Specialty Clinic, Ann Arbor, MI and Alan P. Baptist, MD, MPH, FAAAAI, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI

**124 AERD: A Composite Symptom Score to Identify Positive Aspirin/NSAID Challenges**

**Kevin A. Cook, MD**[1], Nathan Wineinger, PhD[2], Kristen M Dazy, MD[1], Katharine M. Woessner, MD, FAAAAI[1], Ronald A. Simon, MD, FAAAAI[1] and Andrew White, MD, FAAAAI[1], [1]Scripps Clinic, San Diego, CA, [2]Scripps Translational Science Institute, San Diego, CA

**125 The Investigation of Suspected Beta-Lactam Allergy in Children; Comparison of Contemporary Clinical Practice By International Specialists**

**Ru-Xin M. Foong**[1], Kirsty Logan[1], Michael Perkin[1] and George Du Toit, MD, FAAAAI[2], [1]Department of Paediatric Allergy, London, United Kingdom, [2]St Thomas' Hospital, London, United Kingdom

**126 Hypersensitivity Reactions to Rituximab: 53 Successful Desensitizations in 7 Patients with Severe, Near-Fatal Reactions**

**Yuval Tal, MD, PhD**[1], Dina Ben Yehuda, MD[2], Meir Shalit, MD, FAAAAI[1] and Eyal Lebel, MD[2], [1]Allergy and Clinical Immunology Unit, Department of Medicine, Hadassah Hebrew University Medical Center, Jerusalem, Israel, [2]Department of Hematology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel

**127 Experience with Desensitizations to Taxanes in an Allergy Department in Madrid (Spain)**

**Mercedes Sáenz de Santa María, MD**, Gabriela Zambrano, MD, María L. Baeza, MD, PhD, Sonsoles Infante, MD, Alberto Alvarez-Perea, MD and Pilar Tornero, MD, Hospital General Universitario Gregorio Marañón, Allergy Department, Madrid, Spain

**128 Anaphylactic Shock Caused By Moxifloxacin without Cross-Reactivity to Other Fluoroquinolones**

**Rung-chi Li, DO, PhD**, Department of Internal medicine, The Christ Hospital, Cincinnati, OH and Jonathan A. Bernstein, MD, University of Cincinnati College of Medicine, Cincinnati, OH; University of Cincinnati College of Medicine, Cincinnati, OH

**129 Descriptive Analysis of Patients with Allergic Reactions to Fluoroquinolones**

**Esther Barrionuevo, MD, PhD**[1], Inmaculada Doña, MD, PhD[2], Francisca Gómez, MD, PhD[3], Oliver Muñoz-Daga[4], Arturo Ruiz, MD[5], Antonio Guzman[6], Maria Auxiliadora Guerrero[5], Maria Dolores Ruiz[7], Rosa Garcia[8], Miguel Blanca, MD, PhD[9] and María José Torres, MD, PhD[3], [1]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Málaga, Spain, [2]Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain, [3]Allergy Unit, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [4]1Allergy Unit, Regional University Hospital of Malaga-IBIMA, UMA, Malaga, Spain;, Spain, [5]Allergy Unit, Regional University Hospital of Málaga-IBIMA, UMA, Málaga, Spain, [6]Pharmacy Unit, Regional University Hospital of Malaga-IBIMA, UMA, Málaga, Spain, [7]Allergy Service, IBIMA-Regional University Hospital of Malaga, Málaga, Spain, [8]Allergy Service- Carlos Haya hospital. Spain, Malaga, Spain, [9]Allergy Unit,Regional University Hospital of Malaga-IBIMA,UMA, Málaga, Spain

**130 Effectiveness of Premedication and Rapid Desensitization in Hypersensitivity to L-Asparaginase**

**Jin-Tack Kim, MD, PhD**, Department of Pediatrics, Uijeongbu St. Mary's Hospital, The Catholic University of Korea, College of Medicine, Uijeongbu, Gyeonggi-Do, South Korea, Hwan Soo Kim, MD, Dept of Pediatrics, Colleg of Medicine, The Catholic University of Korea, Yoon Hong Chun, MD, Dept. of Pediatrics, College of Medicine, The Catholic University of Korea, Jong-seo Yoon, MD, PhD, Dept. of Pediatrics The Catholic University of Korea and Hyun Hee Kim, MD, Department of Pediatrics, The Catholic University of Korea College of Medicine, Bucheon-si, South Korea

**131 An Adolescent Male Presenting with Nonpigmenting Fixed Drug Eruption to Ceftriaxone**

**Adam Byrne, MSc, MD**, McGill University; Montreal Children's Hospital and Moshe Ben-Shoshan, MD, MSc, The Research Institute of the McGill University Health Centre, Meakins- Chrisitie Laboratories, Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, Montreal Children's Hospital, Montreal, QC, Canada

**132 Diagnosis and Management of Infusion-Related Hypersensitivity Reactions to Enzyme Replacement Therapy for Lysosomal Diseases: The Role of Desensitization**

**Carolina Sanchez Aranda**[1], Luis Felipe C. Ensina, MD[2], Inês Camelo Nunes[3], Marcia Mallozi, MD[1], Ana Maria Martins[3] and Dirceu Sole, MD, PhD, FAAAAI[1], [1]Federal University of São Paulo, São Paulo, Brazil, [2]Universidade Federal de São Paulo, São Paulo, Brazil, [3]Federal University of São Paulo

**133 The Role of Carbapenems and Cephalosporines in Patients with Confirmed Penicillin Allergy**

**Mona Sulaiman Al-Ahmad, MD**, Department of Microbiology, Faculty of Medicine, Kuwait University, Kuwait and Tito Rodriguez Bouza, Drug Allergy Unit, Department of Allergy, Al-Rashed Allergy Center, Kuwait, Kuwait

**134 A Case Report of Dress with Prolonged Latency Period Related to Zonisamide in a Child**

**Fatima Khan**, Newark Beth Israel Medical Center, NJ and Joel Mendelson, MD, Newark Beth Israel Medical Center

**135 Retrospective Review of Beta Lactam Allergy Prevalence in a Referral Population**

**Andrew Wakeman, BSc(Hon)**, University College Dublin, Alexander Singer, MB, BaO, BCh, CCFP, University of Manitoba, Department of Family Medicine, Manitoba Primary Care Research Network, Winnipeg, MB, Canada, Elissa Michele Abrams, MD, FRCPC, University of Manitoba, Department of Paediatrics and Child Health, Section of Allergy and Immunology, Winnipeg, MB, Canada and Thomas V. Gerstner, MD, FRCPC, University of Manitoba, Department of Paediatrics and Child Health, Section of Allergy and Immunology

**136 Perioperative Use of Cefazolin in Patients with Reported Penicillin Allergy**

**Allison Ramsey, MD**, Mary Staicu, PharmD and Leanna Liu, PharmD, Rochester General Hospital

**137 Patients Taking Amoxicillin-Clavulanic Can Become Simultaneously Sensitized to Both Drugs**

**Adriana Ariza, PhD**[1], Tahia D. Fernandez, PhD[1], Cristobalina Mayorga, PhD[1], Maria Salas, MD, PhD[2], Nekane Barbero, PhD[3], Maria Isabel Montañez, PhD[1,3], Ángela Martín-Serrano[1], Ruben Fernandez[1], Luisa Galindo, RN[4], Miguel Blanca, MD, PhD[5] and

María José Torres, MD, PhD[2], [1]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [2]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Málaga, Spain, [3]BIONAND-Andalusian Centre for Nanomedicine and Biotechnology; Department of Organic Chemistry, IBIMA, UMA, Malaga, Spain, [4]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain, [5]Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain

**138 Morbidity in Pregnant Women with Group-B Streptococcus Infection and Unverified Penicillin Allergy**

**Shilpa Desai, MD**[1], Qiaoling Chen, MS[2], Michael S. Kaplan, MD, FAAAAI[1], Scott Rasgon, MD[3] and Eric M. Macy, MD, FAAAAI[4], [1]Kaiser Permanente Los Angeles Medical Center, Los Angeles, CA, [2]Kaiser Permanente Department of Research and Evaluation, Pasadena, CA, [3]Kaiser Permanente Los Angeles Medical Center, [4]Kaiser Permanente Health Care Program, Department of Research and Evaluation, Pasadena, CA

**139 Hypersensitivity to Butylscopolamine: A Case Report.**

**Francisco Javier Iglesias-Souto, Allergy Department**, Olga Arbazagoitia, Allergy Department and Jacob Rosquete, Internal Medicine Department, Hospiten Sur, Tenerife, Spain

**140 Immune-Mediated Reactions to Vancomycin: A Systematic Review**

**Jasmit S. Minhas, MD**[1], Paige G. Wickner, MD, MPH[2], Aidan A. Long, MD, FAAAAI[3], Aleena Banerji, MD[4] and Kimberly G Blumenthal, MD[3], [1]Lahey Hospital & Medical Center, Tufts University School of Medicine, Burlington, MA, [2]Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Chestnut Hill, MA, [3]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [4]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, MA

**141 Peer Survey of Alert Fatigue in Physicians in a Large Inner City Training Hospital: Does It Affect Drug Allergy Surveillance?**

**Adam El Sehamy, MD**[1,2], Naureen Kabani, MD[1], Amanda Nussdorf, BS.[3], YiFeng Chen, MD[4,5] and Rauno Joks, MD[2,6], [1]Department of Medicine, [2]Center for Allergy and Asthma Research, [3]College of Medicine, SUNY Downstate Medical Center, Brooklyn, NY, [4]Department of Medicine at SUNY Downstate Medical Center, Brooklyn, NY, [5]Center for Allergy and Asthma Research, Brooklyn, NY, [6]Department of Medicine, SUNY Downstate Medical Center, Brooklyn, NY

**142 Fixed Drug Eruption to Arylpropionic Acids**

**Abdonias Rodriguez Gamboa, MD**[1], Dasha Roa Medellin, MD[2], Margarita Acevedo Matos, MD[3], Blanca Noguerado, MD[4], Patricia Rojas, MD[5] and Manuel De Barrio, MD[1], [1]Hospital General Universitario Gregorio Marañón,Department of Allergy, Madrid, Spain, [2]Hospital General Universitario Gregorio Marañón. Department of Allergy, Madrid, Spain, [3]Hospital general Universitario Gregorio Marañon,Department of Allergy, Madrid, Spain, [4]Hospital General Universitario Gregorio Marañon,Department of Allergy, [5]Hospital General Universitario Gregorio Marañon,Department of Allergy, madrid, Spain

**143 Etiologies and Clinical Characteristics of 97 Patients Diagnosed with Severe Cutaneous Adverse Reactions from Six Tertiary Medical Centers in Thailand**

**Jettanong Klaewsongkram, MD**[1,2], Pawinee Rerknimitr, MD[2,3], Ticha Rerkpattanapipat, MD[4], Kumutnart Chanprapaph, MD[5], Papapit Tuchinda, MD[6], Leena Chularojanamontri, MD[7], Napatra Tovanabutra, MD[8], Wareeporn Disphanurat, MD[9], Panlop Chakkavittumrong, MD[9], Chutika Srisuttiyakorn, MD[10], Pattarawat Thantiworasit, MSc[1,2], Chonlaphat Sukasem, B. Pharm, PhD[11] and Yuttana Srinoulprasert, MD, PhD[12], [1]Division of Allergy and Clinical Immunology, Department of Medicine, Faculty of Medicine, Allergy and Clinical Immunology Research Group, Chulalongkorn University, Bangkok, Thailand, [2]King Chulalongkorn Memorial Hospital, Thai Red Cross Society, Bangkok, Thailand, [3]Division of Dermatology, Department of Medicine, Faculty of Medicine, Chulalongkorn University, [4]Allergy Immunology and Rheumatology Division, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, [5]Division of Dermatology, Department of Medicine, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, [6]Department of Dermatology , Faculty of Medicine Siriraj hospital, Mahidol University, [7]Department of Dermatology, Faculty of Medicine, Siriraj Hospital, Mahidol University, [8]Department of Internal Medicine, Chiang Mai University, [9]Dermatology Unit, Department of Medicine, Faculty of Medicine, Thammasat University, [10]Division of Dermatology, Department of Medicine, Phramongkutklao Hospital, [11]Division of Pharmacogenomics and Personalized Medicine, [12]Department of Immunology, Faculty of Medicine Siriraj Hospital, Mahidol University

**144 Epidemiology and Incidence of ACE Inhibitor Angioedema Utilizing a Large Electronic Health Record**

**Aleena Banerji, MD**, Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, MA, Kimberly G Blumenthal, MD, Allergy and Immunology, Division of Rheumatology, Allergy, and Immunology, Medical Practice Evaluation Center, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, Kenneth H Lai, MA, Partners HealthCare System, Boston, MA and Li Zhou, MD, PhD, Harvard Medical School, Boston, MA

**145 The Low Expression of Tim-3 in Patients with Maculopapular Exanthema (EMP) Induced By Drugs Can Impaired Disease Control**

**Tahia D. Fernandez, PhD**[1], Francisca Palomares, PhD[1], Maria Salas, MD, PhD[2], Inmaculada Doña, MD, PhD[2], Esther Barrionuevo, MD, PhD[2], Adriana Ariza, PhD[1], Raquel Jurado[1], Miguel Blanca, MD, PhD[3], Cristobalina Mayorga, PhD[1,4] and María José Torres, MD, PhD[2], [1]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [2]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Málaga, Spain, [3]Allergy Unit,Regional University Hospital of Malaga-IBIMA,UMA, Málaga, Spain, [4]Allergy Unit, IBIMA-University Hospital of Malaga, Málaga, Spain

**146 Allergy to Benznidazole: Cross-Reactivity with Other Nitroimidazoles**

**Blanca Noguerado, MD**, Allergy Department. Hospital General Universitario Gregorio Marañon, madrid, Spain, Patricia Rojas, MD, Hospital General Universitario Gregorio Marañon,Department of Allergy, madrid, Spain, Maria Calderon, MD, Internal Medicine Department. Hospital General Universitario Gregorio Marañon, Cristina Morales, MD, Department of Allergy, Gregorio Marañón University Hospital, Madrid, Spain and Pilar Tornero, MD, Allergy Department. Hospital General Universitario Gregorio Marañon

**147 Allergy to Heparins**

**Francisco Javier Ruano Pérez, MD**[1], Diana Perez Alzate, MD[2], Natalia Blanca-López, MD, PhD[2], Maria Luisa Somoza, MD[2], Maria Vazquez De La Torre, MD[3], Maria Isabel Garcimartin, MD[2], Elisa Haroun, MD[1] and Gabriela Canto, MD, PhD[2], [1]Infanta Leonor - Universitary Hospital, Madrid, Spain, [2]Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, [3]Infanta Leonor, University Hospital, Madrid, Spain

**148 Allergy Patterns in a Tertiary Care Referral Center**

**Maria A. Barcena Blanch, MD**, Cleveland Clinic Foundation, Cleveland, OH, Julie T. Abraham, MD, Cleveland Clinic, Cleveland, OH and David M. Lang, MD, FAAAAI, 9500 Euclid Avenue - A90, Cleveland Clinic, Cleveland, OH

**149 Allergic Reactions to Dipyrone: Immediate and Non-Immediate Responses**

**Inmaculada Doña, MD, PhD**[1], Francisca Gómez, MD, PhD[2], Tahia D. Fernandez, PhD[3], Adriana Ariza, PhD[3], Arturo Ruiz, MD[4],

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Maria Isabel Sánchez Rivas[5], Cristina De Leyva[5], Maria Isabel Montañez[6], Antonio Guzman[7], Miguel Blanca, MD, PhD[1] and Maria J Torres, MD, PhD[8], [1]Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain, [2]Allergy Unit, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [3]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [4]Allergy Unit, Regional University Hospital of Málaga-IBIMA, UMA, Málaga, Spain, [5]Allergy Unit, Regional University Hospital of Malaga-IBIMA, UMA, Malaga, Spain, [6]Research Laboratory, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain, [7]Pharmacy Unit, Regional University Hospital of Malaga-IBIMA, UMA, Málaga, Spain, [8]Allergy Unit, Regional University Hospital of Málaga, IBIMA, UMA, Málaga, Spain

**150** **Adverse Drug Reactions of Ranitidine: A Pharmacovigilance Study in Korea**

**Kyung Hee Park**[1], Da Woon Sim[1], Hye Jung Park[1], Kyoung-Yong Jeong[2], Jae-Hyun Lee[1] and Jung-Won Park[1], [1]Division of Allergy and Immunology, Department of Internal Medicine, Yonsei University College of Medicine, [2]Institute of Allergy, Yonsei University College of Medicine, Seoul, South Korea

**151** **Broken Heart Syndrome (Takotsubo Cardiomyopathy) Induced By Epinephrine**

**Muhammad A. Imran, MD**[1], Haroon Khalid, MBBS[1], Saima Karim, DO[2] and Selina A. Gierer, DO[3], [1]University of Kansas Medical Center, [2]Yale School of Medicine, CT, [3]University of Kansas Medical Center, Kansas City, KS

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## Anaphylaxis and Venom Immunotherapy

### FADDA

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Saturday, March 5th, 2016, 9:45 AM - 10:45 AM

**152** **Systemic Reactions to Aeroallergen Immunotherapy: A Retrospective Review of Our Practice**

**Matthew T. Tallar, MD**[1], Leslie M. Gimenez, MD, FAAAAI[2], Heidi T. V. Zafra, MD, FAAAAI[3] and Asriani M. Chiu, MD, FAAAAI[3], [1]Medical College of Wisconsin, [2]Medical College of Wisconin, Milwaukee, WI, [3]Medical College of Wisconsin, Milwaukee, WI

**153** **Safety and Efficacy of Hymenoptera and Fire Ant Rush Immunotherapy in Children**

**Wiparat Manuyakorn, MD, PhD**, Suwat Benjaponpitak, MD, Wasu Kamchaisatian, MD, Cherapat Sasisakulporn, BSc and Wanlapa Teawsomboonkit, RN, Division of Pediatric Allergy and Immunology, Department of Pediatrics, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

**154** **Analysis of Venom Hypersensitivity Reactions and Subsequent Preventative Management in VA Patient Population**

**Priya J. Patel, MD**, Rutgers - New Jersey Medical School, Newark, NJ and Alan H. Wolff, MD, Rutgers New Jersey Medical Center, Newark, NJ

**155** **Platelet Activating Factor Acetylhydrolase Levels at Baseline and during Allergic Reactions**

**Jacob D. Kattan, MD**[1], Thomas Kraus, PhD[1], Thomas Moran, PhD[1] and Hugh A. Sampson, MD, FAAAAI[2], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, New York, USA

**156** **Baseline CD63 Expression in Patients with Exercise Induced Anaphylaxis (EIA)**

**Liat Nachshon, MD**[1], Moshe Appel, PhD[1], Michael R Goldberg, MD, PhD[1], Arnon Elizur, MD[1,2] and Yitzhak Katz, MD, FAAAAI[1,2], [1]Assaf Harofeh Medical Center, Zerifin, Israel, [2]Department of Pediatrics, Sackler School of Medicine, Tel Aviv, Israel

**157** **Exercise-Induced Anaphylaxis Successfully Treated with Hydroxychloroquine**

**Aaron K. Kobernick, MD, MPH**, University of North Carolina, Chapel Hill, NC and Maya R. Jerath, MD, PhD, University of North Carolina at Chapel Hill, Chapel Hill, NC

**158** **Wheat-Dependent, Exercise-Induced Anaphylaxis Can be Elicited without Exercise (And With Other Co-factors)**

**Morten J. Christensen, MD**[1,2], Esben Eller, MSc, PhD[1,2], Charlotte G Mortz, MD, PhD[1,2], Knut Brockow, MD[3,4] and Carsten Bindslev-Jensen, MD, PhD, DMSci, FAAAAI[1,2], [1]Department of Dermatology and Allergy Center, Odense University Hospital, Odense, Denmark, [2]Odense Research Center for Anaphylaxis (ORCA), Odense, Denmark, [3]Department for Dermatology and Allergy Biederstein, Klinikum rechts der Isar,TU Munich, Munich, Germany, [4]Technical University Munich, Munich, Germany

**159** **Pretreatment with Ibrutinib, a Bruton's Tyrosine Kinase Inhibitor, Reduces Passive Systemic Anaphylaxis in a Murine Model**

**Jennifer A. Regan, MD, PhD**, Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, IL, Rebecca Krier-Burris, MS, Northwestern University, Jeremy O'Sullivan, PhD, Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Paul Bryce, PhD, Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL and Bruce S. Bochner, MD, FAAAAI, Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL

**160** **Optimal Needle Length of Epinephrine Prefilled Syringe in Thai Infants**

**Buntita Bamrungchaowkasem, MD**[1], Wiparat Manuyakorn, MD, PhD[1], Nichanun Ruangwattanapaisarn, MD[2], Suwat Benjaponpitak, MD[1] and Wasu Kamchaisatian, MD[1], [1]Division of Pediatric Allergy and Immunology, Department of Pediatrics, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand, [2]Department of Radiology, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

**161** **Effects of Intramuscular Epinephrine on Cardiovascular Parameters during IgE-Mediated Allergic Reactions to Peanut**

**Monica Ruiz-Garcia, MD**[1], Carl Hayward, MD, PhD[2], Alistair Tang, BSc[1], Andrew Clark, MRCPCH MD[3], Isabel J. Skypala, PhD, RD[1,4], Stephen R. Durham, MA, MD, FRCP[2], Alexander R Lyon, PhD, FRCP[2,4], Robert J. Boyle, MBChB PhD[5] and Paul J. Turner, FRACP, PhD[1,6], [1]Imperial College London, United Kingdom, [2]National Heart and Lung Institute, Imperial College London, United Kingdom, [3]Department of Medicine, University of Cambridge, Cambridge, United Kingdom, [4]Royal Brompton and Harefield NHS Foundation Trust, London, United Kingdom, [5]Section of Paediatrics, Imperial College London., United Kingdom, [6]University of Sydney, Australia

**162** **Correct Use of Epinephrine Autoinjectors in Relation to Health Literacy in Patients with Food Allergies**

**Maureen Egan, MD** and Julie Wang, MD, FAAAAI, Icahn School of Medicine at Mount Sinai, New York, NY

**163** **When Is Epinephrine Used in Anaphylaxis?**

**Alberto Alvarez-Perea, MD**, Margarita Tomás-Pérez, MD, Beatriz Ameiro, MD, Patricia Martinez-Lezcano, MD, Gabriela Zambrano, MD and María L. Baeza, MD, PhD, Hospital General Universitario Gregorio Marañón, Allergy Department, Madrid, Spain

**164** **Prescription of Epinephrine Autoinjectors to Children with Food Allergies in a General Pediatric Clinic**

**Tamar Weinberger**[1], Ari Zelig, MD[2], Allison Gault, MD[1] and Julie Wang, MD, FAAAAI[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Albert Einstein College of Medicine, Bronx, NY

**165 Epinephrine Use in the New York City Public School District**

**Elizabeth Feuille, MD**[1], Cheryl Lawrence[2], Caroline Volel[3], Scott H. Sicherer, MD, FAAAAI[1,4] and Julie Wang, MD, FAAAAI[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Office of School Health, New York City Department of Health and Mental Hygiene, New York, NY, [3]Mailman School of Public Health, Columbia University, [4]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, New York, NY

**166 Epinephrine Use in Schools for Food-Induced Anaphylaxis**

**Angela Tsuang, MD, MSc**[1], Haidi Demain[2], Kathleen Patrick, RN[3], Michael Pistiner, MD, MMSc[4] and Julie Wang, MD, FAAAAI[1], [1]The Icahn School of Medicine at Mount Sinai, New York, NY, [2]Founder and Medical Director of Allergy Safe Kids, Inc, Denver, CO, [3]Assistant Director of Health & Wellness, Colorado Department of Education, Denver, CO, [4]Harvard Vanguard Medical Associates, Boston, MA

**167 EPIPEN4SCHOOLS® Survey Combined Analysis: Prevalence and Triggers of Anaphylactic Events**

**Martha V. White, MD, CPI**[1], Suyapa Silvia, PhD[2], Kelly Hollis, MBA[2], Margaret J. Wooddell, PhD, MBA[3], Diana Goss, BS[2], Dawn Odom, MS[2], Jennifer Bartsch, MStat[2] and Susan L. Hogue, PharmD, MPH[2], [1]Institute for Asthma & Allergy, Wheaton, MD, [2]RTI International, Research Triangle Park, NC, [3]Mylan Specialty, Canonsburg, PA

**168 EPIPEN4SCHOOLS® Survey Combined Analysis: Staff Training and Use of Epinephrine Auto-Injectors**

**Susan L. Hogue, PharmD, MPH**[1], Suyapa Silvia, PhD[1], Kelly Hollis, MBA[1], Margaret J. Wooddell, PhD, MBA[2], Diana Goss, BS[1], Dawn Odom, MS[1], Darryl Cooney, MS[1] and Martha V. White, MD, CPI[3], [1]RTI International, Research Triangle Park, NC, [2]Mylan Specialty, Canonsburg, PA, [3]Institute for Asthma & Allergy, Wheaton, MD

**169 Likelihood of Having Self-Injectable Epinephrine in Adult and Pediatric Patients Presenting for Evaluation of Food Allergy**

**Carolyn H. Baloh, MD**[1], Daniel Winger, MS[2], Tara Shankar, MD[3], Merritt L. Fajt, MD[3] and Todd David Green, MD, FAAAAI[1], [1]Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, [2]UPMC, [3]University of Pittsburgh Medical Center, Division of Pulmonary, Allergy and Critical Care Medicine, Pittsburgh, PA

**170 Recurrent Idiopathic Anaphylaxis in a Woman after Suspected Food Poisoning**

**Carl B. Lauter, MD, FAAAAI**, Beaumont Health System, Royal Oak, MI

**171 An Interdisciplinary Approach to Perioperative Anaphylaxis: A Tertiary Pediatric Center Experience**

**Atoosa Kourosh, MD, MPH**, Karen Thursday S. Tuano, MD, Dipika Patel, MD, Nicholas Rider, DO, Sara Anvari, MD, Lenora M. Noroski, MD, MPH, Kristin H. Dillard, MD and Filiz O. Seeborg, MD, MPH, Baylor College of Medicine and Texas Children's Hospital, Department of Pediatrics, Section of Immunology, Allergy and Rheumatology, Houston, TX

**172 Increasing Trends in the Nationwide Incidence of Anaphylaxis Visiting Emergency Room in Korea from 2007 to 2013**

**Young Min Ahn, MD**, Eulji University School of Medicine, South Korea; Department of Pediatrics, South Korea, Eun-Hee Chung, Department of Pediatrics,National Medical Center, Seoul, South Korea, Youn Kyung Won, National Medical Center, South Korea and Yoo Mi Chung, National medical center, South Korea

**173 Analysis of Anaphylaxis Trigger Factors and Treatment during a Five Year Period in a Vilnius University Hospital**

**Audra Blaziene**[1], Neringa Buterleviciute[2], Viktorija Paltarackiene[2] and Lawrence M. DuBuske, MD, FAAAAI[3,4], [1]Vilnius University Medical School, Lithuania, [2]Vilnius University Faculty of Medicine, Vilnius, Lithuania, [3]George Washington University School of Medicine, Washington, DC, [4]Immunology Research Institute of New England, Gardner, MA

**174 Accuracy of ICD-10 Coding for Anaphylaxis**

**Monthida Uthairat, MD**[1], Teeranai Sakulchit, MD[2] and Pasuree Sangsupawanich, MD, PhD[1], [1]Prince of Songkla University, Hat-yai, Thailand, [2]Prince of Songkla University, Hatyai, Thailand

**175 The Incidence of Anaphylaxis in a Large Health Maintenance Organization: A Review of International Classification of Diseases Coding and Epinephrine Auto-Injector Prescribing**

**Deena Pourang, MD**[1], Javed Sheikh, MD, FAAAAI[1], Shefali A. Samant, MD[1], Michael Batech[2] and Michael S. Kaplan, MD, FAAAAI[1], [1]Kaiser Permanente Los Angeles Medical Center, [2]Kaiser Permanente Department of Research and Evaluation

**176 Alpha-Gal Hypersensitivity: A Case Series from Good Ol' Rocky Top Tennessee**

**Mike Tankersley, MD, FAAAAI**[1], Alan DeJarnatt, MD[2] and Ross DeJarnatt[2], [1]University of Tennessee Health Sciences Center, [2]Allergy and Asthma Care

**177 A Case of Idiopathic Systemic Capillary Leak Syndrome: Masquerader of Anaphylaxis – an Emblematic Case from a Cohort of 21 Patients**

**Maddalena A. Wu**[1], Marta Mansi, MD[1], Andrea Zanichelli[1], Avner Reshef, MD[2] and Marco Cicardi[1], [1]Department of Biomedical and Clinical Sciences "Luigi Sacco", University of Milan, Luigi Sacco Hospital, Milan, Italy, [2]Allergy, Clinical Immunology & Angioedema Unit, Chaim Sheba Medical Center, Tel Hashomer, Israel

**178 Comparison of Pediatric Anaphylaxis at Montreal Children's Hospital and British Columbia Children's Hospital: Rate, Clinical Characteristics, Triggers and Management**

**Alison YM Lee, MD**, Pediatric Residency Program, Department of Pediatrics, University of British Columbia, Vancouver, BC, Canada., Paul Enarson, MD, PhD, Division of Emergency Medicine, Department of Pediatrics, University of British Columbia, Vancouver, BC, Canada., Ann Clarke, MD, MSc, Division of Rheumatology, Department of Medicine, University of Calgary, Calgary, AB, Canada, Sebastian La Vieille, MD, Health Canada, Ottawa, ON, Canada; Food Directorate, Ottawa, ON, Canada, Harley Eisman, MD, Emergency Department, Department of Pediatrics, Montreal Children's Hospital, Montreal, QC, Canada, Edmond S. Chan, MD, FAAAAI, Division of Allergy & Immunology, Department of Pediatrics, Faculty of Medicine, University of British Columbia, BC Children's Hospital, Vancouver, BC, Canada, Christopher Mill, BSc, MPH, University of British Columbia, Vancouver, BC, Canada, Lawrence Joseph, PhD, Division of Clinical Epidemiology, Department of Medicine, McGill University Health Center, Montreal, QC, Canada and Moshe Ben-Shoshan, Division of Allergy and Clinical Immunology, Department of Pediatrics, Montreal Children's Hospital, Montreal, QC, Canada.

**179 A Law Is Not Enough: Geographical Disparities in Stock Epinephrine Access in Kansas**

**Marissa A. Love, MD**, Madison Breeden, BS, Kyle Dack, BA, Alyssa Milner, BA, Andrew C. Rorie, MD and Selina A. Gierer, DO, University of Kansas Medical Center, Kansas City, KS

**180 Anaphylaxis Cases Treated By out-of-Hospital EMS in Western Quebec**

**Magdalena J. Grzyb, MD**, Division of Pediatric Allergy & Clinical Immunology, McGill University, Montreal, QC, Canada, Ann Clarke, MD, MSc, Division of Rheumatology, Department of Medicine, University of Calgary, Calgary, AB, Canada, Nofar Kimchi, Technion American Medical Students Program, Israel, Colette Lachaine, Direction adjointe de services préhospitaliers d'urgence, MSSS, Quebec, Canada, QC, Canada, Sebastian La Vieille, MD, Food Directorate, Ottawa, ON, Canada, Lawrence Joseph, PhD, McGill University, Montreal, QC, Canada, Christopher Mill, BSc, MPH, School of Population and Public Health, University of British Columbia, Vancouver, BC and Moshe Ben-Shoshan, MD, MSc, The Research Institute of the McGill

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University Health Centre, Meakins- Chrisitie Laboratories, Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, Montreal Children's Hospital, Montreal, QC, Canada

**181** **Prehospital Administration of Epinephrine in Pediatric Anaphylaxis – a Statewide Perspective**

**Leslie M. Cristiano, MD**[1], Brian C. Hiestand, MD[1], William A. Gower, MD[1], Katherine C. Gilbert, MD[1], Jason W. Caldwell, DO, FAAAAI[1], Antonio R. Fernandez, PhD[2] and James E. Winslow, MD[1], [1]Wake Forest School of Medicine, Winston-Salem, NC, [2]EMS Performance Improvement Center, University of North Carolina, Chapel Hill, NC

**182** **Increase in Intensive Care Unit Admissions for Anaphylaxis in the United Kingdom 2008-2012**

**Deepan Vyas, MRCPCH**[1], Despo Ierodiakonou, MD, PhD[1], David A Harrison, MA, PhD[2], Tim Russell[2], Paul J. Turner, FRACP PhD[1,3] and Robert J. Boyle, MBChB PhD[4], [1]Imperial College London, United Kingdom, [2]ICNARC, London, United Kingdom, [3]University of Sydney, Australia, [4]Section of Paediatrics, Imperial College London., United Kingdom

**183** **Anaphylaxis Fatalities in Australia 1997 to 2013**

**Raymond James Mullins, FRACP, FRCPA, PhD, FAAAAI**, ANU Medical School, Deakin, Australia, Woei Kang Liew, MD, SBCC Baby & Child Clinic, Singapore, Singapore, Brynn Wainstein, FRACP, PhD, Department of Allergy and Immunology, Sydney Children's Hospital, Sydney, Sydney, Australia, Elizabeth H Barnes, BAppSc, MStat, NHMRC Clinical Trials Centre, Sydney, Australia and Dianne E. Campbell, MD, FRACP, PhD, Department of Allergy and Immunology, The Children's Hospital at Westmead, Westmead, Australia

SATURDAY

## Innovations in the Prediction and Treatment of Allergic Diseases

## HEDQ

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Saturday, March 5th, 2016, 9:45 AM - 10:45 AM

**184** **The Economic Burden of Food Allergic Patients Managing at a Tertiary Care Center**

**Narissara Suratannon, MD**, Panida Swangsak, Jarungchit Ngamphaiboon, MD and Pantipa Chatchatee, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

**185** **The Effect of Vitamin D Levels on Pediatric Allergic Diseases: A Nationwide Population-Based Study**

**Hea-Kyoung Yang**[1,2], Jaehee Choi[3,4], Woo Kyung Kim[5], So-Yeon Lee, MD[6,7], Yong Mean Park[8], Man-Yong Han, MD[9], Myung-Il Hahm[10], Yoomi Chae[11], Hye-young Kim[12], Kang Mo Ahn, MD[2,13], Ho-Jang Kwon, MD, PhD[14,15] and Jihyun Kim, MD[16,17], [1]Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, [2]Environmental Health Center for Atopic Diseases, Samsung Medical Center, Seoul, Korea, [3]Environmental Health Center for Atopic Diseases, [4]Department of Pediatrics, Samyook Medical Center, Seoul, South Korea, [5]Department of Pediatrics, Inje University College of Medicine, Seoul, Korea, [6]Department of pediatrics, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, [7]Department of Pediatrics, Hallym University Secred Heart Hospital, Anyang, South Korea, [8]Kunkuk University Hospital, South Korea, [9]CHA University Bundang Medical Center, Seongnam, South Korea, [10]Department of Health Administration and Management, College of Medical Science, Soonchunhyang University, Asan, Korea, [11]Department of Occupational and Environmental Medicine, College of Medicine, Dankook University, [12]Department of Pediatrics, Pusan National University School of Medicine, Busan, Korea, [13]Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, South Korea, [14]Preventive Medicine, Dankook University College of Medicine, Cheonan, South Korea, [15]Dankook University, Cheonan, [16]Environmental Health Center for Atopic Diseases, Seoul, South Korea, [17]Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea

**186** **Clinical and Epidemiological Differences in Patients with Acute Urticaria and Chronic Urticaria**

**Mehtap Haktanir Abul, MD**[1], Fazil Orhan[2], Zekiye Ilke Kilic Topcu[2], Taner Karakas[2] and Ali Baki[3], [1]Karadeniz Technical University Faculty of Medicine Department of Pediatric Immunology and Allergy, Trabzon, Turkey, [2]Karadeniz Technical University Faculty of Medicine Department of Pediatric Immunology and Allergy, [3]Karadeniz Technical University Faculty of Medicine Department of Pediatric Pulmonology

**187** **Gender- and Genetic-Dependent Sunlight Exposure Effects on the Cumulative Incidence of Atopic Dermatitis during Infancy**

**Miwa Shinohara, MD, PhD**, Department of pediatrics, Ehime University Hospital, Ehime, Toon, Japan; Department of Pediatrics, Kochi University, Kochi, Namgoku, Japan, Eiichi Ishii, Department of Pediatrics, Ehime University Graduated School of Medicine, Toon, Japan and Kenji Matsumoto, MD, PhD, Department of Allergy and Clinical Immunology, National Research Institute for Child Health and Development, Tokyo, Japan

**188** **Creating a System to Track Allergic Reactions in Schools**

**Ruchi Gupta, MD, MPH**[1,2], Marjorie Yarbrough, MPH[3] and Bridget Smith, PhD[1,4], [1]Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [3]Feinberg School of Medicine, Northwestern University, [4]Edward J. Hines Jr. VA Hospital, Chicago, IL

**189** **Impact of Maternal Oral Contraceptive Pills on Wheeze and Allergic Outcomes in 5-Year-Olds: A Prospective Birth Cohort Study in Japan.**

**Kiwako Yamamoto-Hanada, MD**[1], Limin Yang[2], Tetsuo Shoda, MD, PhD[1], Osamu Natsume, MD[1], Masami Narita, MD, PhD[1] and Yukihiro Ohya, MD, PhD[2], [1]Division of Allergy, National Center for Child Health and Development, Tokyo, Japan, [2]Division of Allergy, National Center for Child Health and Development, Japan

**190** **Determination of the Accurate Food Allergy Prevalence and Correction of Unnecessary Food Elimination**

**Yuki Okada, MD**, Niijima Clinic, Tokyo, Japan; Department of General Pediatrics,Tokyo Metropolitan Childrens Medical Center, Tokyo, Japan, Takumi Yamashita, Shikinejima Clinic; Tokyo Metropolitan Bokutoh Hospital, Hideki Kumagai, Department of Pediatrics, Jichi Medical University, Tochigi, Japan, Yoshihiko Morikawa, Clinical Research Support Center, Tokyo Metropolitan Childrens Medical Center and Akira Akasawa, MD, PhD, Division of Allergy, Tokyo Metropolitan Childrens Medical Center

**191** **Relationship of Influenza Virus Infection and Complications from Viral/Bacterial Infections in a Community Based Setting**

**Yitzchok M. Norowitz, BS**[1], Tamar A. Smith-Norowitz, PhD[2] and Stephan Kohlhoff, MD[1], [1]Department of Pediatrics, State University of New York Downstate Medical Center, Brooklyn, NY, [2]Department of Pediatrics, SUNY Downstate Medical Center, Brooklyn, NY

**192** **The Association Between Maternal Depression and Child Allergic Disease**

**Ju-Suk Lee, MD, PhD**, Samsung Changwon hispital; Sungkyunkwan university, Changwon, South Korea, Cheol Hong KIm, MD, International St. Marry Hospital and Jin-A Jung, MD, Dong-A University College of Medicine, Busan, South Korea

**193** **The Passive Smoking Is an Important Risk Factor of Allergic Diseases in Korean Adolescents**
**Kyung Suk Lee, MD, PhD**, Department of Pediatrics, CHA University Bundang Medical Center, Seongnam, South Korea, Man-Yong Han, MD, CHA University Bundang Medical Center, Seongnam, South Korea, Jun-Hyuk Song, MD, Department of Pediatrics, Myongji Hospital, Goyang-si, South Korea, Sun Hee Choi, MD, PhD, Kyung Hee University Hospital at Gangdong, Seoul, South Korea and Yeong-Ho Rha, MD, PhD, Kyung Hee University Hospital, Seoul, South Korea

**194** **No Association Between Atopic Outcomes and Pertussis Vaccine Given in Children Born on the Isle of Wight 2001-2**
**Carina Venter, PhD, RD**[1,2], Julia Stowe, BA (Hons)[3], Nick Andrews, PhD[3], Elizabeth Miller, FRCPath[3] and Paul J. Turner, FRACP, PhD[4,5], [1]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, Cincinnati, OH, [2]University of Portsmouth, United Kingdom, [3]Public Health England, United Kingdom, [4]Section of Paediatrics, Imperial College London, United Kingdom, [5]Imperial College London, United Kingdom

## Immunotherapy, Anaphylaxis

## IRSO

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**195** **Epit Prevents from the Induction of Anaphylaxis to Further Allergens: Role of Naive Tregs**
**Lucie Mondoulet, PhD**[1], Vincent Dioszeghy, PhD[1], Emilie Puteaux[1], Mélanie Ligouis[1], Véronique Dhelft[1], Camille Plaquet[1], Christophe Dupont, MD, PhD[2] and Pierre-Henri Benhamou, MD[1], [1]DBV Technologies, Bagneux, France, [2]Hopital Necker Enfants Malades, Paris, France

**196** **Altered Serum IgE and IgG4 Response to Dermatophagoides Pteronyssinus Allergens during Specific Immunotherapy**
**Baoqing Sun, MHA**, The First Affiliated Hospital of Guangzhou, Guangzhou, China and Zheng Peiyan, State Key Laboratory of Respiratory Disease, National Clinical Center for Respiratory Diseases, Guangzhou Institute of Respiratory Diseases, First Affiliated Hospital, Guangzhou Medical University, Guangzhou, China

**197** **Conjunctival Provocation Test in Daily Practice: Four Ocular Symptoms Vs Ocular Pruritus Score System**
**Carmen Rondon, MD, PhD**[1], Paloma Campo, MD, PhD[1], Esther Barrionuevo, MD, PhD[2], Ana Prieto del Prado, MD[3], Gador Bogas, MD[1], Arturo Ruiz, MD[1], Maria Auxiliadora Guerrero[1], Leticia Herrero[1], Pedro A Galindo[4], Diana Perez-Alzate, MD[5] and Miguel Blanca, MD, PhD[6], [1]Allergy Unit, Regional University Hospital of Málaga-IBIMA, UMA, Málaga, Spain, [2]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Málaga, Spain, [3]Pediatric Area. Health Center Don José Molina Díaz. Alhaurín de la Torre., Málaga, Spain, [4]Allergy Service, General University Hosptial of Ciudad Real, Ciudad Real, Spain, [5]Allergy Service, University Hospital Infanta Leonor, Madrid, Madrid, Spain, [6]Allergy Unit,Regional University Hospital of Malaga-IBIMA,UMA, Málaga, Spain

**198** **Does Having Prior Turbinate Surgery Influence Slit Compliance**
**Jessica Tattersall, MBBS(Hons)**, Rhinology and Skull Base research group, Darlinghurst, Australia

**199** **House Dust Mite-Associated Allergic Rhinitis: Efficacy of STG320 Sublingual Tablets of House Dust Mite Allergen Extracts**
**Michel Roux, MD**, Hélène Nguyen, PharmD, Agnès Viatte and Robert K. Zeldin, MD, Stallergenes SAS, Antony, France

**200** **A Complication of Eosinophilic Esophagitis from Sublingual Immunotherapy**
**Charmi Patel**, Baton Rouge General/Tulane University School of Medicine, Baton Rouge, LA and Prem K. Menon, MD, FAAAAI, Asthma, Allergy and Immunology Center, Baton Rouge, LA; Tulane University School of Medicine

**201** **Intralymphatic Pollen-Specific Immunotherapy for Nasal Allergy: Clinical Efficacy and Effects on the Induction of Pollen- Specific Antibody**
**Tetsuya Terada**, Syuji Omura, Yusuke Kikuoka, Megumi Yoshida, Manabu Suzuki, Shinpei Ichihara, Takahiro Ichihara, Takaki Inui and Ryo Kawata, Osaka Medical College

**202** **Evaluation of SQ-House Dust Mite Sublingual Immunotherapy Tablet One-Year after Completion of a 24-Week Treatment Period**
**Petra U. Zieglmayer, MD**[1], Hendrik Nolte, MD, PhD[2], Harold S. Nelson, MD, FAAAAI[3], David I. Bernstein, MD, FAAAAI[4], Amarjot Kaur, PhD[2], Ziliang Li, PhD[2], Rene Zieglmayer[1], Rene Schmutz, MD[1], Patrick Lemell, PhD[1] and Friedrich Horak, MD[1], [1]Vienna Challenge Chamber, Vienna, Austria, [2]Merck & Co., Inc., Kenilworth, NJ, [3]National Jewish Health, Denver, CO, [4]Bernstein Allergy Group, Cincinnati, OH

**203** **Efficacy of Sublingual Immunotherapy to Dust Mites: Real-Life Study Comparing Adults and Children**
**Carla Irani, MD, FAAAAI**, University of Alberta, Edmonton, AB, Canada; Hotel Dieu de France hospital St Joseph University, Beirut, Lebanon and Albert Semaan, Hotel Dieu de France hospital, St Joseph University, Beirut, Lebanon

**204** **Eosinophilic Esophagitis Induced By Aeroallergen Sublingual Immunotherapy in an Enteral Feeding Tube Dependent Pediatric Patient**
**Cindy S Bauer, MD**[1], Michaela M Tvrdik[2] and Shauna Schroeder, MD[1], [1]Phoenix Children's Hospital, Phoenix, AZ, [2]Creighton University School of Medicine, Omaha, NE

**205** **Efficacy of 300IR 5-Grass Pollen Sublingual Tablet in the Treatment of Rhinitis Symptoms in Polysensitized Subjects with Grass Pollen-Induced Allergic Rhinoconjunctivitis**
**Robert K. Zeldin, MD**, Yann Amistani, MSc, Josiane Cognet-Sicé, PharmD and Kathy Abiteboul, PharmD, Stallergenes SAS, Antony, France

**206** **Evaluation of Pediatric and Adult Systemic Reactions to Subcutaneous Immunotherapy (SCIT): Interim Analysis of a Retrospective Chart Review**
**Chen Lim, MD**, Department of Pediatrics, Cohen Children's Medical Center, North Shore-LIJ Health System, New Hyde Park, NY, Cristina Sison, PhD, Feinstein Institute for Medical Research, Biostatistics Unit, North Shore-LIJ Health System, Manhasset, NY and Punita Ponda, MD, Allergy and Immunology, Department of Pediatrics, Division of Allergy & Immunology, Hofstra-North Shore-LIJ School of Medicine, Great Neck, NY

**207** **Fel d 1 Peptide Immunotherapy Ameliorates Both Cat and Ovalbumin Responses, in a Dual Allergen Murine Model of Allergic Airways Disease**
**Daniel M. Moldaver**[1,2], Mantej S. Bharhani[1,2], Christopher D Rudulier, PhD[3], Jennifer Wattie[1,2], Mark D. Inman, MD, PhD[1,2] and Mark Larché, PhD[1,2], [1]Firestone Institute for Respiratory Health, Hamilton, ON, Canada, [2]McMaster University, Hamilton, ON, Canada, [3]University of Saskatchewan, Saskatoon, SK, Canada

**208** **Endometrial Anaphylaxis Due to Subcutaneous Immunotherapy (SCIT): A Case Series**
**Manideep Nandigam**[1], Frank J. Eidelman, MD, FAAAAI[2] and Ves Dimov, MD[2], [1]Cleveland Clinic Florida, [2]Cleveland Clinic Florida, Weston, FL

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## Rhinosinusitis

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**209 Surgical Therapy Reduces Blood Eosinophil Counts in Eosinophilic Chronic Rhinosinusitis**
**Dai Takagi**, hokkaido university, sapporo, Japan, Yuji Nakamaru, Otolaryngology Hokkaido University, Sapporo, Japan and Satoshi Fukuda, hokkaido university

**210 Clinical Characteristics of Aspirin Exacerbated Respiratory Disease in a Tertiary Care Patient Cohort**
**Whitney W. Stevens, MD, PhD**[1], Anju T. Peters, MD[1], Leslie C. Grammer, MD[1], Kathryn E. Hulse, PhD[2], Atsushi Kato, PhD[1], Bruce Tan, MD[3], Stephanie S. Smith, MD[3], David B. Conley, MD[3], Robert C. Kern, MD[3], Pedro C. Avila, MD[1] and Robert P. Schleimer, PhD[1,3], [1]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL

**211 Clinical Characteristics of Patients with Chronic Rhinosinusitis without Nasal Polyps in a Tertiary Care Setting**
**Mariel G Rosati, MD**[1], Whitney W. Stevens, MD, PhD[2], Newton Li, MD[2], Sumit Bose, MD[2], Leslie C. Grammer, MD[2], Kathryn E. Hulse, PhD[3], Atsushi Kato, PhD[2], Robert C. Kern, MD[4], Bruce K. Tan, MD[4], Stephanie S. Smith, MD[4], David B. Conley, MD[4], Pedro C. Avila, MD[2], Robert P. Schleimer, PhD[2] and Anju T. Peters, MD[2], [1]Department of Medicine, Division of Internal Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [4]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL

**212 Management of Adenoid Hypertrophy in Allergic Children, How Effective Is Surgery?**
**Omursen Yildirim, MD**[1], Yusuf O Ucal[2], Andreea I. Popescu[3], Mehmet F Sonmez[4] and Serhat A Erdogan[4], [1]ISTANBUL BILIM UNIVERSITY FLORENCE NIGHTINGALE HOSPITAL OTOLARYNGOLOGY DEPARTMENT, ISTANBUL, Turkey, [2]ISTANBUL AYDIN UNIVERSITY, ISTANBUL, Turkey, [3]SANADOR MEDICAL CENTER, BUCHAREST, Romania, [4]IGDIR STATE HOSPITAL, IGDIR, Turkey

**213 Expression of ADAM17 and ADAM10 in Nasal Polyps**
**Woo Yong Bae, MD**[1], Seong Kook Park, MD[2], Dae Young Hur, MD[3], Tae Kyung Koh, MD[4] and Ji Won Seo, MD[4], [1]Department of Otorhinolaryngology, College of Medicine, Dong-A University, Busan, South Korea, [2]Department of Otorhinolaryngology-Head and Neck Surgery, Inje University, College of Medicine, Busan Paik Hospital, Busan, South Korea, [3]3Department of Anatomy and Research Center for Tumor Immunology, Inje University, College of Medicine, Busan Paik Hospital, Busan, South Korea, [4]Department of Otorhinolaryngology-Head and Neck Surgery, Dong-A University College of Medicine, Busan, South Korea

**214 Down-Regulated the Expression of Wdpcp Could Interrupt the Ciliogenesis in CRS**
**Yinyan Lai**, Yun Ma and Jianbo Shi, Otorhinolaryngology hospital in the First Affiliated Hospital, Sun Yat-sen University, Guangzhou, China

**215 New Model of Murine Allergic Rhinosinusitis Induced Cockroach Allergens**
**Bethany L. Lussier, MD** and Daniel G. Remick, MD, Boston University School of Medicine

**216 Wnt Signaling in Nasal Polyp**
**Ji-Hun Mo**, Dankook University College of Medicine, Cheonan, South Korea, Young-Jun Chung, Department of Otorhinolaryngology, Dankook University College of Medicine, Cheonan, South Korea and Yun-Hee Rhee, Beckman Laser Institute Korea, Dankook University, Cheonan, South Korea

**217 Prolonged Allergen Exposure Causes TSLP-Mediated Th2-Skewing in Mouse Models of Chronic Rhinosinusitis**
**Dong-Kyu Kim, MD**[1], Kyung Mi Eun[2], Hong Ryul Jin, MD[2], Seong Ho Cho, MD, FAAAAI[3] and Dae Woo Kim, MD[2], [1]Chuncheon Sacred Heart Hospital, Hallym University College of Medicine, South Korea, [2]Seoul National University Hospital and Boramae Medical Center, South Korea, [3]University of South Florida, College of Medicine, Tampa, FL

**218 Effect of IL-10 Expression on Pathogenesis of Nasal Polypogenesis in the Patients with Chronic Rhinosinusitis with Nasal Polyp**
**Yong Min Kim**, Chungnam National University School of Medicine, Daejeon, South Korea

**219 Fidarestat Decrease Allergic Sinus Congestion**
**Walter C. Spear, MSc**, KarryAnne K. Belanger, BSc, Spotswood Miller, BSc, Igor Patrikeev, PhD, Massoud Motamedi, PhD, Kota V Ramana, PhD, Satish Srivastava, PhD and Bill T. Ameredes, PhD, University of Texas Medical Branch, Galveston, TX

## Cytokines, Chemokines and Innate Mechanisms

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**221 ATP8B1 Deficiency Enhances Hyperoxia-Induced Lipid Oxidation and Apoptotic Response in Lung Epithelial Cells**
**Andrew J. Cooke, MD**, Division of Allergy and Immunology, Department of Internal Medicine, Morsani College of Medicine, University of South Florida, Tampa, FL, Jutaro Fukumoto, MD and PhD, Morsani College of Medicine, University of South Florida, Tampa, FL, Lee C Tan, University of South Florida, Richard F. Lockey, MD, Division of Allergy and Immunology, Department of Internal Medicine, University of South Florida, Morsani College of Medicine, Tampa, FL and Narasaiah Kolliputi, PhD, Internal Medicine, Division of Allergy and Immunology, Department of Internal Medicine, Morsani College of Medicine, University of South Florida, Tampa, FL

**222 Modulation of Lung Inflammation and Airway Hypereactivity By the Toll-like Receptor 4 (TLR4) Agonist Glucopyranosyl Lipid a (GLA) in a Mouse Model of Airway Allergy**
**George Qian**[1], Samreen Arshad[1], Dongling Chen[2], Xiaying Wu[1], Keith Graver[3], Mayra Fernandez[1], Joanne Schiding[4], Timothy J Soos[5], Christopher Arendt[2] and El-Bdaoui Haddad[2], [1]Sanofi, MA, [2]Bio-Innovation, Global BioTherapeutics, Sanofi, Cambridge, MA, [3]Bio-Innovation Global BioTherapeutics Sanofi, Cambridge, MA, [4]Bio-Innovation, Global Biotherapeutics, sanofi, Cambridge, MA, [5]Bio-Innovation, Global Biotherapeutics, SANOFI, Cambridge, MA

**223 In Vitro and In Vivo Transglutaminase 2 Expression in Asthma and COPD**
**Gyu-Young Hur**, Jee Youn Oh, Jae-Kyeom Sim, Kyung Hoon Min, Sung-Yong Lee, Jae-Jeong Shim and Kyung-Ho Kang, Korea University College of Medicine, South Korea

**224 Anti-Interleukin (IL)-9 Antibody Increases Induction of Oral Tolerance in Murine Allergic Rhinitis**
**Soo Whan Kim**, The Catholic University of Korea and Jihyun SHIN, The Catholic University Of Korea, Seoul, Korea

**225 Reduced Nasal Brain Derived Neurotrophic Factor in Aspirin Exacerbated Respiratory Disease**
**Michele Pham, MD**[1], Rachel Baum, BS[1], David Broide, MB, ChB, FAAAAI[1], Andrew White, MD, FAAAAI[2] and Taylor Doherty, MD, FAAAAI[1], [1]University of California San Diego, La Jolla, CA, [2]Scripps Clinic, Division of Allergy, Asthma and Immunology, San Diego, CA

**226 Autolysosomal Formation Is Required for Autophagy-Dependent IL-18 Release from Airway Epithelial Cells.**
**Hiroki Murai, MD, PhD**[1], Shintaro Okazaki, MD[1], Hisako Hayashi, MD, PhD[1], Akiko Kawakita, MD[1], Motoko Yasutomi, MD, PhD[1], Sanjiv Sur, MD[2] and Yusei Ohshima, MD, PhD[1], [1]University of Fukui, Fukui, Japan, [2]University of Texas Medical Branch, Galveston, TX

**227 MD2 Facilitates Pollen and Cat Dander-Induced Innate and Allergic Airway Inflammation**
**Koa Hosoki, MD, PhD**, Toshiko Itazawa, MD, PhD, Istvan Boldogh, PhD and Sanjiv Sur, MD, University of Texas Medical Branch, Galveston, TX

**228 The Role of Autophagy in Allergic Inflammation: A New Target for Severe Asthma**
**Yoo Shin, MD, PhD**[1], Jing-Nan Liu[2], Youngwoo Choi[2] and Hae-Sim Park[2], [1]Ajou University School of Medicine, Suwon, South Korea, [2]Department of Allergy and Clinical Immunology, Ajou University School of Medicine, Suwon, South Korea

**229 Cat Dander Extract Requires Myd88 to Induce Innate Neutrophil Recruitment, and Allergic Sensitization and Allergic Airway Inflammation.**
**Toshiko Itazawa, MD, PhD**, Koa Hosoki, MD, PhD, Istvan Boldogh, PhD and Sanjiv Sur, MD, University of Texas Medical Branch, Galveston, TX

**230 Cockroach Protease Induces Allergic Airway Inflammation Via IL-33 and TSLP Secretion By Epithelial Cells**
**Naveen Arora, PhD**[1], Sagar Laxman Kale[1], Komal Agrawal[1] and Shailendra N. Gaur, MD, FAAAAI[2], [1]CSIR-Institute of Genomics and Integrative Biology, Delhi, India, [2]University Of Delhi, Delhi, India

**231 Anti-type2-Antibodies Specifically Inhibit Murine Asthma Features Induced By Intranasal Application of IL-5 and IL-13**
**Hendrik Beckert**[1], Helen Meyer-Martin[1], Stephanie Korn[2], Sebastian Reuter[1] and Roland Buhl[2], [1]Pulmonary Department, University Hospital, Johannes Gutenberg-University Mainz, Mainz, Germany, [2]Pulmonary Department, University Hospital, Johannes Gutenberg-University, Mainz, Germany

**232 Peanut Agglutinin Is a Novel Receptor for Dendritic Cell-Specific Intercellular Adhesion Molecule-3-Grabbing Non-Integrin (DC-SIGN)**
**Madhan Masilamani, PhD**, Mohanapriya Kamalakannan, MSc, Lisa Chang, BS, Galina Grishina, MSc and Hugh A. Sampson, MD, FAAAAI, Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY

**233 IL-25 Causes Airway Hyper-Responsiveness of Human Precision Cut Lung Slices from Donors with Asthma.**
**Jordan Heath, MD**[1], Richard Kurten, PhD[2,3], Suzanne E House[2,3], James D Sikes[4], Megan Kurten[2,3], Stacie M. Jones, MD[5,6] and Josh L. Kennedy, MD[2,7], [1]University of Arkansas for Medical Sciences, [2]University of Arkansas for Medical Sciences, Little Rock, AR, [3]Arkansas Children's Hospital Research Institute, Little Rock, AR, [4]UAMS/AR Children's Hospital, Little Rock, AR, [5]Arkansas Children's Hospital, Little Rock, AR, [6]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR, [7]Arkansas Children's Research Institute

**234 Cytokine Profiles in Breast Milk in Relation with Atopic Manifestations of Mothers and Infants: Study in Asian Population.**
**Sirapassorn Sornphiphatphong, MD**[1], Pantipa Chatchatee, MD[1], Jarungchit Ngamphaiboon, MD[1], Sirinuch Chomtho[2], Nattiya Hirankarn[3] and Narissara Suratannon, MD[1], [1]Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [2]Division of nutrition, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, [3]Division of Immunology, Department of Microbiology, Faculty of Medicine, Chulalongkorn University, Thailand, Bangkok, Thailand

**235 Individual and Synergistic Effects of IL-5 and IL-13 on Trans-Compartmental Activation and Migration of Eosinophils and Murine Asthma Features**
**Sebastian Reuter**[1], Helen Meyer-Martin[1], Hendrik Beckert[1], Stephanie Korn[2] and Roland Buhl[2], [1]Pulmonary Department, University Hospital, Johannes Gutenberg-University Mainz, Mainz, Germany, [2]Pulmonary Department, University Hospital, Johannes Gutenberg-University, Mainz, Germany

**236 Cardiolipin Provides a Platform for Caspase-1 Activation and NLRP3 Inflammasome Assembly**
**Suzanne L. Cassel, MD, FAAAAI**, Eric Elliott, Shankar S. Iyer, PhD and Fayyaz Sutterwala, MD, PhD, University of Iowa

**237 MyD88-Mediated Innate Immune Response in a Single Cat Dander Extract Challenge**
**John P. Kelley, MD**, Koa Hosoki, MD, PhD and Sanjiv Sur, MD, University of Texas Medical Branch, Galveston, TX

**238 Dust Mite-Induced Allergic Pulmonary Inflammation Is Differentially Regulated By Il33-/- and Il1rl1-/- Dendritic Cells.**
**Min Jung Lee, MD**, Eri Yoshimoto, Li Li, Yoshihide Kanaoka, MD, PhD and Nora A. Barrett, MD, FAAAAI, Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA

**239 Human Hemopoietic Progenitor Cell Toll-like and Thymic Stromal Lymphopoietin Receptor Expression and Function in Allergic Asthmatic Subjects**
**Damian Tworek, MD, PhD**, Department of Medicine, McMaster University, Hamilton, ON, Canada, Delia Heroux, BSc, Division of Clinical Immunology & Allergy, McMaster University, Hamilton, ON, Canada, Seamus N O'Byrne, MAAP, Department of Medicine, McMaster University, Paul M. O'Byrne, MB, FRCPC, FRSC, Department of Medicine, Cardio-Respiratory Research Group, McMaster University, Hamilton, ON, Canada and Judah A Denburg, MD, FRCPC, FAAAAI, Division of Clinical Immunology and Allergy, Department of Medicine, McMaster University, Hamilton, ON, Canada

**240 CCR8 Mediated Cell Migration Controls Th2 Differentiation**
**Caroline L. Sokol, MD, PhD**[1], Ryan Camire[1], Michael Jones[2] and Andrew D. Luster, MD, PhD[1], [1]Massachusetts General Hospital, Boston, MA, [2]University of Massachusetts Medical School

**241 The Effect of Vitamin D Supplementation on Mucosal IL-5, MMP9 and Cathelicidin after Nasal Allergen Challenge with Grass Pollen**
**Natasha C. Gunawardana, MBBS, MA (Cantab), MRCP**[1], Gaynor Campbell, PhD[1], Sarah Lindsley[2], Elizabeth E Mann[3], Peter J.M. Openshaw, MBBS, PhD, FRCP[4], Sebastian L. Johnston, MD, PhD[1], Catherine M. Hawrylowicz[5] and Trevor Thomas Hansel, MD, PhD[6], [1]Imperial College London, London, United Kingdom, [2]Imperial College NHS Trust, [3]King's College London, [4]Imperial Col Sch Med, St. Mary's Hospital, London, United Kingdom, [5]MRC and Asthma UK Centre for Allergic Mechanisms of Asthma, King's College London, London, United Kingdom, [6]St. Mary's Hospital, London, United Kingdom

**242 Group 2 Innate Lymphoid Cells: New Players in Peanut Allergy**
**Elisavet Ntavli**[1,2], Paul J. Turner, FRACP, PhD[2,3], Robert J. Boyle, MBChB PhD[2,3], Andrew Clark, MRCPCH, MD[4], Abigail O Robb, B.Sc[1,2], Stephen R. Durham, MA, MD, FRCP[1,2] and Mohamed H.

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Shamji, BSc, MSc, PhD, FAAAAI[1,2], [1]Immunomodulation and Tolerance Group, Immune Tolerance Network (ITN) Distributed Centre of Excellence for Allergy & Asthma, Allergy & Clinical Immunology Inflammation, Repair and Development National Heart & Lung Institute, Imperial College London, United Kingdom, [2]MRC & Asthma UK Centre in Allergic Mechanisms of Asthma, London, United Kingdom, [3]Section of Paediatrics, Imperial College London, United Kingdom, [4]Department of Medicine, University of Cambridge, Cambridge, United Kingdom

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## Mast Cells and Basophils

## MAAI

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243 **Profiling the Immune Response to Peanut Using Mass Cytometry**
**Leticia Tordesillas, PhD**[1], Adeeb H. Rahman, PhD[2,3], Hugh A. Sampson, MD, FAAAAI[1] and M. Cecilia Berin, PhD[1], [1]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Human Immune Monitoring Core, [3]Department of Genetics and Genomics, Icahn School of Medicine at Mount Sinai, New York, NY

244 **A Case of Neuropathic Pain in Monoclonal Mast Cell Activation Syndrome**
**Jeannie L. Bay, DO**, Kaye E. Sedarsky, MD and Maureen M. Petersen, MD, Walter Reed National Military Medical Center, Bethesda, MD

245 **Acidic Conditions Regulate Mast Cell Migration and Fc Epsilon RI–Mediated Cytokine Production**
**Yosuke Kamide, MD, PhD**[1], Tamotsu Ishizuka, MD, PhD[2], Hiroaki Hayashi, MD[1], Chihiro Mitsui, MD[1], Akio Mori, MD, PhD[1], Takeshi Hisada, MD, PhD[3], Kunio Dobashi, MD, PhD[3], Fumikazu Okajima[4], Masanobu Yamada, MD, PhD[3] and Masami Taniguchi, MD, PhD[1], [1]Clinical Research Center for Allergy and Rheumatology, Sagamihara National Hospital, Sagamihara, Japan, [2]Third Department of Internal Medicine, Faculty of Medical Sciences, University of Fukui, Fukui, Japan, [3]Department of Medicine and Molecular Science, Gunma University Graduate School of Medicine, Maebashi, Japan, [4]Labolatory of Signal Transduction, Institute for Molecular and Cellular Regulation, Gunma University, Maebashi, Japan

246 **Regulation of IL-4 Gene Expression By SIRT1 in Human Mast Cell**
**Yuji Nakamaru**, Department of Otolaryngology–Head and Neck Surgery, Hokkaido, Sapporo, Japan, Dai Takagi, hokkaido university, sapporo, Japan and Satoshi Fukuda, hokkaido university

247 **Hereditary Angioedema Is Associated with Neuropathic Pain, Systemic Lupus Erythematosis and Systemic Mastocytosis in an Analysis of a Health Analytics Claims Database**
**Chris Stevens**[1], Joseph C. Biedenkapp[1], Robert Mensah[2], Yung H. Chyung[1] and Burt Adelman[1], [1]Dyax Corp., Burlington, MA, [2]Dyax Corp.

248 **Anti-Apoptosis and Cell Survival Gene Expression Profile in LAD2 Cells**
**Arnold S Kirshenbaum, MD, FAAAAI**[1], Maarten Leerkes, PhD[2], Avanti Desai, MS[1] and Dean D. Metcalfe, MD[1], [1]Laboratory of Allergic Diseases, NIAID, NIH, Bethesda, MD, [2]Bioinformatics and Computational Biosciences Branch, NIAID, NIH, Bethesda, MD

249 **Transglutaminase 2 over-Expressed By Interaction of Mast Cells and Oligodendrocytes Induces Demyelination in the Experimental Autoimmune Encephalomyelitis**
**Gwan Ui Hong**[1], Young Min Ahn, MD[2,3] and Jai Youl Ro, PhD[1,4], [1]Sungkyunkwan University School of Medicine, [2]Eulji University School of Medicine, South Korea, [3]Department of Pediatrics, South Korea, [4]Sungkyunkwan University School of Medicine, suwon, South Korea

250 **Inhibition of IgE-Mediated Allergic Reaction By Pharmacologically Targeting the Circadian Clock**
**Yuki Nakamura, PhD**, Department of Immunology, Faculty of Medicine, University of Yamanashi, Chuo, Yamanashi, Japan, Atsuhito Nakao, Department of Immunology, Faculty of Medicine, University of Yamanashi, Yamanashi, Japan and Shigenobu Shibata, Department of Physiology and Pharmacology, School of Advanced Science and Engineering, Waseda University

251 **IL-33 Induces Functional CCR7 Expression in Human Mast Cells**
**Maiko Emi-Sugie, PhD**, Department of Allergy and Immunology, National Research Institute for Child Health and Development, Tokyo, Japan

252 **Effect of ONO-4053 on Fc Epsilon RI Stimulated-Mast Cell Activation**
**Shinsuke Yamaguchi**, Yutaka Okada, Yoko Matsunaga and Fumio Nambu, Ono Pharmaceutical Co., Ltd.

253 **Desensitization of Different Subsets of Mast Cells Associated with Different Manifestations of Food Allergy**
**Sara Benede, PhD**, Department of Pediatrics. Icahn School of Medicine at Mount Sinai, New York, NY and M. Cecilia Berin, PhD, Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY

254 **The Role of the Mast Cell in the Anti-Viral Immune Response**
**Ruben Raychaudhuri**, Brian T. Kelly, MD, MA, Jennifer L Santoro, BS and Mitchell H. Grayson, MD, FAAAAI, Medical College of Wisconsin, Milwaukee, WI

255 **Airway Basophils Are Activated and Associated with Eosinophilic Inflammation in Asthmatic Patients**
**Yoshihiro Suzuki, MD**, Keiko Wakahara, MD, PhD, Tomoko Nishio, MD, Satoru Ito, MD, PhD and Yoshinori Hasegawa, MD, PhD, Nagoya University Graduate School of Medicine, Nagoya, Japan

256 **Generation of Mast Cells in Co-Culture with Multiple Cell Types within an Advanced Allergy Tissue Model**
**Tahereh Derakhshan**, Rudra Bhowmick, James H. Meinkoth and Heather Gappa-Fahlenkamp, Oklahoma State University, Stillwater, OK

257 **Enhanced Development of Functional Murine Mast Cells in Human Stem Cell Factor Transgenic Immune-Deficient Mice**
**Kshitij Gupta, PhD**, Hariharan Subramanian, PhD and Hydar Ali, PhD, School of Dental Medicine, University of Pennsylvania, Philadelphia, PA

## Allied Health Saturday Poster Session

## Allied Health

2214
Saturday, March 5th, 2016, 9:45 AM - 10:45 AM

258 **Peanut-Containing Products in Children's Hospitals: Putting Pediatric Patients at Risk**
**Laura A. Fletcher**[1], Tammy Pham[1], Maguire Herriman[1], Bridget Kiely[1], Ruth Milanaik[1] and Gregory A. Rosner, MD[2], [1]North Shore-LIJ Cohen Children's Medical Center of NY, Lake Success, NY, [2]Hofstra North Shore-LIJ School of Medicine, New York, NY

259 **Hyperimmunoglobulin E Syndrome like Presentation in a Patient after Hemodialysis**
**Tanveer Singh, Resident Physician**[1], Brigani Amante[1,2], David Regelmann, Attending Physician[1] and Noorpreet Dhawan[1],

[1]St. Vincent's Medical Center, Bridgeport, CT, [2]University of Colorado Hospital, Aurora, CO

**260 Incidence of Delayed Systemic Reactions to Subcutaneous Immunotherapy**

**Carolyn M Ford, RN**[1], Elizabeth A. Leyvas, LVN[1], Jill Waalen, MD, MPH[2] and Andrew A. White, MD, FAAAAI[3,4], [1]Scripps Clinic, San Diego, CA, [2]Scripps Translational Science Institute, La Jolla, CA, [3]Scripps Clinic, Division of Allergy, Asthma and Immunology, San Diego, CA, [4]Scripps Clinic Medical Group, San Diego, CA

**261 Pilot Study Identifies Obesity, Outdoor Air Pollution, and Tobacco Smoke Exposure As Contributors to High Estimated Prevalence of Risk of Asthma in Inner-City Schoolchildren from Pittsburgh Region**

**Tricia Morphew, MSc**[1], Jennifer Paden Elliott, PharmD[2], Paige E. Dewhirst, MPH[3,4], Nicole Pleskovic, BS[3], Erica Butler, BS, CCRC[3], David P. Skoner, MD[5] and Deborah A. Gentile, MD[3,5], [1]Morphew Consulting, LLC, Manhattan Beach, CA, [2]Duquesne University, Pittsburgh, [3]Allegheny Singer Research Institute, Pittsburgh, PA, [4]American Lung Association, [5]Allegheny Health Network, Pittsburgh, PA

**262 Characterization of Environmental Risk Factors Among Inner-City Schoolchildren with Physician Diagnosed Asthma from the Pittsburgh Region**

**Paige E. Dewhirst, MPH**[1], Jennifer Paden Elliott, PharmD[2], Albert Presto, PhD[3], Tricia Morphew, MSc[4], Erica Butler, BS, CCRC[5], Nicole Pleskovic, BS[5], David P. Skoner, MD[6,7] and Deborah A. Gentile, MD[6], [1]American Lung Association, [2]Duquesne University, Pittsburgh, [3]Carnegie Mellon Univesity, [4]Morphew Consulting, LLC, CA, [5]Allegheny Singer Research Institute, Pittsburgh, PA, [6]Allegheny Health Network, Pittsburgh, PA, [7]Department of Medicine, Allegheny General Hospital, Pittsburgh, PA

**263 Rate of Food Introduction after a Negative Oral Food Challenge in the Pediatric Population**

**Jessica Gau, NP, CRC**[1], Sally A. Noone, RN, MSN[2], Zara Atal[3], Jaime Ross, RN, MSN[4], Jennifer Fishman, RN, BSN[5], Beth D. Strong, RN, CCRC[6], Carly Ehritz, RN, MSN[3] and Julie Wang, MD, FAAAAI[2], [1]Mt. Sinai School Medicine, New York, NY, [2]Icahn School of Medicine at Mount Sinai, New York, NY, [3]Icahn School of Medicine at Mt. Sinai, [4]The Icahn School of Medicine at Mount Sinai, New York, NY, [5]Ichan School of Medicine at Mount Sinai, New York, NY, [6]Icahn School of medicine at Mount Sinia, New York, NY

**265 Slit Adhesion in Brazilian People**

**Fernando M. Aarestrup, MD, PhD**[1], Beatriz Aarestrup[2], Tamara A de Freitas[3], Glaciele M M Rezende[3], Nathalie J Guimarães e Silva[3] and Raissa M Cabrera[3], [1]Universidade Federal de Juiz de Fora - MG- Brazil, Juiz de Fora, Brazil, [2]Universidade Federal de juiz de Fora- MG - Brazil, Brazil, [3]SUPREMA

**266 Idiopathic Angioedema: Difficult Cases and Uncommon Findings**

**Laura E. Noonan, MSN, FNP-C**, O&O Alpan, LLC, Fairfax, VA, Oral Alpan, MD, Amerimmune, LLC, VA; O&O ALPAN, LLC, Denise Loizou, RN, O&O Alpan, Fairfax, VA and Ozlem Goker-Alpan, MD, O&O ALPAN, Fairfax, VA

**267 Specific Anti_A/B Immunoaffinity Chromatography Step Reduces Isoagglutinin Levels in an Intravenous Immunoglobulin Product**

**Alphonse P. Hubsch**, Annette Gaida, Ibrahim El Menyawi, Sandra Wymann, Adriano Marques A., Nicole Spiegl, Thomas Roten and Eleonora Widmer, CSL Behring AG, Berne, Switzerland

**268 Food Allergen Labeling and Purchasing Habits in the US and Canada**

**Mary Jane Marchisotto**[1], Laurie Harada, BA[2], Opal Kamdar, MD[3], Bridget Smith, PhD[4,5], Kemrani Khan[6], Scott H. Sicherer, MD, FAAAAI[7], Stephen L. Taylor, PhD[8], Veronica LaFemina[1], Maria Antonella Muraro, MD, PhD[9], Susan Waserman, MD, FAAAAI[10] and Ruchi Gupta, MD, MPH[5,11], [1]FARE, [2]Anaphylaxis Canada, Toronto, ON, Canada, [3]Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, [4]Edward J. Hines Jr. VA Hospital, Chicago, IL, [5]Northwestern University Feinberg School of Medicine, Chicago, IL, [6]Food Allergy Canada, [7]Icahn School of Medicine at Mount Sinai, New York, NY, [8]University of Nebraska, Lincoln, NE, [9]University Hospital of Padua, Padua, Italy, [10]Department of Medicine, McMaster University, Hamilton, ON, Canada, [11]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL

**269 High Rate of Uncontrolled Asthma Among Inner-City Schoolchildren from Pittsburgh Region**

**Erica Butler, BS, CCRC**[1], Nicole Pleskovic, BS[1], Jennifer Paden Elliott, PharmD[2], Paige E. Dewhirst, MPH[1,3], Tricia Morphew, MSc[4], David P. Skoner, MD[5,6] and Deborah A. Gentile, MD[1,5], [1]Allegheny Singer Research Institute, Pittsburgh, PA, [2]Duquesne University, Pittsburgh, [3]American Lung Association, [4]Morphew Consulting, LLC, Manhattan Beach, CA, [5]Allegheny Health Network, Pittsburgh, PA, [6]Department of Medicine, Allegheny General Hospital, Pittsburgh, PA

**270 Characterizing Pediatricians' Management of Food Allergy to Improve Care Coordination**

**Alana Otto, MD**[1], Ashley Dyer, MPH[2,3], Bridget Smith, PhD[3,4] and Ruchi Gupta, MD, MPH[3,5], [1]Ann & Robert H. Lurie Children's Hospital of Chicago, [2]Ann and Robert H. Lurie Children's Hospital, Chicago, [3]Northwestern University Feinberg School of Medicine, Chicago, IL, [4]Edward J. Hines Jr. VA Hospital, Chicago, IL, [5]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL

**271 Comparative Effectiveness of Mepolizumab and Omalizumab in Severe Asthma: An Indirect Comparison**

**Gillian Stynes**[1], Sarah Cockle[1], Necdet Gunsoy, PhD[2], Daniel C Park[3], Jaro Wex[4], Jenny Wilson[1], Eric Bradford, MD[5], Frank C. Albers, MD, PhD[6] and Rafael Alfonso-Cristancho, MD, PhD, MSc[3], [1]GlaxoSmithKline, Value Evidence and Outcomes, Stockley Park, United Kingdom, [2]GlaxoSmithKline, Clinical Statistics, Stockley Park, United Kingdom, [3]GlaxoSmithKline, Value Evidence Analytics, Philadelphia, PA, [4]Pharmarchitecture, London, United Kingdom, [5]GlaxoSmithKline, Respiratory R&D, Research Triangle Park, NC, [6]GlaxoSmithKline, Respiratory Medical Franchise, Research Triangle Park, NC

**272 Multiple Selective Responders Should Not be Confounded with Cross-Intolerance to Nsaids**

**Natalia Blanca-López, MD, PhD**[1], Diana Perez-Alzate, MD[2], Inmaculada Doña, MD, PhD[3], Maria Luisa Somoza, MD[4], Cristobalina Mayorga, PhD[5], María José Torres, MD, PhD[6], Jose A Cornejo-Garcia, PhD[7], Miguel Blanca, MD, PhD[8] and Gabriela Canto, MD, PhD[4], [1]Allergy Service, Infanta Leonor Hospital, Madrid, Spain, [2]Allergy Service, University Hospital Infanta Leonor, Madrid, Madrid, Spain, [3]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Málaga, Spain, [4]Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, [5]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [6]Allergy Unit, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [7]Research Laboratory, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain, [8]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain

**273 Epidemiology of Clinical Oral Food Challenges (OFC) at Baylor College of Medicine/Texas Children's Hospital (TCH) Food Allergy Program: A Retrospective Chart Review**

**Kwei Akuete, MD, MPH**[1], Danielle Guffey, MS[2], Charles G Minard, PhD[2], Maria G. Buheis, MD[1], Kristin H. Dillard, MD[3], I. Celine Hanson, MD, FAAAAI[1], Lenora M. Noroski, MD, MPH[3], Filiz O. Seeborg, MD, MPH[3] and Carla M. Davis, MD[1], [1]Baylor College of Medicine and Texas Children's Hospital, Department of Pediatrics Section of Immunology, Allergy and Rheumatology,

SATURDAY

Houston, TX, [2]Dan L. Duncan Institute for Clinical and Translational Research, Baylor College of Medicine, Houston, TX, [3]Baylor College of Medicine and Texas Children's Hospital, Department of Pediatrics, Section of Immunology, Allergy and Rheumatology, Houston, TX

**274 Seasonal Allergies, How They Relate to Oral Allergy Syndrome (OAS)?**

**Nicolle Cascone, RN**, Tara Shankar, MD, Andrej A. Petrov, MD and Merritt L. Fajt, MD, University of Pittsburgh Medical Center, Division of Pulmonary, Allergy and Critical Care Medicine, Pittsburgh, PA

**275 The Use of an Interdisciplinary Team to Treat Eosinophilic Esophagitis (EoE) in a Pediatric Patient**

**Katie Kemp, RN**[1], Emily Weis, MD[1], Brianne Schmidt, RD[2] and Kimberly Brown, PhD[2], [1]Allergy Asthma Immunology of Rochester, Rochester, NY, [2]University of Rochester

**276 Pooled Analysis of Patient Treatment Satisfaction from Five Hizentra Studies**

**Mikhail Rojavin, PhD**[1], Hirokazu Kanegane, MD, PhD[2], Michael Borte[3], Kohsuke Imai, MD, PhD[4], Alphonse P. Hubsch[5], Helena Soop[5] and Stephen R. Jolles, MD, PhD[6], [1]CSL Behring, King of Prussia, PA, [2]Department of Pediatrics and Developmental Biology, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan, [3]Hospital St. Georg GmbH Leipzig, Academic Teaching Hospital of the University of Leipzig, Leipzig, Germany, [4]Department of Community Pediatrics, Perinatal and Maternal Medicine, Tokyo Medical and Dental University, Tokyo, Japan, [5]CSL Behring AG, Berne, Switzerland, [6]University Hospital of Wales, Cardiff, United Kingdom

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## Allied Health Saturday Oral Abstract Session

## Allied Health

2411
Saturday, March 5th, 2016, 12:15 PM - 1:45 PM

**277 Association Between Outdoor Air Pollution and Acute Exacerbations of Respiratory Diseases in Pittsburgh**

**Nicole Pleskovic, BS**[1], Arvind Venkat, MD[2], Albert Presto, PhD[3], Gajanan Hedge, PhD[4], Jennifer Shang, PhD[4], Sunde Kekre[4], Paige E. Dewhirst, MPH[1] and Deborah A. Gentile, MD[5], [1]Allegheny Singer Research Institute, Pittsburgh, PA, [2]Allegheny Health Network, [3]Carnegie Mellon Univesity, [4]University of Pittsburgh, [5]Allegheny Health Network, Pittsburgh, PA

**278 Patient Use Online Resources and Social Media for Food Allergy Information**

**Beth D. Strong, RN, CCRC**[1], Jaime Ross, RN, MSN[2], Jennifer Fishman, RN, BSN[3], Sally A. Noone, RN, MSN[4], Zara Atal[5], Carly Ehritz, RN, MSN[5], Jessica Gau, NP, CRC[6] and Julie Wang, MD, FAAAAI[2], [1]Icahn School of medicine at Mount Sinia, New York, NY, [2]The Icahn School of Medicine at Mount Sinai, New York, NY, [3]Ichan School of Medicine at Mount Sinai, New York, NY, [4]Icahn School of Medicine at Mount Sinai, New York, NY, [5]Icahn School of Medicine at Mt. Sinai, [6]Mt. Sinai School Medicine, New York, NY

**279 Food Allergy Education Session Improves Nurses' Knowledge, Confidence, and Attitudes Towards Managing Food Allergic Children in a School Environment**

**Zara Atal**, Icahn School of Medicine at Mt. Sinai, Haidi Demain, Founder and Medical Director of Allergy Safe Kids, Inc., Denver, CO, Kathleen Patrick, RN, Assistant Director of Health & Wellness, Colorado Department of Education, Denver, CO and Julie Wang, MD, FAAAAI, Icahn School of Medicine at Mount Sinai, New York, NY

**280 Long-Term Follow up after Peanut Immunotherapy**

**Kim Mudd, RN, MSN, CCRP**, Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, MD, Shannon Seopaul, MPH, Johns Hopkins University School of Medicine, Baltimore, MD, Satya Narisety, MD, Rutgers University, New Jersey Medical School,, Newark, NJ, Corinne Keet, MD, PhD, Division of Pediatric Allergy/Immunology, Johns Hopkins School of Medicine, Baltimore, MD and Robert A. Wood, MD, FAAAAI, Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA

**281 Improving Asthma Outcomes through Systems Change: The Breathe Initiative**

**Claudia Guglielmo, MPA, AE-C**, Asthma Coalition of Queens/American Lung Association of the Northeast, Hauppauge, NY, Anne M. Little, MPH, AE-C, Asthma Coalition of Long Island/American Lung Association of the Northeast, Hauppauge, NY, Hadi Jabbar, MD, FAAP, Asthma Coalition of Queens, Hauppauge, NY and Mary E. Cataletto, MD, FAAP, Asthma Coalition of Long Island, Brookville, NY

## Asthma Featured Biologics

## ADT

2601
Saturday, March 5th, 2016, 2:00 PM - 3:15 PM

**282 Suppression of Lipid Mediators By the Humanized Anti-IgE Antibody Omalizumab in Aspirin-Exacerbated Respiratory Disease**

**Hiroaki Hayashi, MD**[1,2], Chihiro Mitsui, MD[1], Yuma Fukutomi, MD, PhD[1], Keiichi Kajiwara, BSc[1], Kentaro Watai, MD[1], Arisa Kinoshita, MD[1], Yosuke Kamide, MD, PhD[1], Kiyoshi Sekiya, MD[1], Takahiro Tsuburai, MD, PhD[1], Akio Mori, MD, PhD[1], Kazuo Akiyama, MD[1], Yoshinori Hasegawa, MD, PhD[2] and Masami Taniguchi, MD, PhD[1], [1]Clinical Research Center for Allergy and Rheumatology, Sagamihara National Hospital, Sagamihara, Japan, [2]Department of Respiratory Medicine, Nagoya University Graduate School of Medicine, Nagoya, Japan

**283 Efficacy of Reslizumab with Asthma, Chronic Sinusitis with Nasal Polyps and Elevated Blood Eosinophils**

**Steven F. Weinstein, MD, FAAAAI**, Allergy and Asthma Specialists Medical Group and Research Center, CA, Matthew Germinaro, Teva Pharmaceuticals, PA, Philip Bardin, Monash University and Medical Centre, Stephanie Korn, University Medical Center, Johannes Gutenberg University of Mainz, Germany and Eric Donn Bateman, MD, University of Cape Town, South Africa

**284 Efficacy of Reslizumab in Older Patients (≥65 years) with Asthma and Elevated Blood Eosinophils: Results from a Pooled Analysis of Two Phase 3, Placebo-Controlled Trials**

**David I. Bernstein, MD, FAAAAI**[1], Lyndon Mansfield[2], James Zangrilli[3] and Margaret Garin[3], [1]University of Cincinnati College of Medicine, Cincinnati, OH, [2]Western Sky Medical Research, TX, [3]Teva Pharmaceuticals, PA

**285 Exploratory Analysis of the Roles of Multiple Biomarkers in Predicting Response to Omalizumab in Allergic Asthma**

**William W. Busse, MD, FAAAAI**[1], Karin Rosén, MD, PhD[2], Volkan Manga, MD[3], Benjamin Trzaskoma, MS[2] and Theodore A. Omachi, MD, MBA[2], [1]University of Wisconsin School of Medicine and Public Health, Madison, WI, [2]Genentech, Inc., South San Francisco, CA, [3]Novartis

**286** **Omalizumab Decreases Rates of Cold Symptoms in Inner-City Children with Allergic Asthma**
**Ann T. Esquivel, MD**, University of Wisconsin, Madison, William W. Busse, MD, FAAAAI, University of Wisconsin, Madison, WI, Agustin Calatroni, MA, MS, Rho Federal Systems Division Inc., Chapel Hill, NC, Peter J. Gergen, MD, MPH, AAIB/DAIT/NIH, Bethesda, MD, Kristine Grindle, University of Wisconsin, Madison, Madison, WI, Rebecca S. Gruchalla, MD, PhD, FAAAAI, UT Southwestern Medical Center, Dallas, TX, Meyer Kattan, MD, NewYork-Presbyterian/Columbia, New York, NY, Carolyn Kercsmar, MD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, Gurjit K. Khurana Hershey, MD, PhD, FAAAAI, Cincinnati Children's Hospital, Cincinnati, OH, Haejin Kim, MD, Henry Ford Health System, Division of Allergy and Clinical Immunology, Detroit, MI, Petra Lebeau, Rho, Andrew H. Liu, MD, FAAAAI, National Jewish Health, Denver, CO, Stanley J. Szefler, MD, FAAAAI, The Breathing Institute, Children's Hospital Colorado, Aurora, CO, Stephen J. Teach, MD, Children's National Health System, Washington, DC, Jacqueline A. Pongracic, MD, FAAAAI, Ann and Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, Joseph B. West, MD, Boston University Medical Center, Boston, MA, Jeremy Wildfire, Rho, Inc., Chapel Hill, NC and James E. Gern, MD, FAAAAI, University of Wisconsin-Madison, Madison, WI

## From the Bench to the Bedside: When Clinical and Basic Science Research Advance Clinical Care

### BCI

2602
Saturday, March 5th, 2016, 2:00 PM - 3:15 PM

**287** **Nasal Influenza Immunisation with LAIV (FluMist) Is Safe in Egg-Allergic Children with Asthma or Recurrent Wheeze: Data from the Sniffle-2 Study**
**Paul J. Turner, FRACP, PhD**[1,2], Jo Southern, PhD, MFPH[3], Nick Andrews, PhD[3], Elizabeth Miller, FRCPath[3] and Michel Erlewyn-Lajeunesse, FRCPCH, DM[4], [1]Section of Paediatrics, Imperial College London, United Kingdom, [2]Imperial College London, United Kingdom, [3]Public Health England, United Kingdom, [4]University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom

**288** **Maternal DNA Methylation of TH17 Cytokine Genes in Second Half of Pregnancy Changes with Parity**
**Orpita Nilormee**[1], Gabrielle A. Lockett, PhD[2], Sabrina Iqbal[3], John W. Holloway, PhD[2], Syed H. Arshad, DM, FRCP[4,5], Hongmei Zhang, PhD[1] and Wilfried Karmaus, MD, Dr.med, MPH[6], [1]University of Memphis, Memphis, TN, [2]University of Southampton, Southampton, United Kingdom, [3]University Of Memphis, Memphis, TN, [4]The David Hide Asthma and Allergy Research Centre, United Kingdom, [5]University of Southampton, United Kingdom, [6]Division of Epidemiology, Biostatistics, and Environmental Health, School of Public Health, University of Memphis, Memphis, TN

**289** **Epicutaneous Immunotherapy Using Plasma-Derived Factor VIII Reduces the Inhibitory Immune Response to Therapeutic Factor VIII in Experimental Hemophilia a**
**Sébastien Lacroix-Desmazes**[1], Adeline Porcherie[2], Sandrine Delignat[1], Mathieu Ing[1], Pierre-Henri Benhamou, MD[2] and Lucie Mondoulet, PhD[2], [1]Centre de Recherche des Cordeliers - Equipe 16 INSERM UMRS 1138, Paris, France, [2]DBV Technologies, Bagneux, France

**290** **Antiviral Cytotoxic T Lymphocytes Can be Rapidly Generated Against an Extended Spectrum of Viruses**
**Michael Keller, MD**[1], Patrick Hanley, PhD[2], Haili Lang[1] and Catherine Bollard, MD[2], [1]Children's National Medical Center, Washington, DC, [2]Children's National Medical Center

**291** **Siglec-Engaging Tolerance-Inducing Antigenic Liposomes (STALs) in the Prevention of Peanut Allergy**
**Kelly Orgel, BS**[1], Shiteng Duan, BS[2], James C. Paulson, PhD[3], A. Wesley Burks, MD, FAAAAI[1], Brian P. Vickery, MD, FAAAAI[1], Michael D. Kulis Jr., PhD[4] and Matthew S Macauley, PhD[2], [1]University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]The Scripps Research Institute, [3]The Scripps Research Institute, La Jolla, CA, [4]University of North Carolina School of Medicine, Chapel Hill, NC

SATURDAY

## Respiratory Viruses, Illness and Asthma

### EORD

2603
Saturday, March 5th, 2016, 2:00 PM - 3:15 PM

**292** **Upper Respiratory Infections during Infancy and Childhood Aeroallergen Sensitization and Asthma**
**Leilanie Perez Ramirez, MD, MS**[1], Heepke Wendroth[1], Jocelyn Biagini-Myers, PhD[1], Grace K. LeMasters, PhD[2], Patrick Ryan, PhD[1], James E. Lockey, MD, MS, FAAAAI[2], David I. Bernstein, MD[3] and Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[1], [1]Cincinnati Children's Hospital, Cincinnati, OH, [2]University of Cincinnati College of Medicine, Cincinnati, OH, [3]Division of Immunology, University of Cincinnati, Cincinnati, OH

**293** **Rhinovirus C Targets Ciliated Respiratory Epithelial Cells**
**Theodor F Griggs, PhD**[1], Yury A. Bochkov, PhD[2], Thomas R Pasic, MD[1], Rebecca A. Brockman-Schneider, MS[2], Ann C. Palmenberg, PhD[3] and James E. Gern, MD, FAAAAI[2], [1]University of Wisconsin, [2]University of Wisconsin-Madison, Madison, WI, [3]University of Wisconsin, Madison, WI

**294** **Rhinovirus Infection Results in Increased and More Persistent Dysregulation of Gene Expression**
**Huyen-Tran Nguyen, MD**[1], Peter W. Heymann, MD[2], Mark Lindsey[3], Umasundari Sivaprasad, PhD[3], Mario Medvedovic, PhD[4], Naim Mahi[4], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI FRS[2], Ronald B. Turner, MD[5], John W. Steinke, PhD, FAAAAI[6], Judith A. Woodfolk, MBChB, PhD, FAAAAI[2], Larry Borish, MD, FAAAAI[2] and Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[7], [1]Cincinnati Children's Hospital Medical Center, Division of Allergy and Immunology, Cincinnati, OH, [2]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [3]Cincinnati Children's Hospital Medical Center, Division of Asthma Research, Cincinnati, OH, [4]University of Cincinnati, Department of Environmental Health, Cincinnati, OH, [5]University of Virginia Health System, Division of Infectious Diseases, Charlottesville, VA, [6]Asthma and Allergic Disease Center, Carter Center for Immunology Research, University of Virginia, Charlottesville, VA, [7]Cincinnati Children's Hospital, Cincinnati, OH

**295** **TSLP Neutralization Inhibits ILC2 Activation Induced By Multiple Pathogenic Clinical Isolates of RSV**
**Matthew T. Stier, BS**[1], Shinji Toki, PhD[2], Dawn C. Newcomb, PhD[1,2], Melissa H. Bloodworth, BS[1], Tina V. Hartert, MD, MPH[2,3], Martin L. Moore, PhD[4] and R. Stokes Peebles, MD[1,2], [1]Department of Pathology, Microbiology, and Immunology, Vanderbilt University, Nashville, TN, [2]Division of Allergy, Pulmonary,

and Critical Care Medicine, Vanderbilt University, Nashville, TN, [3]Center for Asthma Research, Vanderbilt University, Nashville, TN, [4]Department of Pediatrics, Emory University, GA

**296 Interrogation of the Effects of Rhinovirus on Th2 Promoting Pathways in Allergic Asthma**

**Rachana Agrawal, PhD**[1], Peter W. Heymann, MD[2], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[1] and Judith A. Woodfolk, MBChB, PhD, FAAAAI[1], [1]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [2]University of Virginia Asthma and Allergic Diseases Center and the Department of Pediatrics Division of Respiratory Medicine, Charlottesville, VA

SATURDAY

## Drug Allergy Diagnosis and Management

### FADDA

2604
Saturday, March 5th, 2016, 2:00 PM - 3:15 PM

**297 Beneficial Outcomes of an Inpatient Penicillin Allergy Testing Protocol**

**Justin R Chen, MD**[1], Scott A Tarver, Pharm.D[2], Kristen S Alvarez, Pharm.D[2], Trang Tran, PharmD[2] and David A. Khan, MD, FAAAAI[1], [1]University of Texas Southwestern Medical Center, Dallas, TX, [2]Parkland Health and Hospital System, Dallas, TX

**298 Omalizumab Inhibits Aspirin-Provoked Respiratory Reaction in Patients with Aspirin Exacerbated Respiratory Disease**

**David M Lang, MD**[1], Mark A. Aronica, MD[2], Elizabeth Maierson, BA, RRT[2], Xiaofeng F Wang, PhD[3], Dorothy C. Vasas, RN[4] and Stanley Hazen, MD, PhD[2], [1]Cleveland Clinic, Respiratory Institute, Department of Allergy and Clinical Immunology, Cleveland, OH, [2]Cleveland Clinic, Cleveland, OH, [3]Quantitative Health Sciences, Cleveland Clinic, Cleveland, OH, [4]Cleveland Clinic Foundation, Cleveland, OH

**299 Intravenous Iron Hypersensitivity Evaluation and Desensitization**

**Joyce T Hsu, MD**, Brigham and Women's Hospital, Boston, MA, Grace Y. Chan, MD, Tan Tock Seng Hospital, Singapore, Donna-Marie Lynch, NP, Brigham and Womens Hospital, Boston, MA and Mariana C. Castells, MD, PhD, FAAAAI, Division of Rheumatology, Allergy and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

**300 Desensitization to Platinums: Our Experience with 153 Desensitizations**

**Meaghan R. Misiasz, MD**[1,2], Jessica W. Hui, MD[3], Mahboobeh Mahdavinia, MD, PhD[1,2] and Mary C. Tobin, MD[1,2], [1]Department of Immunology and Microbiology, Allergy/Immunology Section, Rush University Medical Center, Chicago, IL, [2]Department of Pediatrics, Division of Allergy and Immunology, John H. Stroger, Jr. Hospital of Cook County, Chicago, IL, [3]Department of Pediatrics, Internal Medicine/Pediatrics Division, Rush University Medical Center, Chicago, IL

**301 Increased Risk of Antituberculosis Drugs-Induced Maculopapular Eruption in Patients with Superoxide Dismutase 1 Gene Mutation**

**Sang-Heon Kim**[1], Sang-Hoon Kim[2], Ji-Yong Moon[1], Dong Won Park[1], Jang Won Sohn[1], Ho Joo Yoon, MD, PhD[1], Suk-Il Chang[3] and Young-Koo Jee, MD, PhD[4], [1]Department of Internal Medicine, Hanyang University College of Medicine, Seoul, South Korea, [2]Department of Internal Medicine, Eulji University School of Medicine, Seoul, South Korea, [3]Department of Internal Medicine, Sungae General Hospital, Seoul, South Korea, [4]Department of Internal Medicine, Dankook University College of Medicine, Cheonan, South Korea

## Mind the Education Gaps!

### HEDQ

2605
Saturday, March 5th, 2016, 2:00 PM - 3:15 PM

**302 Comparison of Food Allergy Awareness and Self-Management Among College Students at 3 Large US Universities**

**Marilyn R. Karam, MD**, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI, MI, Rebecca Scherzer, MD, FAAAAI, Nationwide Children's Hospital, Columbus, OH, Princess U. Ogbogu, MD, FAAAAI, Wexner Medical Center at the Ohio State University, Columbus, OH, Todd David Green, MD, FAAAAI, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA and Matthew J. Greenhawt, MD, MBA, MSc, Department of Internal Medicine, The University of Michigan Medical School, Division of Allergy and Clinical Immunology, Ann Arbor, MI

**303 Quality of Facebook Pages on Food Allergy: Many Food Ingredient Alerts and Event Announcements but Little Research News and Patient Education**

**Mosaab Mohameden**[1], Ves Dimov, MD[2] and Frank J. Eidelman, MD, FAAAAI[2], [1]Cleveland Clinic Florida, [2]Cleveland Clinic Florida, Weston, FL

**304 Level of Knowledge, Concerns and Healthcare Practices Among Physicians Regarding E-Cigarettes**

**Venkatkiran Kanchustambham, MD**[1], Jonathan Rodrigues, Fellow-in-Training[2], Abhishek Krishna, Fellow in training[3] and Sadashiv Santosh, Assistant professor[3], [1]Saint Louis University School of Medicine, St. Louis, MO, [2]Saint Louis University School of Medicine, Saint Louis, MO, [3]Saint Louis University, Saint Louis, MO

**305 Educational Needs Assessment of US Allergy/Immunology Fellowship Programs: Assessment Methods for Determining Competency of Fellows in-Training**

**Lily C. Pien, MD, MHPE, FAAAAI**, Erica J. Glancy, MD, Katrina Zell and Colleen Y Colbert, PhD, Cleveland Clinic, Cleveland, OH

**306 Immunotherapy Guide Increases Dosing Accuracy**

**Jared I. Darveaux, MD**[1], Sameer K. Mathur, MD, PhD, FAAAAI[2], Sujani Kakumanu, MD[2] and Diane Dierdorff, CPhT[3], [1]Gundersen Health System, Onalaska, WI, [2]University of Wisconsin School of Medicine and Public Health, Madison, WI, [3]University of Wisconsin Hospitals and Clinics

## Rhinitis, Immunotherapy

### IRSO

2606
Saturday, March 5th, 2016, 2:00 PM - 3:15 PM

**307 A Randomized Placebo-Controlled Trial of Intradermal Grass Pollen Immunotherapy for Seasonal Allergic Rhinitis**

**Anna D. Slovick, MRCS, DOHNS, MBBS, BSc**[1], Abdel Douiri, PhD[1], Rachel Muir, PhD[2], Andrea Guerra, MD[1], Kostas Tsioulos, MD[1], Evie Haye, BSc[1], Emily Lam, MSc[1], Joanna Kelly[1], Janet Peacock, PhD[1], Ying. S, MD, PhD[1], Mohamed H. Shamji, BSc, MSc, PhD, FAAAAI[3], David Cousins, PhD[1], Stephen R. Durham, MA, MD, FRCP[3,4] and Stephen Till, MD, PhD[1], [1]King's College London, London, United Kingdom, [2]GSTT, London, United Kingdom, [3]MRC & Asthma UK Centre in Allergic Mechanisms of

Asthma, London, United Kingdom, [4]National Heart and Lung Institute, Imperial College London, United Kingdom

**308** **Vitamin D Level in Allergic Rhinitis: A Systemic Review and Meta-Analysis**

**Yoon Hee Kim**, Min Jung Kim, MD, In Suk Sol, Seo Hee Yoon, Young A Park, MD, Kyung Won Kim, Myung Hyun Sohn, MD, PhD and Kyu-Earn Kim, MD, PhD, Department of Pediatrics, Severance Hospital, Institute of Allergy, Brain Korea 21 PLUS Project for Medical Science, Yonsei University College of Medicine, Seoul, South Korea

**309** **Nasal Challenge with Ragweed Pollen Extract (RWPE) Increases the Level of Fortilin in Nasal Lavage Fluid from Subjects with Allergic Rhinitis**

**Julia W Tripple, MD**[1], Koa Hosoki, MD, PhD[1], Istvan Boldogh, PhD[1], David Rogers Redding, MD[2], Sanjiv Sur, MD[1] and Ken Fujise, MD[1], [1]University of Texas Medical Branch, Galveston, TX, [2]Redding Allergy and Asthma Center, Atlanta, GA

**310** **IL-2 Mediates Generalized Tfh Downregulation during Allergen-Specific Immunotherapy**

**Véronique M. Schulten, PhD**[1], Shane Crotty, PhD[2], Alessandro Sette, Dr Biol. Sci.[1] and Bjoern Peters, PhD[1], [1]La Jolla Institute for Allergy and Immunology, La Jolla, CA, [2]La Jolla Institute for Allergy & Immunology, La Jolla, CA

**311** **A New Digital Tool to Assess Allergic Rhinitis Symptom Control**

**Jean Bousquet, MD, PhD**[1,2], David Price, MD, FRCGP, MRCGP, DRCOG[3,4], Sarah Acaster, BSc[5], Anna Bedbrook, BSc[6], Davide Caimmi, MD[2] and Claus Bachert, MD, PhD[7,8], [1]MACVIA-LR, Contres les Maladies Chronique pour un Vieillissement Actif en Languedoc Roussilon, EIP on AHA, France, [2]University Hospital, Montpellier, France, [3]Research In Real Life, Cambridge, United Kingdom, [4]University of Aberdeen, Aberdeen, United Kingdom, [5]Acaster Consulting, London, United Kingdom, [6]MACVIA-LR, Contre les Maladies Chronique pour un Vieillissement Actif en Languedoc Roussilon, EIP on AHA Reference Site, France, [7]Division of ENT Diseases, Karolinska Institute, Stockholm, Sweden, [8]Upper Airway Research Laboratory (URL), Ghent University Hospital, Ghent, Belgium

## Microbiome

## MAAI

2607
Saturday, March 5th, 2016, 2:00 PM - 3:15 PM

**312** **Monitoring Circulating Virus-Specific CD4+ T Cells and Probiotic Effect in an Experimental Rhinovirus Challenge Model**

**Lyndsey M. Muehling, MS**[1], Ronald B. Turner, MD[1], Rachana Agrawal, PhD[1], Paul W. Wright, BS[1], James T. Patrie, MS[1], Sampo J. Lahtinen, PhD[2], Markus J. Lehtinen, PhD[2], William W. Kwok, PhD[3] and Judith A. Woodfolk, MBChB, PhD, FAAAAI[1], [1]University of Virginia, Charlottesville, VA, [2]DuPont Nutrition and Health, Kantvik, Finland, [3]Benaroya Research Institute at Virginia Mason, Seattle, WA

**313** **Viral Infections and Their Impact on the Respiratory Microbiome in Pediatric Patients with Cystic Fibrosis**

**Gina T. Coscia, MD**, Paul Planet, MD, PhD, Hannah Smith and Melanie Harasym, Columbia University Medical Center, New York, NY

**314** **A Prospective Microbiome-Wide Association Study of Childhood Food Sensitization and Allergy**

**Jessica Rabe Savage, MD, MHS**[1], Joanne Sordillo, ScD[2], Erica Sodergren[3], George Weinstock[3], Diane R. Gold, MD, MPH[4], Scott T. Weiss , MD, MS[5] and Augusto A. Litonjua, MD, MPH[2], [1]Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA, [2]Channing Division of Network Medicine, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, [3]Jackson Laboratory, [4]Channing Laboratory, Brigham and Women's Hospital, Boston, MA, [5]Channing Laboratory, Harvard Medical School, Boston, MA

**315** **Features of the Bronchial Bacterial Microbiome Associated with Allergy and Mild Allergic Asthma.**

**Juliana Durack, PhD**[1], Susan V. Lynch, PhD[1], Avraham Beigelman, MD, MSCI, FAAAAI[2], Mario Castro, MD, MPH[2], Elliot Israel, MD, FAAAAI[3], Monica Kraft, MD[4], David Mauger, PhD[5], Richard Martin, MD[6], Snehal Nariya, B.S.[7], Steven R. White, MD[8], Homer A. Boushey Jr., MD[1] and Yvonne Huang, MD[7], [1]University of California San Francisco, San Francisco, CA, [2]Washington University, Saint Louis, MO, [3]Brigham and Women's Hospital, Boston, MA, [4]University of Arizona, Tuscon, AZ, [5]Penn State University College of Medicine, Hershey, PA, [6]National Jewish Health, Denver, CO, [7]University of Michigan, Ann Arbor, MI, [8]University of Chicago, Chicago, IL

**316** **A Rationally Designed Microbial Consortium Attenuates Allergic Asthma in a Murine Model**

**Nikole E Kimes, PhD**, Ricardo B Valladares, PhD, Din L Lin, PhD and Susan V Lynch, PhD, University of California, San Francisco

SATURDAY

## New Approaches to Disease Modification and Prevention

## Clinical Science Workgroup

2608
Saturday, March 5th, 2016, 2:00 PM - 3:15 PM

**317** **The Clinical and Immunological Effects of Pru p 3 Slit on Peach and Peanut Tolerance in Patients with Systemic Allergic Reactions**

**Francisca Gómez, MD, PhD**[1], Gador Bogas, MD[2], Miguel González[3], Paloma Campo, MD, PhD[1], Maria Salas, MD, PhD[1], JA Huertas[1], Araceli Diaz-Perales, PhD, Prof[4], Domingo Barber, MD[5], María J Rodriguez[3], Miguel Blanca, MD, PhD[6], Cristobalina Mayorga, PhD[7] and María José Torres, MD, PhD[8], [1]Allergy Unit, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [2]Allergy Unit, Regional University Hospital of Málaga-IBIMA, UMA, Málaga, Spain, [3]Research Laboratory, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [4]Centre for Plant Biotechnology and Genomics (UPM-INIA), Campus de Montegancedo, Pozuelo de Alarcón, Madrid, Spain, Madrid, Spain, [5]Universidad San Pablo-CEU, Madrid, Spain, [6]Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain, [7]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [8]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Málaga, Spain

**318** **Immune Tolerance Induction Following AIT Is Associated with Induction of Circulating CD4+CXCR5+PD-1+FoxP3+ T Follicular Regulatory Cells**

**Hjh Hanisah Hj Awg Sharif, BHSc MSc**[1,2], Rebecca Parkin, BSc[1,2], Constance Ito, MSc[1,2], Guy Scadding, MRCP[2], Stephen R. Durham, MA, MD, FRCP[1,2] and Mohamed H. Shamji, BSc, MSc, PhD, FAAAAI[1,2], [1]Immunomodulation and Tolerance Group, Immune Tolerance Network (ITN) Distributed Centre of Excellence for Allergy & Asthma, Allergy & Clinical Immunology

SATURDAY

Inflammation, Repair and Development National Heart & Lung Institute, Imperial College London, United Kingdom, [2]MRC & Asthma UK Centre in Allergic Mechanisms of Asthma, London, United Kingdom

**319 Early Introduction of Egg for Infants with Atopic Dermatitis to Prevent Egg Allergy: A Double-Blind Placebo-Controlled Randomized Clinical Trial**

**Osamu Natsume, MD**[1], Shigenori Kabashima, MD, PhD[1], Junko Nakasato, MD, PhD[1], Kiwako Yamamoto-Hanada, MD[1], Masami Narita, MD, PhD[1], Mai Kondo, MD[1], Mayako Saito, MD[1], Ai Kishino, MD[1], Eisuke Inoue, PhD[2], Wakako Shinahara, PhD[3], Hiroshi Kido, MD, PhD[3], Hirohisa Saito, MD, PhD[4] and Yukihiro Ohya, MD, PhD[1], [1]Division of Allergy, National Center for Child Health and Development, Tokyo, Japan, [2]National Center for Child Health and Development, Tokyo, Japan, [3]The University of Tokushima, Japan, [4]Department of Allergy and Clinical Immunology, National Research Institute for Child Health and Development, Tokyo, Japan

**320 Farm Exposure Is Associated with Reduced Rates of Viral Respiratory Illnesses in Early Life**

**Jamee R. Castillo, MD**[1], Christine M. Seroogy, MD, FAAAAI[1], Matt Keifer, MPH, MD[2], Iris A. Reyes, MPH[2], Jeffrey Van Wormer, PhD[2], Jennifer Meece, PhD[2], Michael D. Evans, MS[1] and James E. Gern, MD, FAAAAI[3], [1]University of Wisconsin School of Medicine and Public Health, Madison, WI, [2]National Farm Medicine Center, Marshfield Clinic Research Foundation, Marshfield, WI, [3]University of Wisconsin-Madison, Madison, WI

**321 Could Allergen Immunotherapy be a Therapeutic Intervention in Eosinophilic Oesophagitis?**

**Moises A. Calderon, MD, PhD**, Imperial College London, London, United Kingdom

## Asthma Genotypes, Phenotypes and Management

## ADT

3201
Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**322 Adolescent Asthmatics' Use of the Internet and Other Management Strategies**

**Ami Thakor Philipp, MD**[1], Alesia Hawkins Jones, PhD[2], Howard Zeitz, MD[3] and Joseph S. Yusin, MD, FAAAAI[1], [1]VA Greater Los Angeles Health Care System, Los Angeles, CA, [2]University of Illinois College of Medicine, Rockford, IL, [3]University of Illinois College of Medicine, Los Angeles, CA

**323 Relationship of Adherence Estimator TM Scores to Exhaled Nitric Oxide Levels in Pediatric Asthma Patients**

**Suzanne Burke-McGovern, MD**[1], Yan Yan[2], Haesoon Lee[2] and Rauno Joks, MD[3], [1]SUNY-Downstate Medical Center, Brooklyn, NY, [2]Downstate Medical Center, Brooklyn, NY, [3]Department of Medicine at SUNY Downstate Medical Center, Brooklyn, NY

**324 Developing and Pilot Testing an Algorithmic Software Tool to Help Manage Asthma (ASTHMA)-Educator**

**Sunit P. Jariwala, MD**, Albert Einstein/Montefiore Medical Center, Bronx, NY

**325 Level of Knowledge, Concerns and Adherence to Asthma Management Guideline Recommendations Among Healthcare Providers in Midwestern USA**

**Jonathan M. Rodrigues, MD**, Carrie N. Caruthers, MD, Josiah Moulton, DO, Venkatkiran Kanchustambham, MD, Roua Azmeh, MD, Anthony Kruse, MD, Roula Altisheh, MD, Christopher Sutton, DO, Mark S. Dykewicz, MD, FAAAAI and Raymond Slavin, MD, FAAAAI, Saint Louis University School of Medicine, St. Louis, MO

**326 School Nurses' Perspectives on Barriers to Implementing School-Based Asthma Management Plans**

**Margee Louisias, MD**, Boston Children's Hospital, Boston, MA; Brigham and Women's Hospital, Boston, MA, Donald Goldmann, Boston Children's Hospital and Wanda Phipatanakul, MD, MS, Division of Pediatric Allergy/Immunology, Boston Children's Hospital, Harvard University School of Medicine, Boston, MA

**327 Utilization and Outcomes Associated with Mobile-Based Asthma Action Plans Compared to Paper Asthma Action Plans Among Adolescents**

**Tamara T. Perry, MD**[1,2], Mallikarjuna R Rettiganti, PhD[1,2], Jiang Bian, PhD[3], Chunqiao Luo, MS[1,2], Dennis E. Schellhase, MD[1,4], Shemeka M. Randle, MS[4], Rita H. Brown, BA[1,4], Ariel Berlinski, MD[1,4] and Sarah A. Marshall, PhD[1], [1]University of Arkansas for Medical Sciences, Little Rock, AR, [2]Arkansas Children's Hospital Research Institute, Little Rock, AR, [3]University of Florida, Gainesville, FL, [4]Arkansas Children's Hospital, Little Rock, AR

**328 Developing a Tool to Evaluate Patient-Provider Communication & Patient Satisfaction in Adult Asthma Management**

**Chloe L. Russo, MD**[1], Todd Lasch[2], Alana Steffen[2], Susan Corbridge, PhD, APN[2] and Sharmilee M. Nyenhuis, MD, FAAAAI[3], [1]University of Illinois at Chicago College of Medicine, Chicago, IL, [2]University of Illinois at Chicago College of Nursing, Chicago, IL, [3]University of Illinois Hospital and Health Sciences System, Chicago, IL

**329 Evaluation of the Efficacy of a Web-Based Work-Related Asthma Educational Tool**

**Joshua C. Lipszyc, BA**[1], Simeon Gotsev, BSc[2], Jack Scarborough[2], Gary M. Liss, MD, MS, FRCPC[3,4], Samir Gupta, MD, MSc, FRCPC[2] and Susan M. Tarlo, MBBS FAAAAI[2,5], [1]University of Toronto, Thornhill, ON, Canada, [2]University of Toronto, [3]University of Toronto, Toronto, ON, Canada, [4]Ontario Ministry of Labour, Toronto, ON, Canada, [5]Toronto Western Hospital, Toronto, ON, Canada

**330 Comparison of Clinical Characteristics and Pathophysiology of Cough Predominate Asthma and Noncough Predominate Asthma**

**Kefang Lai**, State Key Lab. of Respiratory Disease, Guangzhou, China

**331 Four Different Phenotypes of Bhr Changing Pattern in School Children and It's Risk Factors**

**Young-Ho Kim, MD**[1], Eun Lee[2], Song-I Yang[3], Hyun-Ju Cho, MD[2], Hyung-Young Kim[4], Ji-Won Kwon, MD[5], Young Ho Jung, MD[6], Byoung-Ju Kim[7], Ju-Hee Seo, MD[8], Hyo-Bin Kim, MD, PhD[9], So-Yeon Lee[10], Ho-Jang Kwon, MD, PhD[11] and Soo-Jong Hong, MD, PhD[2], [1]Department of Pediatrics, Childhood Asthma Atopy Center, Environmental Health Center, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, Seoul, South Korea, [2]Department of Pediatrics, Childhood Asthma Atopy Center, Environmental Health Center, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, [3]Department of Pediatrics, Hallym University Sacred Heart Hospital, Anyang, South Korea, [4]Department of Pediatrics, Pusan National University Yangsan Hospital, Yangsan, [5]Department of Pediatrics, Seoul National University Bundang Hospital, South Korea, [6]Department of Pediatrics, Bundang CHA Medical Center, CHA University College of Medicine, Seongnam, South Korea, [7]University of Cincinnati, [8]Department of pediatrics, Korea Cancer Center Hospital, South Korea, [9]Department of Pediatrics,Inje University Sanggye Paik Hospital, Seoul, South Korea, [10]Department of Pediatrics, Hallym University Secred Heart Hospital, Anyang, South Korea, [11]Preventive Medicine, Dankook University College of Medicine, Cheonan, South Korea

**332 A Phenotype of Atopy in Schoolchildren Is Associated with New Development of Allergic Rhinitis and Asthma in a Prospective Study**

**Si Hyeon Lee**[1], Eun Lee[2], Hyun-Ju Cho, MD[2], Ji-Won Kwon, MD[3], Young Ho Kim, MD[2], Yean Jung Choi[4], Song-I Yang[5], Young

Ho Jung, MD[6], Ho-Jang Kwon, MD, PhD[7] and Soo-Jong Hong, MD, PhD[2], [1]Asan Institute for Life Sciences, University of Ulsan College of Medicine, Seoul, South Korea, [2]Department of Pediatrics, Childhood Asthma Atopy Center, Environmental Health Center, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, [3]Department of Pediatrics, Seoul National University Bundang Hospital, Seongnam, South Korea, [4]University of Ulsan College of Medicine, Seoul, South Korea, [5]Department of Pediatrics, Hallym University Sacred Heart Hospital, Anyang, South Korea, [6]Department of Pediatrics, Bundang CHA Medical Center, CHA University College of Medicine, Seongnam, South Korea, [7]Preventive Medicine, Dankook University College of Medicine, Cheonan, South Korea

**333 Asthma-COPD Overlap Syndrome- an Underdiagnosed Phenotype in Heavy Smokers**

**Miren Guenechea-Sola, MD**[1,2], Sarah Dalton, BS[1], Jeroen Geerts, BS[1], Siyang Zeng, BA[1] and Mehrdad Arjomandi, MD[1,2], [1]San Francisco Veteran Affairs, San Francisco, CA, [2]University of California San Francisco

**334 Levels of Allergy Cluster with Asthma Severity in Inner-City Children.**

**Edward M. Zoratti, MD, FAAAAI**[1], Rebecca A. Zabel, MS[2], Denise C. Babineau, PhD[2], Jacqueline A. Pongracic, MD, FAAAAI[3], George T. O'Connor, MD[4], Robert A. Wood, MD, FAAAAI[5], Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[6], Carolyn Kercsmar, MD[6], Rebecca S. Gruchalla, MD, PhD, FAAAAI[7], Meyer Kattan, MD[8], Stephen J. Teach, MD[9], Samuel J. Arbes Jr.[2], Cynthia Visness, PhD, MPH[2], William W. Busse, MD, FAAAAI[10], Peter J. Gergen, MD, MPH[11], Alkis Togias, MD, FAAAAI[11] and Andrew H Liu, MD, FAAAAI[12,13], [1]Henry Ford Health System, Detroit, MI, [2]Rho Federal Systems Division Inc, Chapel Hill, NC, [3]Ann and Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [4]Boston University School of Medicine, Boston, MA, [5]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [6]Cincinnati Children's Hospital, Cincinnati, OH, [7]UT Southwestern Medical Center, Dallas, TX, [8]NewYork-Presbyterian/Columbia, New York, NY, [9]Children's National Health System, Washington, DC, [10]University of Wisconsin School of Medicine and Public Health, Madison, WI, [11]NIAID/NIH, Bethesda, MD, [12]National Jewish Health, Denver, CO, [13]Children's Hospital Colorado, Aurora, CO

**335 The Identification and Description of Severe Asthma Patients in a Cross-Sectional Study—the Ideal Study**

**Robert Y. Suruki, ScD**, GlaxoSmithKline, Worldwide Epidemiology, Research Triangle Park, NC, Necdet Gunsoy, PhD, GlaxoSmithKline, Clinical Statistics, Stockley Park, United Kingdom, Ji-Yeon Shin, GlaxoSmithKline, South Korea, Jonas Daugherty, PAREXEL, Value Outcomes and Epidemiology, Research Triangle Park, NC, Linda Nelsen, GlaxoSmithKline, King of Prussia, PA, Eric Bradford, MD, GlaxoSmithKline, Respiratory R&D, Research Triangle Park, NC and Frank C. Albers, MD, PhD, GlaxoSmithKline, Respiratory Medical Franchise, Research Triangle Park, NC

**336 The C159T Polymorphism of the CD-14 Gene in Adult Patients with Corticosteroid-Sensitive and Refractory Bronchial Asthma in Crimea, Ukraine**

**Yuri Bisyuk**[1], Andrey I. Kurchenko[1], A.I. Dubovyi[2], Ganna V. Bisyuk[1] and Lawrence M. DuBuske, MD, FAAAAI[3,4], [1]Bogomolets National Medical University, Kiev, Ukraine, [2]Crimean State Medical University, Simferopol, Ukraine, [3]George Washington University School of Medicine, Washington, DC, [4]Immunology Research Institute of New England, Gardner, MA

**337 New Associations Between HLA Genotypes and Asthma Phenotypes**

**Priscila Megumi Takejima**[1], Rosana C. Agondi, MD, PhD[1], Helcio Rodrigues[2], Marcelo Vivolo Aun, MD[1], Jorge Kalil, MD, PhD[1] and Pedro Giavina-Bianchi, MD, PhD[1], [1]Clinical Immunology and Allergy Division, University of Sao Paulo, Sao Paulo, Brazil, [2]University of São Paulo

**338 The Dietary Effects of Methyl Donors on Asthma and Allergic Sensitization Is Influenced By the MTHFR C677T Polymorphism**

**Yean Jung Choi**[1], Hye Lim Shin[2], Song-I Yang[3], So-Yeon Lee[4], Sung-Ok Kwon[5], Eun Lee[1], Hyun-Ju Cho[1], Young-Ho Kim[1], Young Ho Jung[6], Ji-Won Kwon[7], Hyung Young Kim[8], Ju-Hee Seo[9], Byoung-Ju Kim[10], Hyo Bin Kim[11], Ho-Jang Kwon[12], Se-Young Oh[5] and Soo-Jong Hong[1], [1]Department of Pediatrics, Childhood Asthma Atopy Center, Environmental Health Center, Asan Medical Center, University of Ulsan College of Medicine, [2]Asan Institute for Life Sciences, University of Ulsan College of Medicine, [3]2Department of pediatrics, Hallym University Sacred Heart Hospital, College of Medicine, Hallym University, [4]Department of pediatrics, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, [5]Department of Food and Nutrition, College of Human Ecology, Kyung Hee University, [6]Department of Pediatrics, CHA University School of Medicine, [7]Department of Pediatrics, Seoul National University Bundang Hospital, [8]Department of Pediatrics, Pusan National University Yangsan Hospital, [9]Department of Pediatrics, Korea Cancer Center Hospital, [10]Department of Environmental Health, University of Cincinnati College of Medicine, [11]Department of Pediatrics, Sanggye Paik Hospital, Inje University College of Medicine, [12]Department of Preventive Medicine, Dankook University College of Medicine

**340 ZNF248 Is Associated with Elder-Onset Asthma in African Americans**

**Leyao Wang**, Yasmmyn D. Salinas and Andrew T. DeWan, Department of Chronic Disease Epidemiology, Yale University School of Public Health, New Haven, CT

**341 Gene Expression Networks of Allergic Asthma As Characterized By IgE Levels Among Costa Rican Children**

**Yamini Virkud, MD, MA, MPH**, Department of Allergy and Immunology, Massachusetts General Hospital, Boston, MA, Damien C. Croteau-Chonka, PhD, Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, Scott T. Weiss, MD, MS, Channing Laboratory, Harvard Medical School, Boston, MA and Jessica Lasky-Su, Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital, Boston, MA

SUNDAY

## Asthma Infection, Biomarkers and Inflammation

### ADT

3202
Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**342 IL-27 Administration Via Nasal Improves OVA-Induced Airway Inflammation By GADD45ā but Not STAT1 Pathway**

**Zhihong Chen**, Xiaoqiong Su, MD, PhD, Xiangdong Wang and Nian Dong, Zhongsan Hospital,Fudan University

**343 IL33 May Modulate Longitudinal Changes of Spirometric Indices in Chinese Children with Asthma**

**Ting Fan Leung, MD, FRCPCH, FAAAAI**[1], Hing Yee Sy, PhD[1], Man Fung Tang, BSc[1], Wilson Wai-san Tam, PhD[2], Wa Cheong Chan, PhD[1] and Chung Yi Li, MPhil[1], [1]Department of Paediatrics, The Chinese University of Hong Kong, Hong Kong, [2]Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

**344 The Effect of 12/15-Lipoxygenase on Expression of Selected Genes during Dermatophagoides Pteronyssinus Induced Airway Inflammation in Mice**

**Krzysztof Kowal, MD, PhD**, Pawel Bernatowicz, Pawel Bielecki, Ewa Sacharzewska, Lech Chyczewski, MD, PhD, Jacek Niklinski and Otylia Kowal-Bielecka, Medical University of Bialystok, Poland

**345 Clinical Characteristics of Interferon-Gamma-Inducible Protein 10 in Children with Wheezing**

**Jong-seo Yoon, MD, PhD**[1], Hwan Soo Kim, MD[2], Yoon Hong Chun, MD[3], Hyun Hee Kim, MD[2], Jin-Tack Kim, MD, PhD[4] and Joon Sung Lee, MD, PhD[1], [1]Dept. of Pediatrics The Catholic University of Korea, [2]the Catholic Univ of Korea, [3]Dept. of Pediatrics, College of Medicine, The Catholic University of Korea, [4]Department of Pediatrics, Uijeongbu St. Mary's Hospital, The Catholic University of Korea, College of Medicine, Uijeongbu, Gyeonggi-Do, South Korea

**346 Abrogation of Glucocorticoid Signaling By Exhaled Breath Condensate (EBC) from Mild Persistent Asthmatics**

**Jennifer McCracken, MD**, UTMB, Galveston, TX, Lata Kaphalia, PhD, University of Texas Medical Branch and William J. Calhoun, MD, FAAAAI, Allergy And Immunology, University of Texas Medical Branch, Galveston, TX

**347 Serum Cytokine Profiles in Acute Exacerbation of Asthma Subtypes Measured By Cba Method**

**Zhihui Min**, Zhihong Chen, Xiaoqiong Su, Chunlin Du and Xiangdong Wang, Zhongsan Hospital, Fudan University

**348 Serum IgE Levels in Obese and Non-Obese Asthmatics**

**Maria Paula Henao**, Penn State, Milton S. Hershey Medical Center, Hershey, PA, Faoud T. Ishmael, MD, PhD, FAAAAI, Penn State University, Hershey, PA and Efren L. Rael, MD, FAAAAI, Allergy/Immunology, Penn State University College of Medicine, Hershey, PA

**349 Fractional Exhaled Nitric Oxide (FENO) Is Negatively Associated with Percent-Predicted FEV1 in Inner-City Minority Asthma Patients**

**Sherlyana Surja, MD**[1,2], Byung Yu, MD[1,2], Christopher D. Codispoti, MD, PhD[3] and James N Moy, MD[1,2], [1]John H. Stroger Hospital of Cook County, Chicago, IL, [2]Rush University Medical Center, Chicago, IL, [3]Department of Immunology and Microbiology, Allergy/Immunology Section, Rush University Medical Center, Chicago, IL

**350 Is There Any Basophil Activation in Peripheral Blood in AERD Patients?**

**Chihiro Mitsui, MD**[1], Emiko Ono, MD[2], Keiichi Kajiwara, BSc[1], Hiroaki Hayashi, MD[1,3], Yosuke Kamide, MD, PhD[1], Kentaro Watai, MD[1], Arisa Kinoshita, MD[1], Yuma Fukutomi, MD, PhD[1], Kiyoshi Sekiya, MD[1], Takahiro Tsuburai, MD, PhD[1], Akio Mori, MD, PhD[1] and Masami Taniguchi, MD, PhD[1], [1]Clinical Research Center for Allergy and Rheumatology, Sagamihara National Hospital, Sagamihara, Japan, [2]Clinical Research Center for Allergy and Rheumatology Sagamihara National Hospital, Kanagawa, Japan, [3]Department of Respiratory Medicine, Nagoya University Graduate School of Medicine, Nagoya, Japan

**351 Type 2 Biomarkers Define a Prevalent Phenotype in Moderate-to-Severe, Uncontrolled Asthma Patients: A Pooled Analysis from Lebrikizumab All-Comers Phase 2 Trials**

**Phillip E. Korenblat, MD, FAAAAI**[1], Nicola A. Hanania, MD[2], Jonathan Corren, MD[3], Julie K. Olssen, MD, MS[4], Nikhil Kamath, MD[5], Sarah Gray, PhD[6], Nicolas Martin[7], Cecile T.J. Holweg, PhD[6], John G. Matthews, MB, BS, MRSCP, PhD[6], Susan L. Limb, MD[4] and Stephan Korom[7], [1]The Clinical Research Center LLC, St. Louis, MO, [2]Pulmonary, Critical Care and Sleep Medicine, Baylor College of Medicine, Houston, TX, [3]Asthma and Allergy Research Foundation, Los Angeles, CA, [4]Genentech Inc. (a member of the Roche Group), South San Francisco, CA, [5]Roche Products Limited, Welwyn Garden City, United Kingdom, [6]Genentech, Inc. (a member of the Roche Group), South San Francisco, CA, [7]F. Hoffmann-La Roche Ltd, Basel, Switzerland

**352 Serum Metabolomic Analysis Identifies Potential Biomarkers for Aspirin-Exacerbated Respiratory Disease**

**Ga Young Ban, MD**[1], Kumsun Cho[2], Seung-Hyun Kim, PhD[3], Moon Kyoung Yoon[4], Chang Gyu Jung[5], Ji-Ho Lee[6], Sohee Lee[4], Ji Hye Kim, MD[4], Shin Yoo Seob[7], Ye Young-Min[7], Dong-Ho Nahm[4], Joo-Youn Cho[2] and Hae-Sim Park, MD, FAAAAI[4], [1]Department of Allergy & Clinical Immunology, Ajou University School of Medicine, Suwon, South Korea, [2]Department of Pharmacology and Biomeidcal sciences, Seoul National University College of Medicine, Seoul 110-799, Korea, [3]Ajo University, Suwon, [4]Department of Allergy and Clinical Immunology, Ajou University School of Medicine, Suwon, Korea, [5]Department of internal medicine, Uiseong Public Health Center, Uiseong, Korea, [6]Department of internal medicine, The Armed Forces Chuncheon Hospital, [7]Ajou University School of Medicine, Suwon, South Korea

**353 Nasal and Pharyngeal Eosinophil Peroxidase Levels Represent Surrogate Biomarkers for the Presence of Lower Airway Eosinophils in Adults with Poorly Controlled Asthma**

**Matthew A Rank, MD**[1], Sergei I. Ochkur, PhD[1], John C Lewis, MD[1], Harry G. Teaford, MD[1], Lewis J Wesselius, MD[1], Richard A Helmers, MD[1], Nancy A Lee, PhD[1], Parameswaran K. Nair, MD, PhD, FRCP FRCPC[2] and James J. Lee, PhD[1], [1]Mayo Clinic Arizona, Scottsdale, AZ, [2]Firestone Institute for Respiratory Health, Hamilton, ON, Canada

**354 Viral Induced Disease in Mild Atopic Asthmatics: Dynamics of Pulmonary Function, Speed of Symptom Onset and Implications for Drug Intervention in HRV Inoculated Volunteers**

**Alex Mann**[1], Ganesh Balaratnam[1], Jane Gunter[2], Pawel Rucki[2], Chris Poll[1], Martin Johnson[1] and Tony Lockett[1], [1]hVIVO Services Ltd, [2]hVIVO Services Ltd (at time of the study)

**355 Assessment of Wheezing Frequency and Viral Etiology on Childhood and Adolescent Asthma Risk**

**Halie M. Anderson, MD**[1], Robert F. Lemanske Jr., MD, FAAAAI[2], Michael D. Evans, MS[2], Ronald E. Gangnon, PhD[2], James E. Gern, MD, FAAAAI[3] and Daniel J. Jackson, MD[4], [1]University of Wisconsin, Madison, WI, [2]University of Wisconsin School of Medicine and Public Health, Madison, WI, [3]University of Wisconsin-Madison, Madison, WI, [4]Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, WI

**356 Cytokine Profiles and Eosinophil Activation in Sensitized and Nonsensitized Cases of Virus-Induced Acute Exacerbations of Childhood Wheezing/Asthma.**

**Masahiko Kato, MD, PhD, FAAAAI**[1], Kazuo Suzuki, MD[1], Yoshiyuki Yamada, MD, PhD[2], Kenichi Maruyama, MD, PhD[2] and Hiroyuki Mochizuki, MD, PhD[1], [1]Department of Pediatrics, Tokai University School of Medicine, Isehara, Kanagawa, Japan, [2]Gunma Children's Medical Center, Shibukawa, Gunma, Japan

**357 Clinical Predictors of Chest Radiographic Abnormalities in Children Admitted with Bronchiolitis: A Single Center Study**

**Youn Ho Shin, MD**[1], Ga Ram Kim[2], Kyung Suk Lee, MD, PhD[2], Young-Ho Jung[2], Hye Mi Jee, MD[2] and Man-Yong Han, MD[3], [1]Department of Pediatrics, CHA Gangnam Medical Center, CHA University School of Medicine, Seoul, Korea, South Korea, [2]Department of Pediatrics, CHA University Bundang Medical Center, Seongnam, South Korea, [3]CHA University Bundang Medical Center, Seongnam, South Korea

**358 Rhinovirus C Infections Are Associated with Treatment Failure in Preschool Children with Recurrent Wheezing**

**Alalia W Berry, MD**[1], David Mauger, PhD[2], Leonard B. Bacharier, MD, FAAAAI[3], Theresa W. Guilbert, MD, MS[4], Fernando D. Martinez, MD[5], Kristine Grindle[6], Tressa Pappas, BS[7], James E. Gern, MD, FAAAAI[8], Robert F. Lemanske Jr., MD, FAAAAI[7] and Daniel J. Jackson, MD[9], [1]University of Wisconsin School of Medicine and Public Health, [2]Penn State University College of

SUNDAY

Medicine, Hershey, PA, [3]Division of Allergy, Immunology and Pulmonary Medicine, Department of Pediatrics, Washington University School of Medicine and St. Louis Children's Hospital, Saint Louis, MO, [4]Cincinnati Children's Hospital & Medical Center, Cinciinati, OH, [5]Arizona Respiratory Center, University of Arizona, Tucson, AZ, [6]University of Wisconsin, Madison, Madison, WI, [7]University of Wisconsin School of Medicine and Public Health, Madison, WI, [8]University of Wisconsin-Madison, Madison, WI, [9]Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, WI

**359** **High Serum IgE Level in the Children with Acute Respiratory Syncytial Virus Infection Is Associated with Severe Disease**

**Hai Lee Chung** and Yoon Young Jang, Department of pediatrics, School of medicine, Catholic university of Taegu, Taegu, South Korea

**360** **Modulation of IL-6 Release Subsequent to Airway Poly I:C Administration**

**KarryAnne K. Belanger, BSc**, Walter C. Spear, MSc, Barbara A. Rolls, Spotswood Miller, B.Sc., Bing Tian, PhD, Gracie Vargas, PhD, Massoud Motamedi, PhD, Istvan Boldogh, PhD, Allan Brasier, MD and Bill T. Ameredes, PhD, University of Texas Medical Branch, Galveston, TX

**361** **Effect of CDHR3 Genotype on Rhinovirus C Infections and Illness**

**Amaziah Coleman, MD**[1], Kristine Grindle[2], Tressa Pappas, BS[1], Fue Vang, PhD[2], Daniel J. Jackson, MD[3], Michael D. Evans, MS[1], Ronald E. Gangnon, PhD[1], Robert F. Lemanske Jr., MD, FAAAAI[1] and James E. Gern, MD, FAAAAI[4], [1]University of Wisconsin School of Medicine and Public Health, Madison, WI, [2]University of Wisconsin, Madison, Madison, WI, [3]Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, WI, [4]University of Wisconsin-Madison, Madison, WI

**362** **Allergic Airway Sensitization Impairs Bacterial Specific IgG and Correlates with Increased Mycoplasma Pneumoniae Persistence**

**Arthur H. Totten**[1], Danlin Luo[1], Li Xiao[1], Donna M. Crabb[1], Ken B. Waites[1] and T. Prescott Atkinson, MD, PhD, FAAAAI[2], [1]University of Alabama at Birmingham, Birmingham, AL, [2]University of Alabama at Birmingham Department of Pediatrics, Birmingham, AL

## Molecular Mechanism of Immunological Diseases

### BCI

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**363** **Characterization of Th2 Induced Bronchial Associated Lymphoid Tissue (BALT) in a Mouse Model of Asthma**

**David M. Kemeny, BSc, PhD, FRCPath**[1], Yen L Chua, BSc, MSc[1], Chiung-Hui Huang, PhD[2], Ka Hang Liong[3], Kenneth Wong[1], Sophie Q Zhou[4], Yafang Tang[4], Michelle CP Low[5], Yongliang Zhang[3] and Fred WS Wong[3], [1]National University of Singapore, Singapore, Singapore, [2]Department of Paediatrics, National University of Singapore, Singapore, [3]National University of Singapore, [4]Duke-NUS, [5]National university of Singapore

**364** **Lymphocyte Activation and Bone Turnover in HIV-Infected Young Adults; A Sub-Study of Adolescent Medicine Trials Network Protocol 061**

**Lorena R Wilson, MD**[1], Ruth Gakpo[1], Bernard Fischer, DVM, PhD[1], Bret Rudy, MD[2], Maureen Goodenow, PhD[3], Grace Aldrovandi, MD[4] and John Sleasman, MD[1], [1]Duke University Medical Center, Durham, NC, [2]New York University Langone Medical Center, New York, NY, [3]University of Florida College of Medicine, Gainesville, FL, [4]Children's Hospital of Los Angeles, Los Angeles, CA

**365** **T-Cell Function Declines before CD4+ T-Cell Count Reaches Critical Level in Patients with Perinatal Acquired HIV**

**Naveen Nannapaneni, MD**[1], Pavadee Poowuttikul, MD[2] and Elizabeth A. Secord, MD, FAAAAI[2], [1]Children's Hospital of Michigan Department of Allergy & Immunology, Detroit, MI, [2]Children's Hospital of Michigan Department of Allergy Immunology, Detroit, MI

**366** **The Immunmodulatory Role of Vitamin D in HIV-Infected Children**

**Yasmin Hamzavi Abedi, MD**[1] and David W. Rosenthal, DO, PhD[1,2], [1]Division of Allergy and Immunology, Departments of Medicine and Pediatrics, North Shore-LIJ Health System, Great Neck, NY, [2]Departments of Medicine and Pediatrics, Hofstra North Shore-LIJ School of Medicine, Hempstead, NY

**367** **Targeting IRF5 Activation for the Treatment of Lupus**

**Steven M. Draikiwicz, MD**[1], Saurav De[1], Eugenio Capitle, MD[2] and Betsy Barnes, PhD[1], [1]Rutgers New Jersey Medical School, Newark, NJ, [2]Rutgers-New Jersey Medical School, Newark, NJ

**368** **Cyclical Seminal Plasma Sensitivity in a Woman with Progesterone Autoimmune Dermatitis**

**Erin H. Penn, MD, MS**, Brigham and Women's Hospital, Division of Internal Medicine, Boston, MA, Paige G. Wickner, MD, MPH, Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Chestnut Hill, MA and Mariana C. Castells, MD, PhD, FAAAAI, Division of Rheumatology, Allergy and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

**369** **CMV-Specific T Cells in a Good's Syndrome Patient with Recurrent CMV Infection**

**Ponpan Matangkasombut, MD**, Department of Microbiology, Faculty of Science, Mahidol University, Bangkok, Thailand; Division of Allergy, Immunology and Rheumatology, Department of Internal Medicine, Faculty of Medicine, Ramathibodi hospital, Mahidol University, Bangkok, Thailand, Supanart Srisala, Research center, Faculty of Medicine Ramathibodhi hospital Mahidol University, Bangkok, Thailand, Wannada Laisuan, MD, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand and Nopporn Apiwattanakul, Division of Infectious Disease, Department of Pediatric Faculty of Medicine, Ramathibodhi hospital, Mahidol University, Bangkok, Thailand

**370** **Assessment of HLA Antigens and Serum Cytokine Levels to Predict Disease Progression and Treatment Responses in Children with Chronic Glomerulonephritis**

**G.N. Drannik**, Bogomolets National Medical University, Kiev, Ukraine, V. Driianska, National Academy of Medical Sciences of Ukraine, Kiev, Ukraine and Lawrence M. DuBuske, MD, FAAAAI, George Washington University School of Medicine, Washington, DC; Immunology Research Institute of New England, Gardner, MA

**371** **Serum TNF-Alpha, IL-12, IL-8 in Patients with Oral Mucosal Lichen Planus**

**Andrey I. Kurchenko**[1], George N. Drannik[1], R. A. Rehuretska[1] and Lawrence M. DuBuske, MD, FAAAAI[2,3], [1]Bogomolets National Medical University, Kiev, Ukraine, [2]George Washington University School of Medicine, Washington, DC, [3]Immunology Research Institute of New England, Gardner, MA

**372** **A Case Series of Measles Vaccination Failure in Healthcare Workers**

**YiFeng Chen, MD**[1,2], Hradaya Hegde, MD[3] and Rauno Joks, MD[1,2], [1]Department of Medicine at SUNY Downstate Medical Center, Brooklyn, NY, [2]Center for Allergy and Asthma Research, Brooklyn, NY, [3]Kings County Hospital Center, Brooklyn, NY

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**373** **An Atypical Case of Pancreatic Mass Causing Anti-NMDA Receptor Encephalitis**
**Salima A. Thobani, MD**, University of Southern California, Los Angeles, Marilyn Li, MD, University of Southern California, Kenny Y. Kwong, LAC+USC Medical Center, Lyne G. Scott, MD, University of Southern California, CA and Rahim Shiraz Govani, MD, Kaiser Permanente, Downey

**374** **Induction of Tolerogenic Dendritic Cells Using Co-Culture with Human Olfactory Mucosa-Derived Mesenchymal Stem Cells**
**Andrei Y. Hancharou**[1], N. H. Antonevich[1] and Lawrence M. DuBuske, MD, FAAAAI[2,3], [1]Republican Research and Practical Center for Epidemiology and Microbiology, Minsk, Belarus, [2]Immunology Research Institute of New England, Gardner, MA, [3]George Washington University School of Medicine, Washington, DC

**375** **Exhausted T-Cells and Memory T-Cell Subsets in Adult Varicella-Zoster Patients**
**Lawrence M. DuBuske, MD, FAAAAI**[1,2], Andrei Y. Hancharou[3] and G. M. Davidovich[3], [1]Immunology Research Institute of New England, Gardner, MA, [2]George Washington University School of Medicine, Washington, DC, [3]Republican Research and Practical Center for Epidemiology and Microbiology, Minsk, Belarus

**376** **Impact of IL-8 and Heat Shock Protein 60 Kda on Fertility of Chronic Prostatitis Patients in Kiev, Ukraine**
**George N. Drannik**[1], I. I. Gorpinchenko[1], T. V. Poroshina[1], K. R. Nurimanov[1], Vladimir S. Savchenko, PhD[1] and Lawrence M. DuBuske, MD, FAAAAI[2,3], [1]Institute of Urology, Kiev, Ukraine, [2]Immunology Research Institute of New England, Gardner, MA, [3]George Washington University School of Medicine, Washington, DC

## Immunodeficiency Associated with Other Diseases

### BCI

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Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**377** **Title: Hypersensitivity Pneumonitis in an Autosomal Recessive Chronic Granulomatous Disease Carrier**
**Joel L. Gallagher, MD**, James W. Verbsky, MD, PhD, John M. Routes, MD, FAAAAI, Mary Hintermeyer, APNP, Monica Thakar, MD and Sara Szabo, MD, PhD, Medical College of Wisconsin, Milwaukee, WI

**378** **Ectrodactyly, Ectodermal Dysplasia, and Cleft Lip/Palate Syndrome with Concomitant Lymphopenia: A Novel TP63 Mutation**
**Adeeb A. Bulkhi, MD**[1], Tara V. Saco, MD[2], Richard F. Lockey, MD[1,3] and Mark C. Glaum, MD, PhD, FAAAAI[1], [1]Division of Allergy and Immunology, Department of Internal Medicine, Morsani College of Medicine, University of South Florida, Tampa, FL, [2]Department of Internal Medicine, Morsani College of Medicine, University of South Florida, Tampa, FL, [3]James Haley Veterans' Hospital, Tampa, FL

**379** **A Case of Mohr-Tranebjærg Syndrome Diagnosed in a Patient with X-Linked Agammaglobulinemia**
**Marcus S. Shaker, MD, MS, FAAAAI**, Dartmouth-Hitchcock Medical Center, Lebanon, NH, TingJia H Lorigiano, Geisel School of Medicine, Hanover, NH and Anusha Vadlamudi, MD, Dartmouth-Hitchock Medical Center, Lebanon, NH

**380** **Comorbidity of Allergic Disorders in Patients with Rheumatoid Arthritis**
**Kyoko Yoshihiro, MD**, Shigeru Yoshizawa, MD, Reiko Kishikawa, MD, Terufumi Shimoda, MD and Tomoaki Iwanaga, MD, The National Hospital Organization Fukuoka Hospital, Fukuoka, Japan

**381** **Kabuki Syndrome with T Cell Dysfunction**
**Osman C. Dokmeci, MD**, Duke University School of Medicine, Durham, NC

**382** **Varicella Zoster Virus Meningitis As a Complication of Cyclosporine Therapy in a Patient with Atopic Dermatitis**
**Carlos A. Morales-Mateluna, MD, FAAAAI**, Universitätsspital Basel, Basel, Switzerland, Felix Schwarz, MD, Ostalb-Klinikum Aalen, Aalen, Germany and Joachim Freihorst, MD, Ostalb-Klinikum, Aalen, Germany

**383** **A Patient with Kabuki (Niikawa-Kuroki) Syndrome, Common Variable Immunodeficiency and Immune-Mediated Neutropenia Found to Have a Novel Mutation in the KTM2D Gene.**
**Neha Dunn, MD**[1,2], Rohit Katial, MD, FAAAAI[1] and Jenny Stitt, MD[3], [1]National Jewish Health, Denver, CO, [2]University of Colorado Hospitals, Aurora, CO, [3]UC Denver

**384** **Granulomatous and Lymphocytic Interstitial Lung Disease (GLILD) Associated with KMT2D Gene Mutation in Kabuki Syndrome**
**Juan A. Adams, MD**, Joel L. Gallagher, MD, Mary Hintermeyer, APNP, James W. Verbsky, MD, PhD and John M. Routes, MD, FAAAAI, Medical College of Wisconsin, Milwaukee, WI

**385** **A Novel Mutation in the CYBB Gene, Thr343Lys, in a Male Infant with X-Linked Chronic Granulomatous Disease with a Rare Presentation of Bilateral Parotiditis**
**Wei Te Lei, MD**, Division of Allergy, Immunology, Rheumatology Disease, Department of Pediatrics, Mackay Memorial Hospital, Hsinchu, Taiwan, Hsinchu, Taiwan

**386** **B Cell Function in Immunodeficiency with Normal Immunoglobulins**
**Hillary Gordon, MD**[1,2], Stacey Galowitz, DO[1,2], Kishore Alugupalli, PhD[1], Gregory Dickinson, PhD[1] and Stephen J. McGeady, MD, FAAAAI[1,2], [1]Thomas Jefferson University Hospital, Philadelphia, PA, [2]Nemours/AI duPont Hospital for Children, Wilmington, DE

**387** **Sema4C Expression Characterization and Downstream Signaling in HEK Cells and B Cell Lines**
**David Wu**, McGill University, Montreal, QC, Canada

**388** **Impact of an H3/4 Receptor Antagonist on Chemokine and Cytokine Synthesis By PBMC and Dendritic Cells Derived from PBMC**
**Roman Khanferyan, MD, PhD**[1], V. Evstratova[1], N. Rieger[1] and Lawrence M. DuBuske, MD, FAAAAI[2,3], [1]Institute of Nutrition, Moscow, Russia, [2]Immunology Research Institute of New England, Gardner, MA, [3]George Washington University School of Medicine, Washington, DC

**389** **Expression Pattern of Peripheral Blood Mononuclear Leucocyte GABA Receptors and Calcium Signaling Genes**
**Leonid P. Titov, MD, PhD**[1], A. B. Kapitau[1], K. I. Pavlov[1], I. M. Goloenko[1] and Lawrence M. DuBuske, MD, FAAAAI[2,3], [1]Republican Research and Practical Center for Epidemiology and Microbiology, Minsk, Belarus, [2]Immunology Research Institute of New England, Gardner, MA, [3]George Washington University School of Medicine, Washington, DC

**390** **IL1-Beta Levels in Patients with Refractory Recurrent Pericarditis**
**Rushita Mehta, MD** and Arye Rubinstein, MD, Albert Einstein College of Medicine and Montefiore Hospital, Bronx, NY

## Pollens

### EORD

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Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**391** **Rapid Molecular Identification and Quantification of Allergenic Pollen By Real-Time PCR**
**Michael Teng, PhD**, Division of Allergy and Immunology, Department of Internal Medicine, and the Joy McCann Culverhouse

SUNDAY

Airway Diseases Research Center, University of South Florida Morsani College of Medicine, Tampa, FL, Mark C. Glaum, MD, PhD, FAAAAI, Division of Allergy and Immunology, Department of Internal Medicine, Morsani College of Medicine, University of South Florida, Tampa, FL and Dennis K Ledford, MD, University of South Florida and the James A. Haley VA Hospital, Tampa, FL

**392 Is California Drought Affecting Population IgE Levels?**
**John S. Kaptein, PhD**[1], C.K. E Lin, PhD[1] and Bruce J. Goldberg, MD, PhD, FAAAAI[2], [1]Southern California Permanente Medical Group, Los Angeles, CA, [2]Kaiser Permanente Los Angeles Medical Center, Los Angeles, CA

**393 Effect of Climate Change on Allergenic Airborne Pollen in Japan (2)**
**Reiko Kishikawa, MD**[1], Akemi Saito, PhD[2], Norio Sahashi, PhD[3], Eiko Koto[1], Chie Oshikawa, MD[1], Nobuo Soh, MD[4], Toshitaka Yokoyama[5], Tadao Enomoto, MD[6], Toru Imai, MD[6], Koji Murayama[6], Yuma Fukutomi, MD, PhD[7], Terufumi Shimoda, MD[1] and Tomoaki Iwanaga, MD[1], [1]The National Hospital Organization Fukuoka Hospital, Fukuoka, Japan, [2]The National Hospital Organization Sagamihara Hospital, Sagamihara, Japan, [3]Toho University, Funabashi, Japan, [4]Soh ENT clinic, Fukuoka, Japan, [5]Forestry and Forest Products Research Institute, [6]NPO Association of Pollen Information, [7]Clinical Research Center for Allergy and Rheumatology, Sagamihara National Hospital, Sagamihara, Japan

**394 Annual Fluctuations of Outdoor Allergen Seasons**
**Frances Coates** and Dawn Jurgens, Aerobiology Research Laboratories, Ottawa, ON, Canada

**395 Pollen Excursion: Flight or Respite**
**Peter J. Pityn** and James Anderson, OSHTECH Incorporated, London, ON, Canada

**396 Daily Fluctuations in Airborne Ragweed Pollen Levels in Washington, DC (2007-2009)**
**Susan E. Kosisky, BS MHA**[1], Taylor A. Banks, MD[2] and Sarah W. Spriet, DO[2], [1]United States Army Centralized Allergen Extract Lab, Burtonsville, MD, [2]Walter Reed National Military Medical Center, Bethesda, MD

**397 Impact of Temperature Warming and Droughts on Ragweed Pollen Count in Ukraine**
**Viktoria Rodinkova**, Vinnitsa National Pirogov Memorial Medical University, Vinnitsa, Ukraine and Lawrence M. DuBuske, MD, FAAAAI, George Washington University School of Medicine, Washington, DC; Immunology Research Institute of New England, Gardner, MA

**398 Association Between Rainfall and Ragweed Pollen Counts in the Midwest**
**Neha N Patel, MD**[1], Charles S. Barnes, PhD[2], Minati Dhar, Ph.D[1] and Jay M. Portnoy, MD, FAAAAI[3], [1]Children's Mercy Hospital & Clinics, Kansas City, MO, [2]Children's Mercy Hospitals and Clinics, MO, [3]Division of Allergy & Immunology, Children's Mercy Hospitals and Clinics, Kansas City, MO

**399 Sensitization to Olive, Ash and Privet, in Seasonal Respiratory Allergy Patients from Córdoba, City, Argentina**
**Juan C Muino**[1], Eugenia C Garcia Cucatti[2], Marta D Romero[3] and Marcela A Ordonez[2], [1]FAC Cs Med UNC, Cordoba, Argentina, [2]Hospital Misericordia, Cordoba, Argentina, [3]Laboratorio LIIDO, Córdoba, Argentina

**400 Relevance of Clinical Sensitization to Quercus Pollen in Spain?**
**Vanesa Balugo Lopez**, Fundación Jiménez Díaz Hospital, Madrid, Spain, Elena Hernández García de la Barrena, Fundacion Jiménez Díaz and Joaquín Sastre, MD, PhD, FAAAAI, Fundación Jiménez Díaz, Madrid, Spain

**401 Tree (Oak and Birch) Season and Climate Change in the Continental United States (CONUS) from 2000 to 2050**
**Leonard Bielory, MD, FAAAAI**[1], Yong Zhang, PhD[2], Zhongyuan Mi[2], Ting Cai[2] and Panos G Georgopoulos, PhD[2], [1]Rutgers University, New Brunswick, NJ, [2]Rutgers University, Piscataway, NJ

**402 Comparison of Grass Pollen Levels in 5 Cities of Argentina**
**German D. Ramon, MD, FAAAAI**[1], Nadia Arango, Biologist[1], Laura B. Barrionuevo, Biologist[1], Maria S. Reyes, MD[2], Maximo Adamo, MD[2], Olga Molina, MD[3], Gustavo Serrano, MD[4], Pablo Fasano, MD[4], Anahi M Mendes, MD[3], Vilma I Villafañe, MD[4] and Adrian M Kahn, MD, FAAAAI[5,6], [1]Instituto de Alergia e Inmunologia del Sur, Bahia Blanca, Argentina, [2]SAAIS, Bariloche, [3]SAAIS, Alto Valle Rio Negro, [4]SAAIS, Alto Valle de Rio Negro, [5]Hospital Privado Universitario, Cordoba, Argentina, [6]Instituto Universitario de Ciencias Biomedicas de Cordoba, Cordoba, Argentina

**403 Grass Pollen Counts in Bahia Blanca, Argentina, during Ten Consecutive Years (2005-2014)**
**Fabian M Ramon, MD**[1], Nadia Arango, Biologist[1], Laura B. Barrionuevo, Biologist[1], Adrian M Kahn, MD, FAAAAI[2,3], Julieta Ribas, Study coordinator[1], Nadia Abdala, Study coordinator[1] and German D. Ramon, MD, FAAAAI[1], [1]Instituto de Alergia e Inmunologia del Sur, Bahia Blanca, Argentina, [2]Hospital Privado Universitario, Cordoba, Argentina, [3]Instituto Universitario de Ciencias Biomedicas de Cordoba, Cordoba, Argentina

**404 Seasonal Tree, Weed and Grass Pollen Patterns in the Las Vegas Valley**
**Hongbin Jin, MPH, BSN, RN**[1], Tanviben Patel, BS, MPH[1], Mark Buttner, PhD[2], Dennis Bazylinski, PhD[2] and Joram S. Seggev, MD, FAAAAI[3], [1]University of Nevada, Las Vegas, Las Vegas, NV, [2]University of Nevada Las Vegas, Las Vegas, NV, [3]Joram S. Seggev, MD, Las Vegas, NV

**405 Pollen of Humulus Japonicus :Importance in South Korea**
**Jeong Hee Kim, MD** and Dae Hyun Lim, Inha University Hospital, South Korea

**406 Electronic Patient Data Acquisition Tablet (Epdat™) Geofencing Capabilities Allows for Subject Compliance and Pollen Exposure Monitoring Leading to Improved Data Quality in Seasonal Allergy Field Trials**
**Devang Panchal**, Dan Wilson, Tara Sadoway, MSc, Victoria Nelson, M.Sc, Piyush Patel, MD, FRCP and Anne Marie Salapatek, PhD, Inflamax Research, Mississauga, ON, Canada

**407 Field Scores of Allergic Individuals Correlate Positively with Self-Reported Outdoor Exposure Collected Using an Electronic Patient Data Acquisition Tablet (ePDAT™)**
**Tara Sadoway, MSc**, Victoria Nelson, MSc, Sameer Patel, M.D, Peter Couroux, MD and Anne Marie Salapatek, PhD, Inflamax Research, Mississauga, ON, Canada

SUNDAY

## Food Allergy: Diagnosis and Management

### FADDA

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Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**408 Oral Immunotherapy for Sesame Food Allergy: Interim Analysis**
**Michael R Goldberg, MD, PhD**[1], Michael B. Levy, MD, FAAAAI[1], Michael Y Appel, PhD[1], Liat Nachshon, MD[1], Keren Golobov, BScNutr RD[1], Arnon Elizur, MD[1,2], Hadas Yechiam-Caspi[1] and Yitzhak Katz, MD, FAAAAI[1,2], [1]Assaf Harofeh Medical Center, Zerifin, Israel, [2]Department of Pediatrics, Sackler School of Medicine, Tel Aviv, Israel

**409 Comparison of Diagnostic Tests for Sesame Food Allergy**
**Michael Y Appel, PhD**[1], Michael R Goldberg, MD, PhD[1], Liat Nachshon, MD[1] and Yitzhak Katz, MD, FAAAAI[1,2], [1]Assaf Harofeh Medical Center, Zerifin, Israel, [2]Department of Pediatrics, Sackler School of Medicine, Tel Aviv, Israel

**410** **Analysis of Oral Food Challenges for Almond Hypersensitivity**
**Paul E. Hesterberg, MD**[1], Yamini Virkud, MD, MA, MPH[2], Caroline Southwick[3], Alexandra R. Alejos, BA[1], Elisabeth S. Stieb, RN BSN AE-C[1] and Wayne Shreffler, MD, PhD[4], [1]Massachusetts General Hospital, Boston, MA, [2]Department of Allergy and Immunology, Massachusetts General Hospital, Boston, MA, [3]Food Allergy Center, Massachusetts General Hospital, Boston, MA, [4]Division of Allergy and Immunology, Department of Pediatrics, Massachusetts General Hospital and Harvard Medical School, Boston, MA

**411** **Mild Ocular and Nasal Symptoms Are Not Indicative of Reactions during Open Oral Food Challenges**
**Katherine S. L. Tuttle, MD**[1], Elisabeth S. Stieb, RN, BSN AE-C[2], Paul E. Hesterberg, MD[2], Wayne Shreffler, MD, PhD[3,4] and Yamini Virkud, MD, MA, MPH[5], [1]Massachusetts General Hospital for Children, Boston, MA, [2]Massachusetts General Hospital, Boston, MA, [3]Division of Allergy and Immunology, Department of Pediatrics, Massachusetts General Hospital and Harvard Medical School, Boston, MA, [4]Harvard Medical School, Boston, MA, [5]Department of Allergy and Immunology, Massachusetts General Hospital, Boston, MA

**412** **Implementation of a Standardized Clinical Assessment and Management Plan (SCAMP) for Food Challenges**
**Tander Simberloff**[1,2], Ron Parambi, MBBS, MPH[1,2], Lisa Bartnikas, MD[1,3], Ana Dioun Broyles, MD, FAAAAI[1,3], Victoria Hamel[1], Karol G. Timmons, RN, MS, CPNP[1], D Marlowe Miller[1,2], Dionne Graham, PhD[1,2], Lynda C. Schneider, MD, FAAAAI[1,3] and Andrew J. MacGinnitie, MD, PhD[1,3], [1]Boston Children's Hospital, Boston, MA, [2]Institute for Relevant Clinical Data Analytics, [3]Harvard Medical School, Boston, MA

**413** **A Review of Food Challenges Performed on Children with Large Skin Prick Tests**
**Malika Gupta, MD**[1], Liron D. Grossmann, MD[2], Jonathan M. Spergel, MD, PhD, FAAAAI[1,3] and Antonella Cianferoni, MD, PhD, FAAAAI[4], [1]The Children's Hospital of Philadelphia, Philadelphia, PA, [2]Tel-Aviv University, Tel Aviv, Israel, [3]Perelman School of Medicine, [4]3615 Civic Center Boulevard, The Children's Hospital of Philadelphia, Philadelphia, PA

**414** **Basophil Activation and Peanut-Specific IgE Are Not Predictors of Threshold Dose during a Double-Blind Placebo-Controlled Food Challenge (DBPCFC)**
**Moira E Breslin, MD, MSc**[1], Deanna K. Hamilton, RN[1], Rishu Guo, PhD[1], Ping Ye, PhD[1], Xiaotong Jiang[1], Paul Stewart, PhD[1], Stacy Chin, MD[2], Edwin H. Kim, MD, MS[1] and A. Wesley Burks, MD, FAAAAI[1], [1]University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]FDA/CDER, Washington, DC

**415** **Sustainability of Phenotype and Suppressive Activities of Tregs after Discontinuation of Epit but Not of OIT or Slit in Peanut Sensitized Mice**
**Vincent Dioszeghy, PhD**[1], Lucie Mondoulet, PhD[1], Camille Plaquet[1], Emilie Puteaux[1], Mélanie Ligouis[1], Véronique Dhelft[1], Christophe Dupont, MD, PhD[2] and Pierre-Henri Benhamou, MD[1], [1]DBV Technologies, Bagneux, France, [2]Hopital Necker Enfants Malades, Paris, France

**416** **Patients from Low-Income Families Referred for Oral Food Challenge Were More Likely to Pass**
**Koen R. Beukema**[1], John Leung, MD[1], Yamini Virkud, MD, MA, MPH[2], Alice H. Shen[1], Sarita U. Patil, MD[2], Jyoti Ramakrishna, MD[1] and Wayne Shreffler, MD, PhD[3], [1]Division of Allergy and Immunology, Tufts Medical Center, Boston, MA, [2]Department of Allergy and Immunology, Massachusetts General Hospital, Boston, MA, [3]Division of Allergy and Immunology, Department of Pediatrics, Massachusetts General Hospital and Harvard Medical School, Boston, MA

**417** **Quantitative Assessment of the Safety Benefits Associated with Increasing Clinical Peanut Thresholds through Immunotherapy.**
**Joseph L. Baumert, PhD**[1], Laurent Martin, PharmD[2], Claude Thébault, MD[2], Steve L. Taylor, PhD[1], Stef J Koppelman, PhD[1,2] and Charles Ruban, MSc[2], [1]Food Allergy Research and Resource Program, University of Nebraska-Lincoln, Lincoln, NE, [2]DBV Technologies, Bagneux, France

**418** **Determination of Milk Allergen Threshold Doses with Dedicated Challenge**
**Michal Melchior, MSc**[1], Liat Nachshon, MD[2], Michael B. Levy, MD, FAAAAI[2], Michael R Goldberg, MD, PhD[2], Keren Golobov, BScNutr, RD[2], Arnon Elizur, MD[2,3] and Yitzhak Katz, MD, FAAAAI[2,3], [1]Tel-Aviv University, School of Medicine, Tel Aviv, Israel, [2]Assaf Harofeh Medical Center, Zerifin, Israel, [3]Department of Pediatrics, Sackler School of Medicine, Tel Aviv, Israel

**419** **Early Peanut OIT-Induced Suppression of Basophil Reactivity Is a Marker of Sustained Unresponsiveness**
**Sarita U. Patil, MD**[1,2], Johanna Steinbrecher, BS[3], Alex Ma, BS[4,5], Neal Smith, B.S.[6], Cecilia Washburn, BS[6], Alanna Hickey[7], Caroline Southwick[7], Lauren Tracy[7], Bert Ruiter, PhD[8], Yamini Virkud, MD, MA, MPH[2], Michael Schneider[9] and Wayne Shreffler, MD, PhD[10,11], [1]Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [2]Department of Allergy and Immunology, Massachusetts General Hospital, Boston, MA, [3]Department of Rheumatology, Allergy, and Immunology, Massachusetts General Hospita, Charlestown, MA, [4]New York University College of Dentistry, New York, NY, [5]Massachusetts General Hospital, Charlestown, MA, [6]Department of Rheumatology, Allergy, and Immunology, Massachusetts General Hospital, Charlestown, MA, [7]Food Allergy Center, Massachusetts General Hospital, Boston, MA, [8]Massachusetts General Hospital, Boston, MA, [9]BUHLMANN Laboratories AG, Basel, Switzerland, [10]Division of Allergy and Immunology, Department of Pediatrics, Massachusetts General Hospital and Harvard Medical School, Boston, MA, [11]Harvard Medical School, Boston, MA

**420** **Peanut Allergen Thresholds in Israel – a "Low Peanut Allergy" Prevalence Area.**
**Tamar Yichie, BScNutr, RD**[1], Michael R Goldberg, MD, PhD[1], Michael B. Levy, MD, FAAAAI[1], Liat Nachshon, MD[1], Keren Golobov, BScNutr, RD[1], Arnon Elizur, MD[1,2] and Yitzhak Katz, MD, FAAAAI[1,2], [1]Assaf Harofeh Medical Center, Zerifin, Israel, [2]Department of Pediatrics, Sackler School of Medicine, Tel Aviv, Israel

**421** **Consumer Attitudes Towards Packaged Foods Having Food Allergen Advisory Labeling**
**Catherine A Mills**, Julie Wang, MD, FAAAAI and Jacob D. Kattan, MD, Icahn School of Medicine at Mount Sinai, New York, NY

**422** **Epicutaneous but Not Oral Immunotherapy Leads to Sustainable GATA-3 Hypermethylation and Foxp3 Hypomethylation in Peanut Sensitized Mice**
**Jorg Tost, PhD**[1], Lucie Mondoulet, PhD[2], Emilie Puteaux[2], Florence Busato[1], Mélanie Ligouis[2], Véronique Dhelft[2], Camille Plaquet[2], Christophe Dupont, MD, PhD[3] and Pierre-Henri Benhamou, MD[2], [1]CEA, Evry, France, [2]DBV Technologies, Bagneux, France, [3]Hopital Necker Enfants Malades, Paris, France

**423** **Food Allergies in a Pediatric Clinic – Interventions to Improve Management**
**Ari Zelig, MD**[1], Ilana Harwayne-Gidansky, MD[2], Allison Gault, MD[3] and Julie Wang, MD, FAAAAI[3], [1]Albert Einstein College of Medicine, Bronx, NY, [2]New York-Presbyterian Hospital, Weill Cornell Medical Center, New York, NY, [3]Icahn School of Medicine at Mount Sinai, New York, NY

**424** **Plasma Derived IgA from Healthy Donors Binds to Peanut Extract and Inhibits Peanut-Induced Rat Basophil Activation**
**Michael R. Simon, MD, FAAAAI**, Secretory IgA, Inc., Ann Arbor, MI; William Beaumont Hospital, Royal Oak, MI and George N. Konstantinou, MD, PhD, MSc, Icahn School of Medicine at Mount Sinai, New York, NY; 424 General Military Training Hospital, Thessaloniki, Greece

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**425 IgE-Dependent Mechanism and Successful Desensitization of Erythritol Allergy**

**Shiro Sugiura, MD, MPH**[1], Yasuto Kondo, MD, PhD[2], Ikuya Tsuge, MD, PhD[3], Tomoko Nakagawa, MD[4], Naoyuki Kando, MD[4], Komei Ito, MD, PhD[5] and Norihisa Koyama, MD, PhD[6], [1]Department of Allergy, Aichi Children's Health and Medical Center, Obu, Japan, [2]Department of Pediatrics, The Second Teaching Hospital, Fujita Health University, Nagoya, Japan, [3]Department of Pediatrics, School of Medicine, Fujita Health University, Toyoake, Japan, [4]Department of Allergy, Aichi Children's Health and Medical Center, [5]Aichi Children's Health and Medical Center, Obu, Aichi, Japan, [6]Department of Pediatrics, Toyohashi Municipal Hospital

**426 Glucopyranosyl Lipid a (GLA) a Toll-like Receptor 4 (TLR4) Agonist for Use As an Adjuvant in Combination with Peanut Allergen Immunotherapy**

**Timothy J Soos**[1], Li Li[1], Keith Graver[2], Joanne Schiding[3], Adrienne Xenos[4], Dongling Chen[4], Neil Fitch[3], El-Bdaoui Haddad[4], Catherine Jones[1] and Christopher Arendt[4], [1]Bio-Innovation, Global Biotherapeutics, SANOFI, Cambridge, MA, [2]Bio-Innovation, Global Bio-therapeutics, SANOFI, Cambridge, MA, [3]Bio-Innovation, Global Biotherapeutics, sanofi, Cambridge, MA, [4]Bio-Innovation, Global BioTherapeutics, Sanofi, Cambridge, MA

**427 Tolerance Induction By Oral Immunotherapy in Patients with Cow's Milk Allergy**

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**428 General Characteristics of Brazilian Children and Adolescents with Cow's Milk Protein Allergy before Starting Oral Tolerance Induction (OIT)**

**Fabio C Kuschnir, MD, PhD**[1], Jose Luiz M. Rios, MD, PhD[2,3], Alfredo A. Neto, Dr.[2,3], Mary A. da Venda[2,3], Flavia C. Loyola[2], Bruno B Souto, Dr.[2] and Joao B. M. Rios[2,3], [1]Department of Pediatrics Rio De Janeiro State University, Rio de Janeiro, Brazil, [2]Policlinica Geral Do Rio De Janeiro, Rio de Janeiro, Brazil, [3]Petropolis Medicine Faculty - FASE, Petropolis, Brazil

**429 Cow's Milk (CM) Oral Immunotheray (OIT) Early Immunologic Shiftings**

**Jose Luiz M. Rios, MD, PhD**[1,2], Fabio C Kuschnir[3], Alfredo Alves Neto[4,5], Flavia C. Loyola[4,5], Mary A. da Venda[5,6], Cristiane A. Iraha[4,5] and Joao B. M. Rios[4,5], [1]Petropolis Medicine Faculty - FASE, Petropolis, Brazil, [2]Policlinica Geral Do Rio De Janeiro, Rio de Janeiro, Brazil, Rio de Janeiro, Brazil, [3]Pediatrics, Rio De Janeiro State University, Rio de Janeiro, Brazil, [4]Policlinica Geral do Rio de Janeiro, Brazil, [5]Petropolis Medicine Faculty - FASE, [6]Policlinica Geral Do Rio De Janeiro, Rio de Janeiro, Brazil, Brazil

**430 Real-Life Follow-up in Cows Milk Immunotherapy: Clinical and Serological Data**

**Paloma Poza-Guedes, MD**[1], Ruperto González-Pérez, MD, PhD[1], Inmaculada Sanchez-Machin, MD[2] and Victor Matheu, MD, PhD[2], [1]Hospital del Tórax-Ofra, Sta Cruz de Tenerife, Spain, [2]Hospital Universitario de Canarias, La Laguna, Spain

**431 Succesfull Desensitization to Cow's Milk in Combination with Omalizumab**

**Cristina E. Jiménez, MD**, Yesenia Peña, MD, Jesús Macias, MD, Gustavo Córdova, MD, Mar Moro, MD, PhD and Ana Rosado, MD, Hospital Universitario Fundación Alcorcón, Madrid, Spain

**432 Improvement in Skin Testing Is Associated with Increases in Milk Component- Specific IgA and IgG4 during Milk Oral Immunotherapy**

**Bahar Torabi, MD**[1], Sarah De Schryver, MD[1], Tanvir Rahman, MSc[1], Duncan Lejtenyi, MSc[1], Ingrid Baerg, BSN, CAE[2], Edmond S. Chan, MD, FAAAAI[3], Bruce D. Mazer, MD, FAAAAI[1] and Moshe Ben-Shoshan, MD, MSc[1], [1]The Research Institute of the McGill University Health Centre, Meakins- Chrisitie Laboratories, Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, Montreal Children's Hospital, Montreal, QC, Canada, [2]Division of Allergy & Immunology, Department of Pediatrics, BC Children's Hospital, Vancouver, BC, Canada, [3]Division of Allergy & Immunology, Department of Pediatrics, Faculty of Medicine, University of British Columbia, BC Children's Hospital, Vancouver, BC, Canada

**433 Oral Allergy Symptoms and Pollen Sensitization in Tree Nut Allergic Subjects Receiving Walnut Oral Immunotherapy (WOIT)**

**Amika Sood**[1], Amy M. Scurlock, MD[2], Mallikarjuna R Rettiganti, PhD[3], Anne M. Hiegel, RN CRC[4], James D Sikes[5], Suzanne E House[3], Jennifer N Payne[5], Jessica L Bettis[6], Sarah E Beckwith[6], Tamara T. Perry, MD[5], Robbie D. Pesek, MD[3,4], Josh L. Kennedy, MD[5], Peggy L. Chandler, APN[5], Chunqiao Luo, MS[3,4] and Stacie M. Jones, MD[7], [1]University of Arkansas for Medical Sciences/Arkansas Children's Hospital, [2]Slot 512-13, UAMS/AR Children's Hospital, Little Rock, AR, [3]University of Arkansas for Medical Sciences, Little Rock, AR, [4]Arkansas Children's Hospital, Little Rock, AR, [5]UAMS/AR Children's Hospital, Little Rock, AR, [6]Arkansas Children's Hospital Research Institute, Little Rock, AR, [7]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR

**434 Trends in Adverse Reactions Requiring Epinephrine in the Build-up Phase of Oral Immunotherapy**

**Arram Noshirvan**[1], Daniel H. Petroni, MD, PhD[2], Mindy Tsai, DMSc[3], Stephen J. Galli, MD[3], R. Sharon Chinthrajah, MD[4] and Kari C. Nadeau, MD, PhD, FAAAAI[1], [1]Stanford University, Medicine, Division of Pulmonary and Critical Care, Stanford, CA, [2]Seattle Children's Hospital, Seattle, WA, [3]Stanford University School of Medicine, Stanford, CA, [4]Medcine, Division of Pulmonary and Critical Care, Stanford University, Stanford, CA

**435 Long-Term Follow-up of Oral Immunotherapy for Multiple Food Allergies**

**Sonia Singh, MD**[1], Rohun A Kshirsagar[1], Tina L.R. Dominguez[1], Dana Tupa[1], Whitney Block, MSN, CPNP, FNP-BC[1], R. Sharon Chinthrajah, MD[2] and Kari C. Nadeau, MD, PhD, FAAAAI[3], [1]Stanford University, Stanford, CA, [2]Medcine, Division of Pulmonary and Critical Care, Stanford University, Stanford, CA, [3]Stanford University, Medicine, Division of Pulmonary and Critical Care, Stanford, CA

**436 NMR-Based Metabolomics Analysis Reproducibly Identifies Unique Subject-Specific Profiles That Change during Peanut Oral Immunotherapy**

**Brian P. Vickery, MD, FAAAAI**[1], Michael D. Kulis Jr., PhD[2], Delisha Stewart, PhD[3], Wimal Pathmasiri, PhD[3], Deanna K. Hamilton, RN[4], Susan McRitchie, MS[3], Jason P. Burgess, PhD[3], Susan Sumner, PhD[3] and A. Wesley Burks, MD, FAAAAI[4], [1]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, Chapel Hill, NC, [2]University of North Carolina School of Medicine, Chapel Hill, NC, [3]RTI International, [4]University of North Carolina at Chapel Hill, Chapel Hill, NC

**437 Safety of Viaskin Milk Epicutaneous Immunotherapy (EPIT) in IgE-Mediated Cow's Milk Allergy (CMA) in Children (MILES Study)**

**Karine Rutault, PhD**[1], Wence Agbotounou, PhD[1], Aurélie Peillon[1], Claude Thébault, MD[1], Fanny Vincent, PhD[1], Laurent Martin, PharmD[1], Ruban Charles[1], Christophe Dupont, MD, PhD[2], Pierre-Henri Benhamou, MD[1] and Hugh A. Sampson, MD, FAAAAI[3],

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**438 No Impact of Filaggrin Deficiency on Epit Efficacy in a Murine Model**

**Sophie Wavrin, PhD**[1], Lucie Mondoulet, PhD[2], Vincent Dioszeghy, PhD[2], Emilie Puteaux[2], Mélanie Ligouis[2], Véronique Dhelft[2], Camille Plaquet[2], Christophe Dupont, MD, PhD[3] and Pierre-Henri Benhamou, MD[2], [1]DBV Technologies, [2]DBV Technologies, Bagneux, France, [3]Hopital Necker Enfants Malades, Paris, France

**439 Children Suspected for Hazelnut Allergy with and without Concomitant Peanut Allergy Have 4 Independent and Well Characterized Serotypes.**

**Esben Eller, MSc, PhD**[1,2], Charlotte G. Mortz, MD, Phd[1,2] and Carsten Bindslev-Jensen, MD, PhD, DMSci, FAAAAI[1,2], [1]Odense University Hospital, Odense, Denmark, [2]Odense Research Center for Anaphylaxis (ORCA)

**440 Oral Food Challenge: Are There Better Means to Predict Outcomes?**

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**441 Positive Oral Food Challenge, Shall We Stop or Continue?**

**Sonsoles Infante, MD**[1], Maria Elisa Caralli, MD[2], Alexandra Yago, MD[3], Alberto Alvarez-Perea, MD[2], Victoria Fuentes-Aparicio, MD[4] and Lydia Zapatero, MD, PhD[2], [1]Hospital General Universitario Gregorio Marañón, Allergy Department, Madrid, Spain, [2]Hospital Materno Infantil Gregorio Marañón, Pediatric Allergy Department, Madrid, Spain, [3]Hospital Universitario Puerta de Hierro. Allergy Department, Madrid, Spain, [4]Hospital Clínico San Carlos.Allergy Department.IdiSSC, Madrid, Spain

**442 Results of a 16-Year Oral Food Challenges (OFC) Performed at a Major Teaching Hospital in Thailand**

**Pakit Vichyanond, MD, FAAAAI**, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand and Witchaya Srisuwatchari, MD, Department of Pediatrics, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

**443 Outcomes of 109 Consecutive Open Food Challenges to Extensively-Heated (baked) Milk**

**Jeanifer Poon**[1], Elizabeth Feuille, MD[2], Zara Atal[3], Hugh A. Sampson, MD, FAAAAI[4,5] and Anna H. Nowak-Wegrzyn, MD, FAAAAI[2], [1]Icahn School of Medicine at Mount Sinai, [2]Icahn School of Medicine at Mount Sinai, New York, NY, [3]Icahn School of Medicine at Mt. Sinai, [4]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, New York, USA, [5]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY

**444 Severity of Reactions to Oral Peanut Challenges in Children and Adults**

**R. Sharon Chinthrajah, MD**[1], Jaime S. Rosa, MD, PhD[2], Dana Tupa[3], Bridget Smith, PhD[4], Ruchi S. Gupta, MD, MPH[5], Stephen J. Galli, MD[2] and Kari C. Nadeau, MD, PhD, FAAAAI[6], [1]Medcine, Division of Pulmonary and Critical Care, Stanford University, Stanford, CA, [2]Stanford University School of Medicine, Stanford, CA, [3]Stanford University, Stanford, CA, [4]Northwestern University Feinberg School of Medicine, Chicago, IL, [5]Ann and Robert H. Lurie Children's Hospital of Chicago, Northwestern Feinberg school of Medicine, Chicago, IL, [6]Stanford University, Medicine, Division of Pulmonary and Critical Care, Stanford, CA

**445 The Role of Oral Food Challenge in Peanut-Sensitized Individuals**

**Michael B. Levy, MD, FAAAAI**[1], Liat Nachshon, MD[1], Michael R Goldberg, MD, PhD[1], Hadas Yechiam-Caspi[1], Keren Golobov, BScNutr RD[1], Arnon Elizur, MD[1,2] and Yitzhak Katz, MD, FAAAAI[1,2], [1]Assaf Harofeh Medical Center, Zerifin, Israel, [2]Department of Pediatrics, Sackler School of Medicine, Tel Aviv, Israel

**446 High Diagnostic Sensitivity and Specificity By Analysis of IgE to Different Types of Gliadins When Evaluating Wheat Allergy in Children**

**Sigrid Sjolander, PhD**[1], Nora Nilsson[2], Helena Ekoff[3], Sandra Wieser, PhD[4], Gunilla Hedlin, MD, PhD[5,6], Rudolf Valenta, MD[4,7], Magnus P Borres, MD, PhD, FAAAAI[1,8] and Caroline Nilsson, MD, PhD[9], [1]Thermo Fisher Scientific, Uppsala, Sweden, [2]Astrid Lindgrens Childrens Hospital, Stockholm, Sweden, [3]Thermofisher Scientific, Uppsala, Sweden, [4]Division of Immunopathology, Department of Pathophysiology and Allergy Research, Center of Pathophysiology, Infectiology and Immunology, Medical University of Vienna, Vienna, Austria, [5]Karolinska Institutet, Stockholm, Sweden, [6]Centre for Allergy Research, Karolinska Institutet, Stockholm, Sweden, [7]Medical University of Vienna AKH, Wien, Austria, [8]Department of Women's and Children's Health, Uppsala University, Sweden, Uppsala, Sweden, [9]Department of Clinical Science and Education, Södersjukhuset, Karolinska Institutet and Sachs' Children's Hospital, Södersjukhuset, Stockholm, Sweden

**447 The Relationship Between Self-Efficacy, Quality of Life, and Oral Food Challenge**

**Matthew J. Greenhawt, MD, MBA, MSc**, Department of Internal Medicine, The University of Michigan Medical School, Division of Allergy and Clinical Immunology, Ann Arbor, MI, Christopher E. Couch, MD, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI, Timothy J. Franxman, MD, University of Michigan, Ann Arbor, MI and Audrey Dunn Galvin, University College Cork, Ireland

**448 Fraction of Exhaled Nitric Oxide (FeNO) and Abdominal Pain and/or Vomiting in Reaction to Oral Food Challenge**

**Sara C. Slatkin, MD**[1], Dana Tupa[2], Kari C. Nadeau, MD, PhD, FAAAAI[3] and R. Sharon Chinthrajah, MD[3], [1]Stanford Hospital and Clinics, Stanford, CA, [2]Stanford University, Stanford, CA, [3]Stanford

**449 Determination of Sesame Allergen Threshold Doses**

**Keren Golobov, BScNutr, RD**[1], Tamar Yichie, BScNutr RD[1], Michael B. Levy, MD, FAAAAI[1], Michael R Goldberg, MD, PhD[1], Liat Nachshon, MD[1], Arnon Elizur, MD[1,2] and Yitzhak Katz, MD, FAAAAI[1,2], [1]Assaf Harofeh Medical Center, Zerifin, Israel, [2]Department of Pediatrics, Sackler School of Medicine, Tel Aviv, Israel

**450 The Risk of Failing Oral Food Challenge to Baked Egg and Milk Increases with Wheat Flour Replacers**

**Bruce J. Lanser, MD**[1], Nathan Rabinovitch, MD, MPH[2], Erwin W. Gelfand, MD, FAAAAI[2] and Pia J. Hauk, MD[2], [1]Pediatrics, National Jewish Health, Denver, CO, [2]National Jewish Health, Denver, CO

**451 What Is Different about Kids Who Fail Oral Food Challenge to Egg?**

**Kathryn M. Barbon**[1], Christine Szychlinski[2], Ashley L Devonshire, MD, MPH[3] and Anne Marie Singh[1,3], [1]Department of Medicine, Northwestern Feinberg School of Medicine, Chicago, IL, [2]Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [3]Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern Feinberg School of Medicine, Chicago, IL

**452 Oral Food Challenge Failures to Egg, Milk, and Peanut: An Evaluation of Doses, Proportion, and Time**

**Girish V. Vitalpur, MD, FAAAAI**, Riley Hospital for Children at Indiana University Health, Indianapolis, IN, Kirsten Kloepfer, MD, MS, Pediatrics, Indiana University School of Medicine, Indianapolis, IN, James Slaven, MS, Indiana University School of Medicine, Indianapolis, IN and Frederick E. Leickly, MD, MPH, FAAAAI, Riley Hospital for Children at Indiana University Health North, Carmel, IN

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**453 Characteristics of Tree Nut Challenges in Tree Nut Allergic and Tree Nut Sensitized Individuals**

**Christopher E. Couch, MD**, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI, Timothy J. Franxman, MD, University of Michigan, Ann Arbor, MI and Matthew J. Greenhawt, MD, MBA, MSc, Department of Internal Medicine, The University of Michigan Medical School, Division of Allergy and Clinical Immunology, Ann Arbor, MI

**454 Intracellular Expression of Fluorochrome Labelled-Diamine Oxidase in Basophils: A Novel Diagnostic Tool for Peanut Allergy**

**Yasmin R. Mohseni, BSc**[1,2], Paul J. Turner, FRACP, PhD[2,3], Robert J. Boyle, MBChB, PhD[2,3], Andrew Clark, MRCPCH, MD[4], Abigail O Robb, B.Sc[1,2], Stephen R. Durham, MA, MD, FRCP[1,2] and Mohamed H. Shamji, BSc, MSc, PhD, FAAAAI[1,2], [1]Immunomodulation and Tolerance Group, Immune Tolerance Network (ITN) Distributed Centre of Excellence for Allergy & Asthma, Allergy & Clinical Immunology Inflammation, Repair and Development National Heart & Lung Institute, Imperial College London, United Kingdom, [2]MRC & Asthma UK Centre in Allergic Mechanisms of Asthma, London, United Kingdom, [3]Section of Paediatrics, Imperial College London, United Kingdom, [4]Department of Medicine, University of Cambridge, Cambridge, United Kingdom

**455 A Skin Prick Test with Grilled Hazelnut Is a Useful Tool for Predicting Severe Hazelnut Allergy in Routine Practice.**

**Sophie Jarlot-Chevaux**[1,2], Sandrine Jacquenet[3], Gisèle Kanny[2] and Martine Morisset[4], [1]Gentilly Allergology Center, Nancy, France, [2]University Hospital, Nancy, France, [3]Genclis Resarch Laboratory, Vandoeuvre Lès Nancy, France, [4]University Hospital, Luxembourg, Luxembourg

**456 Evaluation of Testing with Baked Milk Muffin to Predict Safe Ingestion of Baked Milk in Unbaked Milk Allergic Subjects**

**Julia E. Upton, MD, FRCP(C)**[1,2], Maria Asper, MD, FRCP(C)[1,2], Elana Lavine, MD, FRCP(C)[3] and David Hummel, MD, FRCP(C)[1,2], [1]University of Toronto, ON, Canada, [2]The Hospital for Sick Children, ON, Canada, [3]Queen's University, Kingston, ON, Canada

**457 Using BAT As a Predictor for Baked Egg Oral Food Challenge Outcomes**

**Opal Kamdar, MD**[1,2], Maaria Syed, MD[3,4], Kristin A Erickson[5], Ashleigh A. Olson, MD[3,6], Christine Szychlinski[2], Miao Cai, MS[5] and Anne Marie Singh[2,5], [1]Department of Pediatrics, Northwestern School of Medicine, Chicago, IL, [2]Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [3]Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [4]Department of Pediatrics, Northwestern Feinberg School of Medicine, Chicago, IL, [5]Department of Medicine, Northwestern Feinberg School of Medicine, Chicago, IL, [6]Departments of Pediatrics, Northwestern Feinberg School of Medicine

**458 Utility of Immunoproteomics in Soybean Allergy**

**Naoshi Shimojo, PhD**[1,2], Masashi Nakamura[1,2], Nayu Sato[1,2], Akiyo Sano, MD[1,3], Tsukane Kobayashi, MD, PhD[1], Akiko Yagami, MD, PhD[1], Atsushi Kojima[2] and Kayoko Matsunaga, MD, PhD[1,3], [1]Department of Dermatology, Fujita Health University School of Medicine, Japan, [2]General Research and Development Institute, Hoyu Co., Ltd., Japan, [3]Department of Integrative Medical Science for Allergic Disease, Fujita Health University School of Medicine, Japan

**459 Pen a 1 Improves Clinical Predictability of Shrimp Allergy Compared to Skin Prick Testing**

**Karen Thursday S. Tuano, MD**[1], Adrian M Casillas, MD, FAAAAI[2], Sara Anvari, MD[1], Joud Hajjar, MD[1,2], I. Celine Hanson, MD, FAAAAI[3], Filiz O. Seeborg, MD, MPH[1], Lenora M. Noroski, MD, MPH[1], Grace Kang[1], Danielle Guffey, MS[4] and Carla M. Davis, MD[3], [1]Baylor College of Medicine and Texas Children's Hospital, Department of Pediatrics, Section of Immunology, Allergy and Rheumatology, Houston, TX, [2]Baylor College of Medicine, Department of Medicine, Section of Immunology, Allergy and Rheumatology, Houston, TX, [3]Baylor College of Medicine and Texas Children's Hospital, Department of Pediatrics Section of Immunology, Allergy and Rheumatology, Houston, TX, [4]Dan L. Duncan Institute for Clinical and Translational Research, Baylor College of Medicine, Houston, TX

**460 Component-Resolved Diagnosis in Hazelnut Allergy**

**Ismael Garcia-Moguel**[1], Cinthia De la cruz[1], Natividad De Las Cuevas, PhD[2], Ramón Vives Conesa, MD[2], Jesus F. Fernandez Crespo, MD[3] and Maria Del Carmen Dieguez, MD, PhD[2], [1]Hospital 12 de Octubre, madrid, Spain, [2]Hospital Universitario 12 de Octubre, Madrid, Spain, [3]Hospital Universitario 12 De Octubre, Madrid, Spain

**461 Utility of Measuring Cow's Milk Components Specific IgE Levels in Evaluating Clinical Tolerance of Milk Allergy**

**Kazuyo Kuzume**, Department of Pediatrics,Ehime University Graduated School of Medicine, Toon, Ehime, Japan, Munemitsu Koizumi, Department of Pediatrics, Ehime Prefectual Central Hospital, Koji Nishimura, Department of Pediatrics, Ehime Prefectual Niihama Hospital, Michiko Okamoto, Department of Pediatrics, Uwajima City General Hospital and Eiichi Ishii, Department of Pediatrics, Ehime University Graduated School of Medicine, Toon, Japan

**462 In Vivo Diagnosis with Purified Tropomyosin. Comparison of Tropomyosin Sensitization in Shellfish and Mite Allergic Patients**

**Jerónimo Carnés**[1], M. Angeles López Matas[1], Raquel Moya[1], Carlos H. Larramendi, MD[2], Julio Huertas, MD[3], Angel Ferrer, MD, PhD[4], Luis A Navaro[5], Jose L. Garcia-Abujeta[6], Sandra Vicario[7], Isabel Flores[8], Carmen Andreu[8], Maribel Peña[8] and Inmaculada Sanchez-Guerrero[9], [1]Laboratorios LETI, Tres Cantos, Spain, [2]Hospital de La Marina Baixa, La Vila Joiosa(Alacant), Spain, [3]Complejo Hospitalario Universitario de Cartagena, Cartagena, Spain, [4]Agencia Valenciana De Salud, San Bartolome Orihu, Spain, [5]Centro de Especialidades El Españoleto, Játiva, Spain, [6]Hospital Marina Baixa, [7]Hospital Marina Baixa, Villajoyosa, Spain, [8]Hospital de la Vega Baja, Orihuela, Spain, [9]Hospital Virgen de la Arrixaca, Murcia, Spain

**463 Retrospective Chart Review Examining the Clinical Utility and Cost of Component Resolved Diagnostics (CRD) for Peanut Allergy (PA) in 2015**

**Mariam Hanna, MD**, McMaster University Hospital, Hamilton, ON, Canada, Paria Kashani, MD, 1280 Main St W, Hamilton, ON, Canada, Joseph Macri, MD, 237 Main Street E, Hamilton, ON, Canada and Susan Waserman, MD, FAAAAI, Department of Medicine, McMaster University, Hamilton, ON, Canada

**464 The Ability of Pediatric Health Care Providers to Visually Identity Peanuts, Tree Nuts and Seeds**

**Kara Wada, MD**[1], Princess U. Ogbogu, MD, FAAAAI[2], Sarah Hostetler, MD[3], Todd L. Hostetler, MD, FAAAAI[4], Bryan L. Martin, DO, FAAAAI[5], Margaret Redmond, MD[1] and Rebecca Scherzer, MD, FAAAAI[6], [1]Ohio State University/Nationwide Children's Hospital, [2]Wexner Medical Center at the Ohio State University, Columbus, OH, [3]Aspirus Dermatology Clinic, Wausa, WI, [4]Allergy & Asthma Center at ENT Associates of North Central Wisconsin, Wausau, WI, [5]Wexner Medical Center at the Ohio State University, [6]Nationwide Children's Hospital, Columbus, OH

**465 Reasons for Peanut Specific IgE Ordering Among Community Physicians**

**Kaitlyn Spears, BS**[1], Alyssa Drosdak[2], Elizabeth A. Erwin, MD[3] and Irene Mikhail, MD[3], [1]The Ohio State University College of Medicine, Columbus, OH, [2]The Ohio State University College of Medicine, [3]Nationwide Children's Hospital, Columbus, OH

**466 Serum IgE Results Differ According to Indication for Peanut Allergy Testing**

**Alyssa D. Drosdak, BS**[1], Kaitlyn Spears, BS[1], Elizabeth A. Erwin, MD[2] and Irene Mikhail, MD[2], [1]The Ohio State University College

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of Medicine, Columbus, OH, [2]Nationwide Children's Hospital, Columbus, OH

**466.1 Baked Egg Oral Immunotherapy (OIT) Accelerates Desensitization to Unbaked Egg (UBE) in Severely Egg Allergic Children**

**Steve M. Dorman, MD**, Department of Internal Medicine, Division of Allergy and Immunology, University of Texas Southwestern Medical Center, Dallas, TX, April Clark, RD, CSP, LD, Children's Medical Center, Dallas, TX and J. Andrew Bird, MD, FAAAAI, UT Southwestern Medical Center, Dallas, TX

## Atopic Dermatitis and Food Allergy (Allergens, Mechanism, Risk Factors, Epidemiology)

### FADDA

3207
Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**467 How Much of a Problem Is Peanut in Ground Cumin for Individuals with Peanut Allergy?**

**Rebekah L. Sayers, MRes**[1], Lee Gethings, PhD[2], Antonietta Wallace, MSci[2], Aida Semic-Jusufgic, MD, PhD[1], Angela Simpson, MD[1], Perdita Barran, PhD[3], John Gilbert, PhD[4], Hamide Senyuva, PhD[4], Adrian Rodgers, BSc[5], Mike Bromley, PhD[6], Michael Walker, MSc[7], Helen Brown, PhD[8] and E.N. Clare Mills, PhD[1], [1]The Institute of Inflammation and Repair, University of Manchester, Manchester, United Kingdom, [2]Waters Corporation, United Kingdom, [3]School of Chemistry, The University of Manchester, Manchester, United Kingdom, [4]FoodLife International Ltd, Ankara, Turkey, [5]Romer labs, United Kingdom, [6]Synergy Health, Derby, United Kingdom, [7]LGC group, United Kingdom, [8]Campden BRI Group, Gloucestershire, United Kingdom

**468 Skin Lipid Composition Varies Based on Clinical Subphenotypes in Adult European American Atopic Dermatitis Subjects**

**Arup K Indra, Professor**[1], Shan Li[2], Miguel Villarreal[3], Denise C. Babineau, PhD[4], Catherine Philpot[3], Gloria David, PhD[3], Mark Boguniewicz[5], Jon M. Hanifin, MD, FAAAAI[6], Donald Y.M. Leung, MD, PhD, FAAAAI[7], Eric L Simpson[6] and Lisa A. Beck, MD, FAAAAI[8], [1]OSU-OHSU, Corvallis, [2]OSU-OHSU, Corvallis, OR, [3]Rho, Inc., Chapel Hill, NC, [4]Rho Federal Systems Division Inc., Chapel Hill, NC, [5]National Jewish Health, Denver, CO, [6]Oregon Health and Science University, Portland, OR, [7]Department of Pediatrics, National Jewish Health, Denver, CO, [8]Department of Dermatology, University of Rochester Medical Center, Rochester, NY

**469 Interaction Between the R501X Filaggrin Mutation and Disease Severity Associates with Increased Staphylococcus Aureus Colonization in European American Subjects with Atopic Dermatitis**

**Nicholas M Rafaels**[1], Alexandre Lockhart[2], Denise C. Babineau, PhD[2], Keli Artis, BS[2], Gloria L. David, PhD[2], Takeshi Yoshida, PhD[3], Mark Boguniewicz[4], Peck Y. Ong, MD, FAAAAI[5], Anna De Benedetto, MD, FAAAAI[3], Jon M. Hanifin, MD, FAAAAI[6], Eric L. Simpson[6], Amy S. Paller[7], Emma Guttman-Yassky, MD, PhD[8], Lynda C. Schneider, MD, FAAAAI[9], Rasika A. Mathias, ScD[10], Kathleen C. Barnes, PHD[10], Donald Y. Leung, MD, PhD, FAAAAI[4] and Lisa A. Beck, MD, FAAAAI[3], [1]Center for Biomedical Informatics and Personalized Medicine, University of Colorado, Anschutz Medical Campus, Aurora, CO, [2]Rho, Inc., Chapel Hill, NC, [3]Department of Dermatology, University of Rochester Medical Center, Rochester, NY, [4]National Jewish Health, Denver, CO, [5]Children's Hospital Los Angeles/USC, Los Angeles, CA, [6]Oregon Health and Science University, Portland, OR, [7]Northwestern University Feinberg School of Medicine, Chicago, IL, [8]Icahn Medical School at the Mount Sinai Medical Center, New York, NY, [9]Boston Children's Hospital, Boston, MA, [10]Division of Allergy and Clinical Immunology, Department of Medicine, Johns Hopkins University, Baltimore, MD

**470 Anaphylaxis to Pericarpium Zanthoxyli and Its Cross-Reactivity Between Nuts and Citrus**

**Hong LI, MD**[1], Ri Qi WANG[1], Xuan CHENG[1], Xi Ping Zhou[1] and Jia Yin[2], [1]Peking Union Medical College Hospital, Beijing, China, [2]Department of Allergy, Peking Union Medical College Hospital, Chinese Academy of Medical Science

**471 Skin Barrier Disrupted By Enzymatic Activity of House Dust Mite Extracts**

**Lukas Einhorn**[1,2], Kumiko Oida[1,3], Ina Herrmann[4], Susanne Vrtala, PhD[5], Yvonne Resch[5], Lucia Panakova[4], Gerlinde Hofstetter, MSc, BSc[6], Hiroshi Matsuda[7], Akane Tanaka[8] and Erika Jensen-Jarolim, MD[2,9], [1]Comparative Medicine, Messerli Research Institute of the University of Veterinary Medicine Vienna, Medical University Vienna and University Vienna, Austria, [2]Institute for Pathophysiology and Allergy Research, Center of Pathophysiology, Infectiology and Immunology, Medical University of Vienna, Austria, Vienna, Austria, [3]Laboratory of Veterinary Molecular Pathology and Therapeutics, Tokyo University of Agriculture and Technology, Japan, [4]Department for Companion Animals and Horses; University of Veterinary Medicine Vienna, [5]Department of Pathophysiology and Allergy Research, Austria, [6]The Interuniversity Messerli Research Institute, University of Veterinary Medicine Vienna, Medical University of Vienna and University of Vienna, Austria, Vienna, Austria, [7]Laboratory of Veterinary Molecular Pathology and Therapeutics, Tokyo University of Agriculture and Technology, Tokyo, Japan, [8]Laboratory of Comparative Animal Medicine, Tokyo University of Agriculture and Technology, Tokyo, Japan, [9]The Interuniversity Messerli Research Institute, University of Veterinary Medicine Vienna, Medical University of Vienna and University of Vienna, Austria

**472 Increasing Incidence of Food Allergies in Olmsted County, MN**

**Erin Willits**[1], Martha F. Hartz, MD, FAAAAI[2], Nancy L. Ott, MD, FAAAAI[2], Miguel A. Park, MD[3] and Avni Y. Joshi, MD[2], [1]Mayo Clinic, [2]Mayo Clinic, Rochester, MN, [3]Department of Internal Medicine: Division of Allergic Diseases, Mayo Clinic, Rochester, MN

**473 Eczema Is an Independent Risk Factor for Incident Mouse Skin Test Sensitivity Among Employees at a Mouse Production and Research Facility**

**Torie Grant, MD**[1], Jennifer Dantzer, MD[1], Corinne Keet, MD, PhD[1], Roger Peng, PhD[2], Mary Krevans, RN[3], Karol Hagberg, BSN, FNP[3], Jean Curtin-Brosnan, MA[1], Wayne Shreffler, MD, PhD[4] and Elizabeth Matsui, MD, MHS[1], [1]Division of Pediatric Allergy/Immunology, Johns Hopkins School of Medicine, Baltimore, MD, [2]Johns Hopkins School of Public Health, Baltimore, MD, [3]The Jackson Laboratory, Bar Harbor, ME, [4]Division of Allergy and Immunology, Department of Pediatrics, Massachusetts General Hospital and Harvard Medical School, Boston, MA

**474 Expression of Filaggrin in Skin Biopsies: Role in Maintenance of Symptoms Among Brazilian Patients with Moderate-to-Severe Atopic Dermatitis**

**Karine Boufleur, MD**[1], Renata Nahas Cardili Sr.[2], Janaina M. L. Melo, MD[3], Adriana S Moreno, PhD[3], Ana Maria Roselino[2], Edson Soares[2] and Luisa Karla P. Arruda, MD, PhD, FAAAAI[3], [1]Ribeirao Preto Medical School, University of Sao Paulo, Ribeirao Preto, Brazil, [2]Ribeirao Preto Medical School- University of Sao Paulo, [3]Ribeirao Preto Medical School - University of Sao Paulo, Ribeirao Preto, Brazil

**475 Pre-Birth Cohort Study of Atopic Dermatitis and Severe Bronchiolitis during Infancy**

**Diana S. Balekian, MD, MPH**[1], Rachel W. Linnemann, MD[2], Victor M Castro, MS[3,4], Roy Perlis, MD, MSc[5,6], Ravi Thadhani, MD, MPH[7] and Carlos Camargo Jr., MD, DrPH[1,8], [1]Division of

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Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [2]Division of Pediatric Pulmonology, Department of Pediatrics, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [3]Research Information Systems and Computing, Partners HealthCare System, Boston, MA, [4]Laboratory of Computer Science, Department of Neurology, Massachusetts General Hospital, Boston, MA, [5]Center for Experimental Drugs and Diagnostics, Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [6]Psychiatric and Neurodevelopmental Genetics Unit, Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [7]Division of Nephrology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [8]Department of Emergency Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA

**476 Risk Factors for Severe Eczema in Children: Findings from a National Web-Based Survey**

**Mari Sasaki, MD**[1], Koichi Yoshida, MD[1], Yuichi Adachi, MD, PhD[2], Mayumi Furukawa, MD[1], Toshiko Itazawa, MD, PhD[2], Hiroshi Odajima, MD, PhD[3], Hirohisa Saito, MD, PhD[4] and Akira Akasawa, MD, PhD[1], [1]Division of Allergy, Tokyo Metropolitan Children's Medical Center, Tokyo, Japan, [2]Department of Pediatrics, University of Toyama, Toyama, Japan, [3]Fukuoka National Hospital, Fukuoka, Japan, [4]Department of Allergy and Immunology, National Research Institute for Child Health and Development, Tokyo, Japan

**477 Case of a Young Man with Anaphylaxis to Hempseeds (Cannabis sativa).**

**Vaishaali Manga, MD**, University of Western Ontario, London, ON, Canada and D. William Moote, MD, FAAAAI, University of Western Ontario, London, London, ON, Canada

**478 The Prevalence and Risk Factors of Atopic Dermatitis from Nationwide Study: Korean Environmental Health Survey in Children and Adolescents (KorEHS-C)**

**sung-Hee Lee**[1], Ju-Hee Seo[2], Hyun-Ju Cho, MD[3], Eun Lee[4], Mina Ha, MD[5], Eunae Burm[6], Kee-Jae Lee[7], Hwan-Cheol Kim, MD[8], Sinye Lim[9], Hee-Tae Kang[10], Hee-Tae Kang[10], Mia Son[11], Soo-Young Kim[12], Hae-Kwan Cheong[13], Yu-Mi Kim[14], Gyung-Jae Oh[15], Joon Sakong[16], Chul-Gab Lee[17], Sue Jin Kim[18], Yong-Wook Baek[19] and Soo-Jong Hong, MD, PhD[4], [1]Asan medical center, [2]Department of Pediatrics, Korea Cancer Center Hospital, [3]Department of Pediatrics, Childhood Asthma Atopy Center,Research Center for Standardization of Allergic Diseases, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Seoul, South Korea, [4]Department of Pediatrics, Childhood Asthma Atopy Center, Environmental Health Center, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, [5]Department of Preventive Medicine, Dankook University College of Medicine, Seoul, [6]Department of Public Health, Graduate School of Dankook University, Cheonan, South Korea, [7]Department of Information Statistics, Seoul, Korea, 6Department of Occupational and Environmental Medicine, Inha University School of Medicine, Incheon, South Korea, [8]Department of Occupational and Environmental Medicine, Inha University Hospital, [9]Department of Occupational and Environmental Medicine, College of Medicine, Kyunghee University, Seoul, South Korea, [10]Department of Occupational and Environmental Medicine, Wonju Severance Christian's Hospital, Yonsei University, Wonju, South Korea, [11]Department of Preventive Medicine, School of Medicine, Kangwon National University, Chuncheon, South Korea, [12]Department of Preventive Medicine, School of Medicine, Eulji University, Daejeon, South Korea, [13]Department of Social and Preventive Medicine, and Samsung Biomedical Research Institute, Suwon, South Korea, [14]Department of Preventive Medicine, School of Medicine, Dong-A University, Busan, South Korea, [15]Department of Preventive Medicine, School of Medicine, Wonkwang, South Korea, [16]Department of Preventive Medicine and Public Health, College of Medicine, Yeungnam University, Daegu, South Korea, [17]Department of Occupational and Environmental Medicine, School of Medicine, Chosun University, Gwangju, South Korea, [18]Division of Advanced Materials, Korea Research Institute of Chemical Technology, Daejeon, South Korea, [19]Department of Environmental Epidemiology, Division of Environmental Health, National Institute of Environment, Incheon, South Korea

**479 Breastfeeding May Increase the Risk of Food Sensitization but Not Affect Food Allergy Symptoms in Young Children with Atopic Dermatitis**

**So Yeon Lee, MD, PhD**, Department of Pediatrics, Hallym University College of Medicine, Seoul, South Korea, Song-I Yang, 2Department of pediatrics, Hallym University Sacred Heart Hospital, College of Medicine, Hallym University and Hae-Ran Lee, Hallym University, South Korea

**480 The Effect of Prenatal Exposure to Heavy Metals on Atopic Dermatitis: A Population-Based, Prospective Birth Cohort Study (COCOA)**

**Jihyun Kim, MD**[1,2], Sook-young Woo[3], Sun-Woo Kim[3], Jaehee Choi[4], Jin-Yong Chung[5], Young-Seoub Hong[5,6], Youngshin Han, PhD[1], Se-Young Oh[7], Suk-Joo Choi[8], Soo-Young Oh[8], Kyung Won Kim[9], Youn Ho Shin, MD[10], Hye-Sung Won[11], Kyung-Ju Lee[12], Hee Jin Park[12], Soo-Jong Hong, MD, PhD[13] and Kangmo Ahn, MD, PhD[1,2], [1]Environmental Health Center for Atopic Diseases, Seoul, South Korea, [2]Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea, [3]Biostatistics Team, Samsung Biomedical Research Institute, Seoul, South Korea, [4]Department of Pediatrics, Samyook Medical Center, Seoul, South Korea, [5]Heavy Metal Exposure Environmental Health Center, Dong-A University, Busan, South Korea, [6]Department of Preventive Medicine, Dong-A University College of Medicine, [7]Department of Food and Nutrition, College of Human Ecology, Kyung Hee University, Seoul, South Korea, [8]Department of Obstetrics and Gynecology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea, [9]Department of Pediatrics, Yonsei University College of Medicine, Seoul, South Korea, [10]Department of Pediatrics, CHA Gangnam Medical Center, CHA University School of Medicine, Seoul, Korea, South Korea, [11]Department of Obstetrics and Gynecology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, [12]Department of Obstetrics and Gynecology, CHA University College of Medicine, Seoul, South Korea, [13]Department of Pediatrics, Childhood Asthma Atopy Center, Research Center for Standization of Allergic Diseases, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea

**481 Food Diversity, Breastfeeding Frequency, and the Incidence of Food Allergy and Eczema in the First Year of Life**

**Ernest K Kwegyir-Afful, PhD**[1], Emma Westermann-Clark, MD, MA[2], Yuanting Zhang, PhD[1] and Stefano Luccioli, MD[1], [1]Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration, College Park, MD, [2]Department of Internal Medicine, University of South Florida Morsani College of Medicine, Tampa, FL

**482 Severe Anaphylaxis in Non-Atopic Teenager Due to Carmine Allergic: A Detective Work**

**Inmaculada Sanchez-Machin, MD**[1], Borja Bartolome[2], Paloma Poza Guedes, MD[3], Ruperto Gonzalez, MD, PhD[3] and Victor Matheu, MD, PhD[4], [1]Hospital Quirón, Santa Cruz de Tenerife, Spain, [2]Research & Development Department, Bial-Aristegui, Bilbao, Spain., Bilbao, Spain, [3]Alergocan, Santa Cruz de Tenerife, Spain, [4]Hospital Quiron Tenerife, Santa Cruz de Tenerife, Spain

**483 The Natural History of Atopic Dermatitis and Its Association with Atopic March**

**Sinjira Somanunt, MD**, Jittima Veskitkul, MD, Punchama Pacharn, MD, Nualanong Visitsunthorn, MD, Pakit Vichyanond,

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MD, FAAAAI and Orathai Jirapongsananuruk, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand

**484 Clinical Impact in the Real Life of Guidelines Recommendations for Atopic Dermatitis in a Tropical Population (TECCEMA cohort)**

**Yuliana Toro**, University of Antioquia, Medellin, Colombia

**485 Targeted Therapy in Children with Atopic Dermatitis**

**Tatiana Slavyanskaya, MD, PhD**[1,2] and Vladislava Derkach[2,3], [1]Peoples' Friendship University of Russia, Moscow, Russia, [2]Institute of Immunophysiology, Moscow, Russia, [3]Pacific State Medical University, Vladivostok, Russia

**486 Treatment of Severe Atopic Dermatitis with Omalizumab: Experience of a Portuguese Immunoallergology Department**

**Ana M. Mendes, MD**[1], Leticia Pestana, MD[2], Rita Aguiar, MD[1], Ana Célia Costa, MSc[1], Elisa Pedro, MD[1], Anabela Lopes, MD[1], Maria A. Spinola Santos, MD[3], Estrella Alonso, MD[4] and MA Pereira-Barbosa, PhD[5], [1]Hospital de Santa Maria - Immunoallergology Department, Lisbon, Portugal, [2]Hospital de santa Maria-Immunoallergology Department, [3]Hospital de Santa Maria-Immunoallergology Department, Lisboa, Portugal, [4]Hospital de Santa Maria-Immunoallergology Department, [5]Hospital de Santa Maria-Immunoallergology Departement, Lisbon, Portugal

**487 Patch Testing in Pediatric Patients with Atopic Disease**

**Irum Noor, DO**, Melanie Chong, MD, Mark A. Davis-Lorton, MD, FAAAAI, Marcella R. Aquino, MD, FAAAAI and Luz S. Fonacier, MD, FAAAAI, Winthrop University Hospital, Allergy & Immunology, Mineola, NY

**488 The Atypical Itch That Rashes– Disseminated and Recurrent Infundibulofolliculitis (DRIF) in an Atopic African American Male**

**Katherine S. Tille, MD**, Wilford Hall Ambulatory Surgical Center, Lackland AFB, TX and Tonya S. Rans, MD, Wilford Hall Ambulatory Surgical Center, San Antonio, TX

**489 Characterization of Patients and Pattern of Sensitization at a New Mcmaster University Allergy and Dermatology Patch Test (ADPT) Clinic**

**Sam Waserman, MD/MBA Candidate**, McGill University, Montreal, QC, Canada, Hermenio Lima, MD, PhD, McMaster University, Hamilton, ON, Canada and David Fahmy, MD, McMaster University, Hamilton, ON

**490 IL-33 Promotes Food Anaphylaxis in Epicutaneously-Sensitized Mice By Targeting Mast Cells.**

**Claire Galand, PhD**[1], Juan-Manuel Leyva-Castillo, PhD[2], Raif S. Geha, MD, FAAAAI[3], Juhan Yoon, PhD[1], Michiko K. Oyoshi, PhD, MSc, FAAAAI[3], Alex Han[1], Andrew McKenzie, PhD[4] and Michael Stassen[5], [1]Division of Immunology, Boston Children's Hospital, Boston, MA, [2]Division of Immunology at Boston Children's Hospital, Boston, MA, [3]Division of Immunology, Boston Children's Hospital, Harvard Medical School, Boston, MA, [4]MRC Laboratory of Molecular Biology, Cambridge, United Kingdom, [5]Institute for Immunology, University Medical Center of the Johannes Gutenberg-University Mainz, Mainz, Germany

**491 Low Levels of LPS Promotes a Th2 Sensitization to Pru p 3 Generating Anaphylactic Mice**

**María J Rodriguez**[1], Ana Aranda Guerrero, PhD[2], Tahia D. Fernandez, PhD[3], Nuria Cubells[4], Ana Molina[2], Maria J Torres, MD, PhD[5], Francisca Gómez, MD, PhD[6], Francisca Palomares, PhD[3], Javier Rojo[7], Miguel Blanca, MD, PhD[8], Araceli Diaz-Perales, PhD Prof[9] and Cristobalina Mayorga, PhD[3], [1]Research Laboratory, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [2]Research Laboratory, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain, [3]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [4]2Center for Plant Biotechnology and Genomic (UPM-INIA), Madrid, Spain, [5]Allergy Unit, Regional University Hospital of Málaga, IBIMA, UMA, Málaga, Spain, [6]Allergy Unit, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [7]Glycosystems Laboratory, Instituto de Investigaciones Químicas (IIQ), CSIC - Universidad de Sevilla, Sevilla, Spain, [8]Allergy Unit,Regional University Hospital of Malaga-IBIMA,UMA, Málaga, Spain, [9]Centre for Plant Biotechnology and Genomics (UPM-INIA), Campus de Montegancedo, Pozuelo de Alarcón, Madrid, Spain, Madrid, Spain

**492 Alum-Containing Vaccines Increase Total and Food Allergen-Specific IgE, and Cow's Milk Oral Desensitization Increases Bosd4 IgG4 While Peanut Avoidance Increases Arah2 IgE: The Complexity of Today's Child with Food Allergy.**

**Alice E.W. Hoyt, MD**, Alexander J. Schuyler, BS, BA, Peter W. Heymann, MD, Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS and Scott P. Commins, MD, PhD, Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA

**493 Cytokines in Breast Milk in Populations with Low Vs. High Risk for Atopic Diseases**

**Jessica L. Stern, MD**, A. Seppo, C. Martina, R.J. Looney and K.M. Jarvinen, The University of Rochester School of Medicine and Dentistry, Rochester, NY

**494 Lifestyle Reduces Sensitization to Food Allergens in Infancy – the Aladdin Cohort**

**Sara Fagerstedt, MSc**[1], Helena Marell Hesla, MD[1,2], Emelie Ekhager[1,2], Helen Rosenlund, PhD[1,3], Axel Mie, PhD[1], Lina Benson, MSc[1], Annika Scheynius, MD, PhD[4] and Johan Alm, MD, PhD[1,2], [1]Karolinska Institutet, Department of Clinical Science and Education, Södersjukhuset, Stockholm, Sweden, [2]Sachs' Children and Youth Hospital, Södersjukhuset, Stockholm, Sweden, [3]Division of Clinical Nutrition and Dietics, Department of Orthopaedics, Danderyd Hospital, Stockholm, Sweden, [4]Translational Immunology Unit, Department of Medicine Solna, Karolinska Institutet and University Hospital, Stockholm, Sweden

**495 Relationship Between Serious Wheat Allergy Caused By Cutaneous Sensitization and Mutations in the Filaggrin Gene**

**Akiko Yagami, MD, PhD**[1], Emiko Noguchi, MD, PhD[2], Mayumi Tamari, MD, PhD[3], Tomomitsu Hirota, DDS PhD[4], Zenichiro Kato, MD, PhD[5,6], Hirohisa Saito, MD, PhD[7,8] and Kayoko Matsunaga, MD, PhD[1,9], [1]Department of Dermatology, Fujita Health University School of Medicine, Japan, [2]Department of Medical Genetics, University of Tsukuba, [3]Laboratory for Respiratory and Allergic Diseases, Center for Integrative Medical, [4]Laboratory for Respiratory and Allergic Diseases, Center for Integrative Medical, Yokohama, Japan, [5]Biomedical Informatics, Medical Information Sciences Division, The United Graduate School of Drug Discovery and Medical Information Sciences, Gifu University, [6]Department of Pediatrics, Graduate School of Medicine, Gifu University, [7]Department of Allergy and Immunology, National Research Institute for Child Health and Development, Tokyo, Japan, [8]Medical Support Center for Japan Environment and Children's Study, National Center for Child Health and Development, [9]Department of Integrative Medical Science for Allergic Disease, Fujita Health University School of Medicine, Japan

**496 Determinants of Peanut Allergy in an Observational Study (CoFAR2) of Food Allergy**

**Scott H. Sicherer, MD, FAAAAI**[1], Robert A. Wood, MD, FAAAAI[2], Tamara T. Perry, MD[3], Brian P. Vickery, MD, FAAAAI[4], Stacie M. Jones, MD[3], Donald Y. Leung, MD, PhD, FAAAAI[5], Beth Blackwell, PhD[6], Peter Dawson, PhD[7], A. Wesley Burks, MD, FAAAAI[8], Robert W. Lindblad, MD[7] and Hugh A. Sampson, MD, FAAAAI[9], [1]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, New York, NY, [2]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [3]University of Arkansas for Medical Sciences, Little Rock, AR, [4]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, Chapel Hill, NC, [5]Department of Pediatrics, National Jewish Health, Denver, Colorado, USA, [6]The EMMES Corporation, Rockville, MD, Rockville, MD, [7]The EMMES

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Corporation, Rockville, Maryland, USA, [8]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, [9]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY

**497 START: Susceptibility to Food Allergies in a Registry of Twins**

**Sarah De Schryver, MD**, Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Canada, Montreal, QC, Alizee Dery, Department of Experimental Medicine, Mc Gill University, Montreal, QC, Canada, Ann Elaine Clarke, MD, MSc, Division of Rheumatology, Department of Medicine, University of Calgary, Calgary, AB, Canada, Kari C. Nadeau, MD, PhD, FAAAAI, Pediatric Allergy Immunology, Stanford University School Medicine, Stanford, CA, Laurie Harada, BA, Anaphylaxis Canada, Toronto, ON, Canada, Celia Greenwood, Lady Davis Institute for Medical Research, Jewish General Hospital, Montreal, QC; Departments of Oncology, Epidemiology, Biostatistics and Occupational Health, and Human Genetics, McGill University, Montreal, QC, Kimberley Weatherall, Multiple Births Canada, ON, Denise Daley, Department of Medicine, University of British Columbia, BC, Yuka Asai, MD, Division of Dermatology, Department of Medicine, Queen's University, Kingston, ON, Fiona Bamforth, Alberta Health Services, AB and Moshe Ben-Shoshan, MD, MSc, The Research Institute of the McGill University Health Centre, Meakins- Chrisitie Laboratories, Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, Montreal Children's Hospital, Montreal, QC, Canada

**498 Occupational Contact Dermatitis Caused By Seafood Proteins : Which Profession Is Most Affected?**

**Pierrick Cros, MD**[1,2], Brice Lodde, MD[3,4], Anne-Marie Roguedas-Contios, MD[5], Jd Dewitte, MD, PhD[6,7] and Laurent Misery, MD, PhD[5], [1]Service de pédiatrie CHRU Morvan, Brest, France, [2]Service de Dermato-vénéréologie, CHRU Morvan, Brest, France, [3]Service de Santé au Travail et Maladies Liées à l'Environnement, CHRU Morvan, Brest, France, [4]Université Européenne de Bretagne, Université de Brest, EA 4686, CS 93837, Brest Cedex 3, France, [5]Service de Dermato-vénéréologie, Brest, France, [6]and Service de Santé au Travail et Maladies Liées à l'Environnement, CHRU Morvan,, Brest, France, [7]Université Européenne de Bretagne, Université de Brest, EA 4686, CS 93837,, Brest, France

**499 Specific Allergen Immunotherapy for the Treatment of Atopic Eczema: A Cochrane Systematic Review**

**Herman Tam, MBBS, MSc**[1], Moises A. Calderon, MD, PhD[1], Logan Manikam[1], Helen Nankervis[2], Ignacio Garcia, MD, PhD[3], Hywel Williams[2], Stephen R. Durham, MA, MD, FRCP[4] and Robert J. Boyle, MBChB, PhD[5], [1]Imperial College London, London, United Kingdom, [2]University of Nottingham, Nottingham, United Kingdom, [3]Allergy Service, Carlos Haya Hospital, Málaga, Spain, [4]National Heart and Lung Institute, Imperial College London, United Kingdom, [5]Section of Paediatrics, Imperial College London., United Kingdom

**500 Ultraviolet Sun Exposure Is Associated with the Acute Symptoms of Atopic Dermatitis in Young Children**

**Kangmo Ahn, MD, PhD**[1,2], Jihyun Kim, MD[1,2], Hyunyoung Jeon[2], Hyunmi Kim[2], Youngshin Han, PhD[2,3], Kwon Jung[4], Sumi Eo[4], Mijin Ahn[4] and Young-Min Kim[2], [1]Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea, [2]Environmental Health Center for Atopic Diseases, Seoul, South Korea, [3]Sungkyunkwan University School of Medicine, Samsung Medical Center, Seoul, South Korea, [4]Seoul Research Institute of Public Health and Environment, Gwacheon, South Korea

**501 Diagnosis of Food and Environmental Allergies in Patients Referred from Dermatology Clinic to Allergy/Immunology Clinic in a Tertiary Care Pediatric Center**

**Samantha Knox**[1], Rebecca Scherzer, MD, FAAAAI[1], Elizabeth A. Erwin, MD[2] and Joy Mosser-Goldfarb[2], [1]Nationwide Children's Hospital, Columbus, OH, [2]Nationwide Children's Hospital

**502 Standard Patch Series Around the World. Different Place, Different Patches**

**José L. García-Abujeta**[1], Mónica Antón Girones[2], Carlos Hernando de Larramendi[1], Javier Montoro[3], Leticia de las Vecillas[4], Sandra Vicario[1] and Fernando Rodríguez[4], [1]Hospital Marina Baixa, Villajoyosa, Spain, [2]Hospital de Vinalopó, Elche, Spain, [3]Hospital Arnau de Vilanova, Valencia, Spain, [4]Hospital Universitario Marqués de Valdecilla, Santander, Spain

**503 Dermatographism, Atopic Dermatitis and Other Atopic/Related Non-Atopic Disorders**

**Alanna G. Wong, MD**, Montefiore Medical Center, Bronx, NY and Johnson T. Wong, MD, FAAAAI, Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA

**504 Clinical and Immunological Profile of Patients Allergic to Fruits in East of Spain**

**F. Javier Fernandez, MD, PhD**[1], Emilio Flores-Pardo[2], María Victoria Moreno[3], Esther Caparros[3], Laura Isabel Velasquez[3] and Francisca Gómez, MD, PhD[4], [1]UMH Alicante G.University Hospital - Allergy Sect., Alicante, Spain, [2]San Juan Hospital. UMH, San Juan de Alicante, Spain, [3]Clinical Medicine Dpt. UMH, San Juan de Alicante, Spain, [4]Allergy Unit, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain

**505 Nut Allergy Prevalence and Differences Between Asian-Born Children and Australian-Born Children of Asian Descent: A State-Wide Survey of Children at Primary School Entry in Victoria, Australia**

**Katrina Jane Allen, FRACP, PhD, FAAAAI**[1], Mary Panjari, PhD[2], Jennifer Koplin, PhD[3], Shyamali Dharmage, MD, PhD[4,5], Rachel L Peters, MPH, PhD[4,5], Lyle Gurrin, PhD[4,5], Susan Sawyer, MBBS, MD, FRACP[2], Vicki L. McWilliam, BSc (MND) Adv APD[1,6], Jana K. Eckert, PhD[4], Don Vicendese, BSc[7], Bircan Erbas, PhD[7], Melanie C Matheson, PhD[5], Mimi L. K. Tang, PhD, FAAAAI[1,6], Jo Douglass, BMedSc (Hons), MBBS (Hons) MD, FRACP[8], Anne-Louise Ponsonby, PhD[3], Terry Dwyer, PhD[9] and Sharon Goldfeld, MBBS, FRACP, PhD[2], [1]Royal Children's Hospital and Murdoch Childrens Research Institute, Melbourne, Australia, [2]Murdoch Childrens Research Institute, [3]Murdoch Childrens Research Institute, Australia, [4]Murdoch Childrens Research Institute, Victoria, Australia, [5]University of Melbourne, Victoria, Australia, [6]University of Melbourne, Australia, [7]La Trobe University, Bundoora, [8]The Department of Clinical Immunology and Allergy, Royal Melbourne Hospital and University of Melbourne, Parkville, [9]Murdoch Childrens Research Institute, Parkville, Victoria Australia

**506 Food Sensitization Profile of Children from Lebanon**

**Zeina E. Baz, MD, FAAAAI**, St George Hospital University Medical Center, Beirut, Lebanon

**507 The Epidemiologic Characteristics of Childhood Eczema, Asthma, Rhinitis, and Food Allergy in a Large Primary Care Cohort**

**David A. Hill, MD, PhD**[1], Gita S. Ram, MD[1], Robert Grundmeier, MD[2] and Jonathan M. Spergel, MD, PhD, FAAAAI[1], [1]The Children's Hospital of Philadelphia, Philadelphia, PA, [2]The Children's Hospital of Philadelphia, Ambler, PA

**508 Prevalence and Characteristics of Parent-Reported Food Allergies Among Young Asian Children**

**Pantipa Chatchatee, MD**, Planee Vatanasurkitt, Narissara Suratannon, MD and Jarungchit Ngamphaiboon, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

**509 Different Triggers for the Diagnosis of Individual Food Allergies in Multiple Food Allergic Patients**

**Arnon Elizur, MD**[1], Jennifer B. Bollyky, MD[1], Whitney Block, MSN, CPNP, FNP-BC[1] and Kari C. Nadeau, MD, PhD, FAAAAI[2], [1]Stanford University, Stanford, CA, [2]Stanford University, Medicine, Division of Pulmonary and Critical Care, Stanford, CA

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**510** **Characterization of Peanut Allergic Patients in an Area with a High Ltp Prevalence**
**Ana Aranda Guerrero, PhD**[1], Francisca Gómez, MD, PhD[2], Cristobalina Mayorga, PhD[3], Ana Molina[1], Gador Bogas, MD[4], Maria J Torres, MD, PhD[5] and Miguel Blanca, MD, PhD[6], [1]Research Laboratory, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain, [2]Allergy Unit, IBIMA-Regional University Hospital of Malaga, Malaga, Spain, Málaga, Spain, [3]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [4]Allergy Unit, Regional University Hospital of Málaga-IBIMA, UMA, Málaga, Spain, [5]Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain, [6]Allergy Unit, Regional University Hospital of Malaga-IBIMA, UMA, Málaga, Spain

## New Strategies for Patient and Provider Education

## HEDQ

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Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**511** **Anaphylaxis Preparedness Initiative for Allergen Immunotherapy: Implementation of an Online Training Module**
**Lisanne P. Newton, MD**[1], Ahila Subramanian, MD, MPH[1] and David M. Lang, MD, FAAAAI[2], [1]Cleveland Clinic, Cleveland, OH, [2]9500 Euclid Avenue - A90, Cleveland Clinic, Cleveland, OH

**512** **Combined Program with Computer-Based Learning and Peer Education in Early Adolescents with Asthma: A Pilot Study**
**Tomohisa Ando, MD**[1], Kiwako Yamamoto-Hanada, MD[2], Mizuho Nagao, MD[3], Takao Fujisawa, MD, PhD, FAAAAI[3] and Yukihiro Ohya, MD, PhD[1], [1]Division of Allergy, National Center for Child Health and Development, Japan, [2]Division of Allergy, National Center for Child Health and Development, Tokyo, Japan, [3]Allergy Center and Institute for Clinical Research, Mie National Hospital, Japan

**513** **A Paucity of Ethical Investigation in Food Allergy: Bringing Awareness to Allergists**
**Kristin C. Sokol, MD, MS, MPH**, Beth Israel Deaconess Medical Center, MA

**514** **Caregiver Satisfaction with a Food Allergy Education Kiosk**
**Niti Y. Chokshi, MD** and Scott H. Sicherer, MD, FAAAAI, Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, New York, NY

**515** **The Knowledge of School-Aged Children with Low Socioeconomic Status**
**Serap Ozmen**[1], Ilknur Bostanci, MD[2], Zeynep Sengul Emeksiz[1] and Aysegul Ertugrul[1], [1]Dr. Sami Ulus Obstetrics, Children's Health and Diseases Training and Research Hospital, [2]Dr. Sami Ulus Children's Hospital, Ankara, Turkey

**517** **A Patient-Focused, High-Impact Educational Module on Food Allergy with Free Online Resources: Feasibility and Implementation**
**Mina Dimova**[1], Aima Shahid[1], Ves Dimov, MD[2] and Shahid Randhawa[1], [1]Allergy, Asthma & Sinus Associates, P.A., Fort Lauderdale, FL, [2]Cleveland Clinic Florida, Weston, FL

**518** **A Randomized Controlled Trial of an Educational Handbook for Parents of Children with Food Allergy**
**Jennifer S. LeBovidge, PhD**[1], Alexis Michaud, BA[1], Ashley Deleon, BA[1], Laurie Harada, BA[2], Susan Waserman, MD, FAAAAI[3] and Lynda C. Schneider, MD, FAAAAI[1], [1]Boston Children's Hospital, Boston, MA, [2]Anaphylaxis Canada, Toronto, ON, Canada, [3]Department of Medicine, McMaster University, Hamilton, ON, Canada

**519** **Food Allergy Knowledge Among Summer Camp Personnel before and after an Evidence Based Educational Session**
**Margaret Redmond, MD**[1], Rebecca Scherzer, MD, FAAAAI[2], Kara J. Wada, MD[3], Kasey Strothman, MD[2], Erin Kempe[4], Barbara Galantowicz[5] and David R. Stukus, MD, FAAAAI[2], [1]Ohio State University/Nationwide Children's Hospital, [2]Nationwide Children's Hospital, Columbus, OH, [3]Nationwide Children's Hospital and The Ohio State University, Columbus, [4]Ohio State University Medical Center, Columbus, OH, [5]Nationwide Children's Hospital

**520** **The Importance of Educating Pediatric Trainees about Food Allergy**
**Lukman I. Abdurrahim, MD**[1], Mehdi M. Adeli, MD[2], Ahmad H. Al-Hammadi, MBChB, FRCPC[1] and Mohamed A Hendaus, MD, FAAP[1], [1]Hamad Medical Coperation, Doha, Qatar, [2]Hamad Medical Corporation, Doha, Qatar

**521** **Reliability of Youtube Videos for Patient Education on Food Allergies**
**Charl Khalil**, Cleveland Clinic Florida, Michael Megaly, Mercy Hospital and Medical Center, Chicago, IL, Amira Ibrahim, Faculty of Medicine, Ain Shams University, Cairo, Egypt and Ves Dimov, MD, Cleveland Clinic Florida, Weston, FL

**522** **Teaching and Evaluating Residents' Epinephrine Autoinjector Use with the Epipen® Proficiency Assessment Tool (E-PAT)**
**Artemio M. Jongco III, MD, PhD, MPH**[1,2], Scott J Bodner, MD[3], Ana Barrera[4], Joshua L Brenner[4], Brianne Navetta-Modrov, MD[5], Myriam Kline, PhD[6], Saima I Chaudhry, MD[5], Gregory Grimaldi, MD[7], Barry F. Kanzer, MD[8] and Michal Tamuz, PhD[4], [1]Feinstein Institute for Medical Research, Manhasset, NY, [2]Division of Allergy & Immunology Hofstra North Shore-LIJ School of Medicine, Great Neck, NY, [3]Department of Medicine Glen Cove Hospital, Glen Cove, NY, [4]Center for Learning and Innovation North Shore LIJ Health System, Lake Success, NY, [5]Department of Medicine Hofstra North Shore LIJ School of Medicine, Manhasset, NY, [6]Biostatistics Unit, Feinstein Institute for Medical Research, Manhasset, NY, [7]Department of Radiology North Shore University Hospital, Manhasset, NY, [8]Department of Radiology Long Island Jewish Medical Center, New Hyde Park, NY

**523** **Anaphylaxis Simulation Programs Can Improve Knowledge, Attitudes, and Behaviors (KAB) of Pediatric Residents**
**Kiranjit K. Uppal, MD**[1], Michelle Levinson[1] and Susan Schuval, MD, FAAAAI[2], [1]Stony Brook University Hospital, [2]Stony Brook U Medical Cente, Stony Brook Children's Hospital, Stony Brook, NY

## Rhinitis, Diagnosis and Therapy

## IRSO

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Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**524** **Phase II Clinical Trial of ONO-4053, a Novel DP1 Antagonist, in Patients with Seasonal Allergic Rhinitis**
**Yamamotoya Hajime**, Ono Pharmaceutical Co., Ltd. and Kimihiro Okubo, MD, PhD, Department of Otorhinolaryngology, Nippon Medical School, Tokyo, Japan

**525** **Redirection of Human CD4+ T Cell Responses with the Toll-like Receptor 4 (TLR4) Agonist Glucopyranosyl Lipid a (GLA)**
**L. Li**[1], A. Peterson[1], T. Soos[1], C. Arendt, PhD[2] and C. Jones[1], [1]Bio-Innovation, Global Biotherapeutics, SANOFI, Cambridge, MA, [2]Bio-Innovation, Global Biotherapeutics, sanofi, Cambridge, MA

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**526** **Major Allergen Content of SQ-House Dust Mite Slit-Tablets Is Consistent and in Concordance with Patient Sensitivity Profiles in North America and Europe**
**Hendrik Nolte, MD, PhD**[1], Greg A. Plunkett, PhD[2], Mirko Bollen, PhD[1], Karin Grosch, MSc[3], Jorgen Nedergaard Larsen, PhD[3] and Kaare Lund, PhD[3], [1]Merck & Co., Inc., Kenilworth, NJ, [2]ALK-Abelló, Inc, Round Rock, TX, [3]ALK, Horsholm, Denmark

**527** **Rapid Clinical Response to Omalizumab in Severe Atopic Keratoconjunctivitis**
**Ruperto González-Pérez, MD, PhD**[1], Paloma Poza-Guedes, MD[1], Victor Matheu, MD, PhD[1] and Inmaculada Sanchez-Machín, MD[2], [1]Hospital del Tórax-Ofra, Sta Cruz de Tenerife, Spain, [2]Hospital del Tòrax-Ofra, SC Tenerife, Spain

**528** **In Vitro Evaluation of the Efficacy and Safety of a Depigmented-Polymerized Extract of Cat Epithelia**
**Victor M Iraola**[1], Ma Teresa Gallego[1], María Morales[1], Marta Taules[2] and Jerónimo Carnés[1], [1]Laboratorios LETI, Tres Cantos, Spain, [2]Centres Científics i Tecnològics. Universidad de Barcelona, Barcelona, Spain

**529** **Rhinitis Symptoms during Challenge with House Dust Mites in Nasal Provocation Test Correlates with Those during Exposure to House Dust in Daily Life.**
**Sang Min Lee, MD, PhD** and Sang Pyo Lee, MD, PhD, Division of Pulmonology and Allergy, Gachon University Gil Medical Center, Incheon, South Korea

**530** **Increase in Allergic Rhinitis and Aeroallergen Composition of Texas Panhandle**
**Nabarun K. Ghosh, PhD**[1], Constantine K. Saadeh, MD, FAAAAI[2], Jeff Bennert, PhD, CTN[3], Chandini Revanna, BDS, MPH[4], Mitsy Veloz, BS[1] and Clinton Ross Bell, RN[5], [1]West Texas A&M University, Canyon, TX, [2]Allergy ARTS ACCR, Amarillo, TX, [3]AIR OASIS, Amarillo, TX, [4]Texas Tech University, Lubbock, Lubbock, [5]Allergy ARTS, Amarillo, Amarillo

**531** **Rapid Diagnosis of Bacterial Sinusitis in Young Children with Chronic Coughing and without Wheezing**
**Charles H. Song, MD, FAAAAI**, Harbor-UCLA, Torrance, CA and Andrew Wong, MD

**532** **Modified Rhinitis Control Assessment Test**
**Eyas Abla, MD**, Creighton University and Againdra K. Bewtra, Department of Medicine, Division of Allergy and Immunology, Creighton University Medical Center, Omaha, NE

**533** **Sensitivity and Specificity of a Clinical Diagnosis of Allergic Rhinitis in Childhood**
**Ashish K. Mathur, MD**[1], Debra A Stern[2], Michael O. Daines, MD[2], Anne L. Wright, PhD[2], Fernando D. Martinez, MD[2] and Tara F. Carr, MD[1], [1]Banner University Medical Center, Division of Pulmonary, Allergy, Critical Care and Sleep Medicine, Tucson, AZ, [2]Arizona Respiratory Center, University of Arizona, Tucson, AZ

**534** **Treatment with STG320 Sublingual Tablets of House Dust Mite Allergen Extracts: Profile of Subjects with HDM-Associated Allergic Rhinitis in the Clinical Development Program**
**Karl-Christian Bergmann, PhD, MD**[1], Pascal M. Demoly, PhD, MD[2], Michel Roux, MD[3], Sandrine Khairallah, MSc[3] and Robert K. Zeldin, MD[3], [1]Allergy-Centre-Charité, Berlin, Germany, [2]University Hospital of Montpellier, Montpellier, France, [3]Stallergenes SAS, Antony, France

**535** **Skin Puncture Test Response Is Not Altered By Season of Testing**
**Suzanne Warford, MD**, D. Lew, C. Michael and J. Lieberman, Le Bonheur Children's Hospital, Memphis, TN, Department of Allergy and Immunology, University of Tennessee Health Science Center, TN

**536** **Retrospective Analysis of Allergy Skin Testing Results and Relationship to Chronic Sinusitis in the Tucson Adult Population**
**Nour A. Parsa, MD**[1], Rhonda Alkatib, MD[1] and Tara F. Carr, MD[2], [1]Banner University Medical Center, Department of Internal Medicine, Tucson, AZ, [2]Banner University Medical Center, Division of Pulmonary, Allergy, Critical Care and Sleep Medicine, Tucson, AZ

**537** **Retrospective Analysis of Ocular Allergic Conjunctivitis Responders and Non-Responders during Screening in an Environmental Exposure Chamber**
**Holly Lorentz, PhD**, Stephanie Recker, MSC, CCRP, Fiona Soong and Anne Marie Salapatek, PhD, Inflamax Research, Mississauga, ON, Canada

**538** **Serum Specific IgE Levels Detects More Pollen Sensitizations in Symptomatic Patients Than Skin Prick Testing Alone**
**Denisa Ferastraoaru, MD**, Maria Shtessel, MD and Gabriele de Vos, MD, M.Sc., Montefiore Medical Center, Bronx, NY

**539** **A Phase 1 First-in-Human Study (B4901001) Evaluating a Novel Anti-IgE Vaccine in Adult Subjects with Allergic Rhinitis**
**Gilbert Y. Wong, MD**, Pfizer WRD - Biotechnology Clinical Development, South San Francisco, CA, Emile Elfassi, MD, Diex Research Montreal, Montreal, QC, Canada, Ginette Girard, MD, Diex Research Sherbrooke, Sherbrooke, Canada, William H. Yang, MD, Ottawa Allergy Research Corporation, Ottawa, ON, Canada, Jacques Hebert, MD, Centre de Recherche Applique en Allergie de Quebec, Quebec City, QC, Canada, Roberto Bugarini, PhD, Pfizer WRD - Biotechnology Clinical Development, San Diego, CA, Michael A O'Connell, MD, Pfizer - Business Unit, New York, NY, Brian Champion, PhD, Formerly Pfizer Vaccine Immunotherapeutics; Presently PsiOxus Therapeutics, Oxford, United Kingdom, James Merson, PhD, Pfizer Vaccine Immunotherapeutics, San Diego, CA and Heather Davis, PhD, Pfizer Vaccine Immunotherapeutics, Ottawa, ON, Canada

**540** **A High Titer Anti RSV Polyclonal Antibody (RI-002) Prevents Infection with Palivizumab Resistant (PR) RSV in Cotton Rats and Achieves Greater Neutralizing RSV Activity As Compared to Palivizumab**
**James J Mond, MD, PhD**, ADMA Biologics, Ramsey, NJ and Brian Gilbert, Baylor College of Medicine

**541** **The Allergic Rhinitis Clinical Investigator Collaborative (ARCIC) - Cytokine Analysis of Nasal Secretions before and after Nasal Allergen Challenges (NAC)**
**Jenny Thiele, MSc**[1,2], Mena Soliman, MBChB, MSc (candidate)[1,2], Lisa M. Steacy, BSc[1], Daniel Adams, BSc[1] and Anne K. Ellis, MD, MSc, FAAAAI[1,2], [1]Allergy Research Unit, Kingston General Hospital, Kingston, ON, Canada, [2]Departments of Medicine and Biomedical & Molecular Science, Queen's University, Kingston, ON, Canada

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## Eosinophils

## MAAI

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Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**542** **Effect of Cysteinyl Leukotriene Receptor Antagonists on Leukotirene D4-Induced Chemotaxis of Human Eosinophilc Cell Line, Eol-1 Cells**
**Hideaki Shirasaki, MD, PhD**[1], Etsuko Kanaizumi[1], Manabu Fujita[2], Tomohiko Sekioka[2] and Tetsuo Himi[3], [1]Sapporo Medical University, Sapporo, Japan, [2]Ono Pharmaceutical CO., LTD, Osaka, Japan, [3]Department of Otolaryngology, Sapporo Medical University School of Medicine

**543** **A Clinicopathological Study of Small Intestinal Perforations in Patients with Eosinophilic Granulomatosis with Polyangiitis**
**Shin Saito, MD, PhD**[1], Kentaro Kurashina[1], Shiro Matsumoto[1], Yasunaru Sakuma[1], Seiji Minota[2], Masahiro Iwamoto[2], Daisuke Matsubara[3], Noriyoshi Fukushima[3], Hisanaga Horie[1], Yoshinori Hosoya[1], Alan K Lefor[1] and Naohiro Sata[1], [1]Department of

Surgery, Jichi Medical University, Shimotsuke, Japan, [2]Division of Rheumatology and Clinical Immunology,Jichi Medical University, [3]Department of Pathology, Jichi Medical University

**544 Sophora Flavescens Suppresses Lung Eosinophilia By Inhibiting Both Eosinophil Hematopoiesis and Migration**

**Hirofumi Tsuzuki**[1], Yojiro Arinobu[1], Kohta Miyawaki[2], Ayako Takaki[1], Shun-ichiro Ota[3], Naoko Ueki[4], Yuri Ota[1], Siamak Jabbarzadeh Tabrizi[1], Mitsuteru Akahoshi[1], Hiroaki Niiro[2], Hiroshi Tsukamoto[1], Takahiko Horiuchi[5], Shoichiro Ohta[6], Kenji Izuhara, MD, PhD[6], Hiroyuki Fukui[7] and Koichi Akashi[1], [1]Department of Medicine and Biosystemic Science, Kyushu University Graduate School of Medical Sciences, Fukuoka City, Japan, [2]Clinical Education Center, Kyushu University Hospital, Fukuoka City, Japan, [3]Department of Rheumatology, Internal medicine and connective tissue disorders, Shimonoseki City Hospital, Shimonoseki City, Japan, [4]Division of Nephrology and Rheumatology, Fukuoka University Hospital, Fukuoka City, Japan, [5]Department of Internal Medicine, Kyushu University Beppu Hospital, Beppu City, Japan, [6]Division of Medical Biochemistry, Department of Biomolecular Sciences, Saga Medical School, Saga City, Japan, [7]Institute of Biomedical Sciences, Tokushima University Graduate School, Tokushima City, Japan

**545 Successful Use of Cyclosporine for Eosinophilic Cystitis in a 64-Year Old Female**

**Sohaib Aleem, MD, MPH, FACP**, University at Iowa Hospitals and Clinics, Iowa City, IA, Antoine Azar, MD, FAAAAI, John Hopkins Asthma & Allergy Center, Baltimore, MD, Bharat Kumar, MD, University of Iowa Hospitals & Clinics, Iowa City, IA, Mary Beth Fasano, MD, FAAAAI, C42-E6 GH, University of Iowa College Medicine, Iowa City, IA and Elizabeth B Takacs, MD, University at Iowa Hospitals and Clinics

**546 Hypereosinophilic Syndrome in a Patient with T-Cell Lymphoma**

**Samata Kamireddy, MD**, LSU-New Orleans and Sanjay Kamboj, MD, Louisiana State University Health Sciences Center, Metairie, LA

**547 Trans-Basement Membrane Migration of Eosinophils Induced By LPS-Stimulated Neutrophils from Human Peripheral Blood in Vitro**

**Kazuyuki Nakagome, MD, PhD**[1,2], Fuyumi Nishihara, MD[1,2], Takehito Kobayashi, MD, PhD[1,2], Toru Noguchi, MD[1,2], Tomoyuki Soma, MD, PhD[1,2] and Makoto Nagata, MD, PhD[1,2], [1]Department of Respiratory Medicine, Saitama Medical University, Japan, [2]Allergy Center, Saitama Medical University, Japan

**548 Patient-Reported Symptoms from a Diverse Group of Subjects with Hypereosinophilic Syndrome**

**Nicholas C. Kovacs**[1,2], Linda Nelsen[3], Suyong Yun Kirby[4], Katy Benjamin[5], Olga Moshkovich[5], Nicole Holland-Thomas, MSN, RN[6], Amy D. Klion, MD[7], Paneez Khoury, MD[7] and Jonathan Steinfeld[4], [1]National Jewish Health, [2]National Institutes of Health, [3]GlaxoSmithKline, King of Prussia, PA, [4]GlaxoSmithKline, [5]ICON, Gaithersburg, MD, [6]Leidos Biomedical Research Inc, Frederick, MD, [7]National Institutes of Health, Bethesda, MD

**549 Siglec-7 on Peripheral Blood Eosinophils: Surface Expression and Functional Analysis**

**Fanny Legrand**[1], Nadine A Landolina[2], Francesca Levi-Schaffer, PhD, FAAAAI[2] and Amy D. Klion, MD[1], [1]National Institutes of Health, Bethesda, MD, [2]The Hebrew University of Jerusalem, Jerusalem, Israel

**550 sCD48 Is a Novel Eosinophil Derived Decoy Receptor That Decreases Seb Activity in Vitro and In Vivo**

**Francesca Levi-Schaffer, PhD, FAAAAI** and Roopesh Singh Gangwar, The Hebrew University of Jerusalem, Jerusalem, Israel

**551 Exosomes from Eosinophils of Asthmatic Patients Produce Functional Alterations on Structural Lung Cells**

**Victoria Del Pozo, PhD**[1,2], J Cañas[3], Beatriz Sastre[4], Carla Mazzeo[2], P Barranco[5], Santiago Quirce, MD, PhD[6] and Joaquín Sastre, MD, PhD, FAAAAI[7], [1]IIS-Fundacion Jiménez Díaz, Madrid, Spain, [2]IIS-FJD and CIBERES, [3]IIS-FJD, [4]IIS-Fundacion Jimenez Diaz, Madrid, Spain, [5]3Department of Allergy, Hospital La Paz Health Research Institute (IdiPAZ), [6]Dept. Allergy. Hospital La Paz Institute for Health Research (IdiPaz), Madrid, Spain, [7]Fundación Jiménez Díaz, Madrid, Spain

**552 Long Term Outcomes of Mepolizumab Treatment Compared to Conventional Therapy for Subjects with HES**

**Fei Li Kuang, MD, PhD**, Paneez Khoury, MD, JeanAnne M Ware, CRNP and Amy D. Klion, MD, National Institutes of Health, Bethesda, MD

**553 A Unique Case of Idiopathic Hypereosinophilic Syndrome in a Patient Presenting with Chronic Urticaria**

**Stephanie N. Hudey, MS**, University of South Florida Morsani College of Medicine, Tampa, FL, Hana B. Niebur, MD, University of Nebraska Medical Center, Omaha, NE and Jennifer W. Leiding, MD, University of South Florida, St. Petersburg, FL

**554 An Unusual Cause of Eosinophilia - Hypereosinophilia Due to Contact Dermatitis**

**Prathyusha Savjani, MD**, Tulane University, New Orleans, LA

**555 A Rare Case of Hypereosinophilia: 8p11 Myeloproliferative Syndrome (EMS) in a 7 Month Old**

**Nasim Reedy, DO**[1], Alysa G. Ellis, MD[2] and Caroline C. Horner, MD, FAAAAI[2], [1]Washington University, St. Louis, MO, [2]Washington University School of Medicine, Saint Louis, MO

**556 Idiopathic Hypereosinophilic Syndrome Presenting with Otalgia: A Case Report**

**woo Kyung Kim**, Dongguk University Ilsan hospital, Goyang, South Korea, Yu Ran Nam, Dongguk University College of medicine, department of Physiology, South Korea and Seung Eun Nam, Dongguk University Ilsan Hospital, Goyang, South Korea

**557 An Unusual Hypereosinophilc Syndrome**

**Massimo Arquati**, Maddalena A. Wu, Roberto Castelli and Marco Cicardi, Department of Biomedical and Clinical Sciences "Luigi Sacco", University of Milan, Luigi Sacco Hospital, Milan, Italy

**558 Eosinophilia and Cutaneous Involvement in Angioimmunoblastic T-Cell Lymphoma**

**Nan Chen, Internal Medicine Resident**, University of Arizona - College of Medicine, Tucson, AZ and Saul Amber, MD, Intercare Medical Associates, Mesa, AZ

SUNDAY

## IgE and Other Immunoglobulins

## MAAI

3211
Sunday, March 6th, 2016, 9:45 AM - 10:45 AM

**559 The Danger of Vaccination By Autopilot**

**Miranda L Curtiss, MD, PhD**[1,2], Ewa Szymanksa, PhD[3,4], Tracy Hwangpo, MD, PhD[1], Gregory Ippolito, PhD[3,5], George Georgiou, PhD[6], T. Prescott Atkinson, MD, PhD, FAAAAI[2], Moon H Nahm, MD[7] and Harry Schroeder, MD, PhD[1,3], [1]University of Alabama at Birmingham Department of Medicine, Birmingham, AL, [2]University of Alabama at Birmingham Department of Pediatrics, Birmingham, AL, [3]University of Alabama at Birmingham Department of Microbiology, Birmingham, AL, [4]Utica College Department of Biology, Utica, NY, [5]University of Texas at Austin Department of Molecular Biosciences, Austin, TX, [6]University of Texas at Austin Institute for Cell and Molecular Biology, Austin, TX, [7]University of Alabama at Birmingham Department of Pathology, Birmingham, AL

**560 Humoral Immune Response Survey in a Schistosoma Japonicum (Sjap) Endemic Chinese Population**

**Jianping Zhao, MD**[1,2], Qian Chen, MD, PHD[3], Xing Long, MD, PHD.[2], Jingjing Wang, MD[3], Huifang Liang, PHD[2], Bixiang Zhang, MD, PHD[2], Kathleen C Barnes, PHD[4], Robert G. Hamilton, PhD, D.ABMLI, FAAAAI[1] and Xiaoping Chen, MD, PHD[2], [1]Johns Hopkins University School of Medicine, Baltimore, MD, [2]Hepatic Surgery Center, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China, [3]Division of Gastroenterology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China, [4]Division of Allergy and Clinical Immunology, Department of Medicine, Johns Hopkins University, Baltimore, MD

**561 Where Rheumatology, Oncology, and Allergy / Immunology Meet: Two Cases of Schnitzler Syndrome**

**Kathleen Lee-Sarwar**, Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA and Cem Akin, MD, PhD, FAAAAI, Harvard Medical School, Brigham and Women's Hospital, Boston, MA

**562 Accessing Natural Killer Cell Antibody-Dependent Cell-Mediated Cytotoxicity Via CMV-Specific Hyperimmune Human Immunoglobulin**

**Anastasiya Yermakova, PhD**[1], Pinaki B. Banerjee, PhD[1], Levi B. Watkin, PhD[1], Alexandre F. Carisey, PhD[1], Cindy De Los Santos[2], Gail J. Demmler-Harrison, MD[2] and Jordan S. Orange, MD, PhD, FAAAAI[1], [1]Baylor College of Medicine and Texas Children's Hospital, Section of Immunology, Allergy, and Rheumatology, Houston, TX, [2]Texas Children's Hospital and Baylor College of Medicine, Department of Pediatrics, Houston, TX

**563 Measurement of Antigen-Specific IgA May be Useful in Children with Food Allergy**

**Yosuke Baba, MD, PhD**[1,2], Asuka Honjo, MD[2], Susumu Yamazaki, MD, PhD[1,2], Eisuke Inage, MD, PhD[2], Mari Mori, MD, PhD[2], Masato Kantake, MD, PhD[1,2], Yoshikazu Ohtsuka, MD, PhD[2] and Toshiaki Shimizu, MD, PhD[2], [1]Department of Pediatrics, Juntendo University Shizuoka Hospital, Shizuoka, Japan, [2]Department of Pediatrics and Adolescent Medicine, Juntendo University Faculty of Medicine, Tokyo, Japan

**564 Breast Milk IgA Levels in the Old Order Mennonite Vs. City Mothers**

**Mahta Mortezavi, MD**, Kirsi E Jarvinen-Seppo, PHD, Camille A Martina, PHD, Richard J. Looney, MD, FAAAAI and Kirsi M. Jarvinen-Seppo, MD, PhD, FAAAAI, University of Rochester, NY

**565 Recombinant Human IgE Antibodies to Analyze Antigenic Determinants in Group 1 Mite Allergens for the Design of Immunotherapy**

**Anna Pomés, PhD, FAAAAI**[1], Jill Glesner, BS[1], Magdalena Godzwon, MSc[2], Mattias Levin, PhD[2], Martin D. Chapman, PhD, FAAAAI[1] and Mats Ohlin, PhD[2], [1]Indoor Biotechnologies, Inc., Charlottesville, VA, [2]Lund University, Lund, Sweden

**566 The Measure of Specific IgE to Whole-Allergen Extracts May Not be Useful for Primary Sensitization Diagnosis in Children with Atopic Dermatitis and Asthma**

**Lukasz Blazowski, MD, PhD**[1,2] and Ryszard Kurzawa[2], [1]Pediatric and Allergy Department Specialist Hospital Jaslo, Poland, [2]Allergy and Pulmonary Medicine Department, National Research Institute for Tuberculosis and Lung Diseases - Rabka Branch, Rabka-Zdroj, Poland

**567 Production of Human Monoclonal IgE from Patients with Allergic Bronchopulmonary Mycosis**

**Mark Wurth, MD, PhD**[1], Dennis J Horvath, PhD[1], Rebekah F Brown, MD[1], Yasmin W. Khan, MD[1], Ryszard Dworski, MD, PhD[2] and Scott A. Smith, MD, PhD[1], [1]Vanderbilt University, Nashville, TN, [2]Vanderbilt University

**568 IgE Anti-Haemophilus Influenzae Type b (Hib) Antibodies Detected in Serum of Hib Vaccinated Asthmatic and Non-Asthmatic Pediatric Patients**

**Tehila A. Saadia, MD**[1], Stephan Kohlhoff, MD[1], Natalie Bannietis, MD[1], Yitzchok M. Norowitz, BS[1], Rauno Joks, MD[2], Helen G. Durkin, PhD[3,4] and Tamar A. Smith-Norowitz, PhD[5], [1]Department of Pediatrics, State University of New York Downstate Medical Center, Brooklyn, NY, [2]SUNY Downstate Medical Center, Brooklyn, NY, [3]Department of Pathology/Medicine, [4]Department of Medicine, State University of New York Downstate Medical Center, Brooklyn, NY, [5]Department of Pediatrics, SUNY Downstate Medical Center, Brooklyn, NY

**569 Detection of Ovomucoid-Specific Low-Affinity IgE in 14-Month-Old Infants and Its Relationship with Eczema**

**Norio Kawamoto, MD, PhD**[1], Norio Kamemura, PhD[2], Hiroshi Kido, MD, PhD[2] and Toshiyuki Fukao, MD, PhD[1], [1]Gifu University, Gifu City, Japan, [2]The University of Tokushima, Japan

**570 Relationship of Serum Total IgE Levels, Specific IgE Levels and Peripheral Total Eosinophil Count in Patients of Younger Than 2 Years with Allergic Diseases**

**Sun Hee Choi, MD, PhD**, Kyung Hee University Hospital at Gangdong, Seoul, South Korea, Kyung Suk Lee, MD, PhD, Department of Pediatrics, CHA University Bundang Medical Center, Seongnam, South Korea, Haerim Park, Kyung University Hospital and Yeong-Ho Rha, MD, PhD, Kyung Hee University Hospital, Seoul, South Korea

**571 Pulmonary Vascular Leak Requires IgE during Respiratory Viral Infection**

**Brian T. Kelly, MD, MA**, Jennifer L Santoro, BS and Mitchell H. Grayson, MD, FAAAAI, Medical College of Wisconsin, Milwaukee, WI

**572 Study of Total and Allergen Specific IgE and Salivary IgA, As Well As Leukocyte Populations in Atopic and Non-Atopic Children with Asthma and / or Rhinitis**

**Julio cesar Orellana**[1,2], Maria ofelia Miño[3], Estela Pautasso[4], Ana Romero Boni[4], Stefania c Santo[5], Maria ines Pereira[5], , Adriana Cassinerio[6], Telma Varela[7], Pablo Romero[8], Omar Romero[8] and Horacio marcelo Serra[9], [1]Children, Argentina, [2]Children Hospital of Santisima Trinidad from Cordoba, cordoba, Argentina, [3]Children Hospital of Santisima Trinidad from Cordoba, [4]Nuevo Hospital de Niños de la Santisima Trinidad Cordoba Argentina, Cordoba, Argentina, [5]Laboratorio, Hospital de Niños de la Santísima Trinidad, cordoba, Argentina, [6]Laboratorio, Hospital de Niños de la Santísima Trinidad, [7]Children Hospital of Santisima Trinidad from Cordoba, cordoba, CA, Argentina, [8]Laboratorio Privado de inmunologia, cordoba, Argentina, [9]CIBICI, Facultad Ciencias Químicas, UNC, cordoba, Argentina

**573 Characterization of Patients with Low Ige Levels**

**Andrew Q. Pham, MD**[1], Joyce Xiang Wu Lee, MD[1], Connie Lin, MD[2], Emily Liang, MD[2] and Joseph S. Yusin, MD, FAAAAI[1], [1]VA Greater Los Angeles Health Care System, [2]Cedars-Sinai Medical Center

**574 Specific IgE and IgG Antibodies to Human Rhinovirus 16 Capsid Protein VP1 Among Asthmatic and Non-Asthmatic Children from Costa Rica: Comparison with Virginia and Northern Sweden**

**Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS**[1], Alexander J. Schuyler, BS, BA[2], Lisa J Workman, BA[1], Eva Rönmark, PhD[3], Lydiana Avila[4] and Peter W. Heymann, MD[5], [1]University of Virginia Asthma and Allergic Diseases Center, Charlottesville, VA, [2]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [3]Umeå University, Umeå, Sweden, [4]Hospital Nacional de Niños, San José, Costa Rica, [5]University of Virginia Asthma and Allergic Diseases Center and the Department of Pediatrics Division of Respiratory Medicine, Charlottesville, VA

**575 C5a Replaces IL-4 in Anti-CD40 + IL-4 Mediated Induction of IgE Responses By PBMC of Adult Allergic Asthmatic Humans**

**Kobkul Chotikanatis, MD**[1], Jane Yee, MD[1], Yan Yan, MD[2], Seto M Chice, MS[3], Helen G. Durkin, PhD[1,4], Rauno Joks, MD[5,6] and

SUNDAY

Tamar A. Smith-Norowitz, PhD[7], [1]Center for Allergy and Asthma Research, [2]Department of Pediatrics, [3]Department of Pathology, [4]Department of Pathology/Medicine, [5]Department of Medicine at SUNY Downstate Medical Center, Brooklyn, NY, [6]Center for Allergy and Asthma Research, Brooklyn, NY, [7]Department of Pediatrics, SUNY Downstate Medical Center, Brooklyn, NY

## Molecular Mediators of Mucosal Damage in the Gut and Airway

## Basic Science Workgroup

3401
Sunday, March 6th, 2016, 12:15 PM - 1:30 PM

**576 Toll-like Receptor 4 Signaling Pathway Mediates Inhalant Organic Dust-Induced Bone Loss**
**Jill A. Poole, MD, FAAAAI**[1], Elizabeth Klein[2], Anand Dusad, MD[1], Todd Wyatt, PhD[3], Debra Romberger, MD[3], Michael Duryee[1], Lynell Klassen, MD[1], Ted Mikuls, MD[1], Dong Wang, PhD[2] and Geoffrey Thiele, PhD[1], [1]University of Nebraska Medical Center, Omaha, NE, [2]University of Nebraska Medical Center, [3]UNMC, Omaha, NE

**577 Microrna-155 Regulates Cockroach Allergen Induced Cyclooxygenase-2 Expression in Airway Epithelium**
**Lipeng Qiu, PhD**[1], Yufeng Zhou, MD, PhD[1], Yilin Zhao, MD, PhD[1], Danh Do, PhD[1], Heng Wang, MD, PhD[1], Changjun Li[2], Xiaopeng Liu, PhD[1], Xu Cao, PhD[2], Mei Wan, MD, PhD[2] and Peisong Gao, MD, PhD[1], [1]Division of Allergy & Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD, [2]Department of Orthopedic Surgery, Johns Hopkins University School of Medicine, Baltimore, MD

**578 RNA-Binding Protein Hur Regulates CD4+ T Cell Differentiation and Is Required for Normal IL-2 Homeostasis and Allergic Airway Inflammation**
**Ulus Atasoy, MD, FAAAAI**[1], Patsharaporn Techasintana[1], Jacqueline Glascock[1], Suzanne Ridenhour[1], Joseph Magee[1] and Matt Gubin[2], [1]University of Missouri, [2]Washington University

**579 Impaired Efferocytosis and Production of Mitochondrial Reactive Oxygen Species (mitoROS) By Monocytes in Human Chronic Granulomatous Disease (CGD) Is Reversed By Treatment with the Ppargamma Agonist Pioglitazone (Pio)**
**Donna Bratton, MD**[1], Ruby Fernandez-Boyanapalli, PhD[1], Emilia Liana Falcone[2], Christa Zerbe[2], Beatrix Marciano[2] and Steven M. Holland, MD[3], [1]National Jewish Health, Denver, CO, [2]NIAID, [3]Laboratory of Clinical Infectious Diseases, NIAID/NIH, Bethesda, MD

**580 Forkhead Box Protein 3 (FoxP3) Demethylation Is Associated with Tolerance Induction in Peanut-Induced Intestinal Allergy**
**Meiqin Wang, MD, PhD**[1], Ivana Yang, PhD[2], Elizabeth J Davidson, B.A.[2], Anthony Joetham[1], Jordan K. Abbott, MD[1], Brian P. O'Connor, PhD[1] and Erwin W. Gelfand, MD, FAAAAI[1], [1]National Jewish Health, Denver, CO, [2]Department of Medicine, University of Colorado School of Medicine, Denver, CO

## Asthma Diagnosis and Biomarkers

## ADT

3601
Sunday, March 6th, 2016, 2:00 PM - 3:15 PM

**581 Non Type-2 Severe Asthma Has Increased Bronchoalveolar Mast Cell Mediator Release and Health Care Utilization**
**Merritt L. Fajt, MD**[1], John Trudeau, BA[2], Fernando Holguin, MD, MPH[2], Lawrence B Schwartz, MD, PhD, FAAAAI[3] and Sally E. Wenzel, MD, FAAAAI[2], [1]University of Pittsburgh Medical Center, Division of Pulmonary, Allergy and Critical Care Medicine, Pittsburgh, PA, [2]The University of Pittsburgh Asthma Institute at UPMC and the University of Pittsburgh School of Medicine, Department of Pulmonary, Allergy and Critical Care Medicine, Pittsburgh, PA, [3]Virginia Commonwealth University, Richmond, VA

**582 Endotypes of Difficult-to-Control Asthma in Inner City Children Differ By Race**
**Kari R. Brown, MD, MS**[1], Rebecca A. Zabel, MS[2], Agustin Calatroni, MA, MS[2], Cynthia Visness, PhD, MPH[2], Umasundari Sivaprasad, PhD[3], Elizabeth Matsui, MD, MHS[4], Joseph B. West, MD[5], Melanie M. Makhija, MD, MS[6], Michelle A. Gill, MD, PhD[7], Haejin Kim, MD[8], Meyer Kattan, MD[9], Dinesh K. Pillai, MD[10], James E. Gern, MD, FAAAAI[11], William W. Busse, MD, FAAAAI[12], Alkis Togias, MD, FAAAAI[13], Andrew H Liu, MD, FAAAAI[14,15] and Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[16], [1]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [2]Rho Federal Systems Division Inc., Chapel Hill, NC, [3]Cincinnati Children's Hospital Medical Center, Division of Asthma Research, Cincinnati, OH, [4]Johns Hopkins University School of Medicine, Baltimore, MD, [5]Boston University Medical Center, Boston, MA, [6]Ann and Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [7]UT Southwestern Medical Center, Dallas, TX, [8]Henry Ford Health System, Division of Allergy and Clinical Immunology, Detroit, MI, [9]College of Physicians and Surgeons, Columbia University, New York, NY, [10]Children's National Health System, Washington, DC, [11]University of Wisconsin-Madison, Madison, WI, [12]University of Wisconsin School of Medicine and Public Health, Madison, WI, [13]NIAID/NIH, Bethesda, MD, [14]Children's Hospital Colorado, Aurora, CO, [15]National Jewish Health, Denver, CO, [16]Cincinnati Children's Hospital, Cincinnati, OH

**583 MIP-1alfa Level in Nasopharyngeal Aspirates at First Wheezing Episode Is a Predictor of Recurrent Wheezing**
**Kazuko Sugai, MD, PhD**[1], Hirokazu Kimura, PhD[2], Yumiko Miyaji, MD, PhD[3], Masakazu Yoshizumi, PhD[4], Hiroyuki Tsukagoshi, PhD[5], Yumi Yamada, MD, PhD[6], Masanori Ikeda, MD, PhD[1,7], Masahiro Noda, DVM, PhD[2], Kunihisa Kozawa, MD, PhD[8], Shigemi Yoshihara, MD, PhD[9], Akihide Ryo, MD, PhD[10], Hiromitsu Ogata, PhD[11] and Yoshimichi Okayama, MD, PhD[12], [1]Department of Pediatrics, National Hospital Organization Fukuyama Medical Center, Hiroshima, Japan, [2]Infectious Disease Surveillance Center, National Institute of Infectious Diseases, Tokyo, Japan, [3]Division of Allergy, National Center for Child Health and Development, Tokyo, Japan, [4]Tone-Numata Public Health and Welfare Office, Gunma Prefecture, Gunma, Japan, [5]Gunma Prefectural Institute of Public Health and Environmental Sciences, Japan, [6]Yamada Gastroenterology Pediatric Clinic, Tochigi, Japan, [7]Department of Pediatric Acute Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Okayama, Japan, [8]Department of Microbiology, Yokohama City University Graduate School of Medicine, Yokohama, Japan, [9]Department of Pediatrics, Dokkyo Medical University, Tochigi, Japan, [10]Department of Molecular Biodefence Research, Yokohama City University Graduate School of Medicine, Yokohama, Japan, [11]Center for Public Health Informatics, National Institute of Public Health, Saitama, Japan, [12]Allergy and Immunology Group, Research Institute of Medical Science, Division of Medical Education Planning and Development, Nihon University School of Medicine, Tokyo, Japan

**584 Allergen-Induced Increase in Group 2 Innate Lymphoid Cells in the Airways of Mild Asthmatics**
**Ruchong Chen, MD**[1,2], Steven G Smith, PhD[1], Brittany Salter, PhD[1], Amani El-Gammal, MD[1], John-Paul Oliveria[1], Caitlin Obminski[1], Richard Watson[1], Paul M. O'Byrne, MB, FRCPC, FRSC[1], Gail M. Gauvreau, PhD[1] and Roma Sehmi, PhD, FAAAAI[1], [1]Department of Medicine, Cardio-Respiratory Research Group, McMaster University, Hamilton, ON, Canada, [2]State Key

SUNDAY

Laboratory of Respiratory Disease, Guangzhou Institute of Respiratory Diseases, The First Affiliated Hospital of Guangzhou Medical University, Guangzhou, China

**585 PAI-1, Early Life Infections and Asthma Risk, Exacerbations, and Reduced Lung Function**

**Kumar Rajesh, MD, MS, FAAAAI**[1], Seong Ho Cho, MD, FAAAAI[2,3], Jin Young Min, MD, PhD[4], Joseph Kang, PhD[5], Wendy Chan, MEd[6], Dong-Young Kim[7], Sam Oh, PhD, MPH[8], Dara Torgerson, PhD[9], Maria del Mar Del-Pino-Yanes, MD[9], Donglei Hu, PhD[9], Saunak Sen, PhD[10], Scott Huntsman, MS[9], Celeste Eng, BS[8], Harold J. Farber, MD, MSPH[11], William Rodriguez-Cintron[12], Jose Rodriguez-Santana, MD[13], Denise Serebrisky, MD[14], Shannon Thyne, MD[15], Luisa Borrell, DDS, PhD[16], L. Keoki Williams, MD, MPH, FAAAAI[17], Max Seibold, PhD[18], Esteban Gonzalez Burchard, MD, MPH[8,19] and Pedro C. Avila, MD[20], [1]Pediatric allergy, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [2]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]University of South Florida, College of Medicine, Tampa, FL, [4]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL, [5]Department of Preventive Medicine, Northwestern University, Chicago, IL, [6]Department of Biostatistics, Northwestern University, Chicago, IL, [7]Division of Allergy and Immunology, Department of Medicine, Feinberg School of Medicine, Northwestern University, Chicago, IL, [8]Department of Medicine, University of California, San Francisco, San Francisco, CA, [9]Department of Medicine, University of California, San Francisco, CA, [10]Department of Epidemiology and Biostatistics, University of California, San Francisco, San Francisco, CA, [11]Baylor College of Medicine and Texas Children's Hospital, Houston, TX, [12]Veterans Caribbean Health Care System, San Juan, PR, [13]Centro de Neumologia Pediatrica, San Juan, PR, [14]Pediatric Pulmonary Division, Jacobi Medical Center, Bronx, NY, [15]UCSF School of Medicine, San Francisco, CA, [16]Department of Health Sciences, Graduate Program in Public Health, Lehman College, City University of New York, Bronx, NY, [17]Henry Ford Health System, Detroit, MI, [18]National Jewish Health, Denver, CO, [19]UCSF, San Francisco, CA, [20]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL

## Common Variable Immunodeficiency (CVID) From the Bench to the Bedside

### BCI

3602
Sunday, March 6th, 2016, 2:00 PM - 3:15 PM

**586 Body Weight and Infectious Outcomes in Patients with Primary Immunodeficiency Diseases: Outcomes from within the US Immunodeficiency Network (USIDNET).**

**Melanie A. Ruffner, MD, PhD**[1], . USIDNet[2] and Kathleen E. Sullivan, MD, PhD, FAAAAI[1], [1]The Children's Hospital of Philadelphia, Philadelphia, PA, [2]U.S. Immunodeficiency Network

**587 Clinical Experience of CVID Enteropathy**

**Edith Schussler, MD**[1], Meng Chen, MD[2], Paul J. Maglione, MD, PhD[3] and Charlotte Cunningham-Rundles, MD, PhD[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]New York University Langone Medical Center, New York, NY, [3]Clinical Immunology, Icahn School of Medicine at Mount Sinai, New York, NY

**588 Interrogating Genetic Susceptibility Loci in CVID and Autoimmunity**

**Luanna Yang**[1], Shaili N Shah, MD[1], D Stephen Serafin[1], Roman G Timoshchenko[1], Paula Scotland[2], Kristy Richards[1], Matthew J Billard[3], Patricia L. Lugar, MD, MS[4] and Teresa K. Tarrant, MD, FAAAAI[5], [1]University of North Carolina, Chapel Hill, NC, [2]Duke University, Durham, NC, [3]University of North Carolina, Chapel Hilll, NC, [4]Medicine, Duke University Medical Center, Durham, NC, [5]Departments of Medicine and Microbiology and Immunology, University of North Carolina School of Medicine, Chapel Hill, NC 27599, USA, Chapel Hill, NC

**589 Extra-Immunologic Manifestations of Common Variable Immunodeficiency in Pediatric Versus Adult Patients**

**Lauren A Sanchez, MD, MA**[1], Matthew S Pantell, MD, MS[2], Solrun Melkorka Maggadottir, MD[1], Kathleen E. Sullivan, MD, PhD, FAAAAI[3] and . USIDNet[4], [1]Children's Hospital of Philadelphia, Philadelphia, PA, [2]University of California, San Francisco, San Francisco, CA, [3]The Children's Hospital of Philadelphia, Philadelphia, PA, [4]U.S. Immunodeficiency Network

**590 Role of B Cell Activating Factor in CVID Lung Disease**

**Paul J. Maglione, MD, PhD**[1], Montserrat Cols[2], Emma Roellke[2], Lin Radigan[2] and Charlotte Cunningham-Rundles, MD, PhD[2], [1]Clinical Immunology, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Icahn School of Medicine at Mount Sinai, New York, NY

## Fungal and Mouse Allergens and Allergy

### EORD

3603
Sunday, March 6th, 2016, 2:00 PM - 3:15 PM

**591 IgE Antibodies to Fungi Among Asthmatic Children Living in Homes Damaged By Hurricane Sandy in New York City**

**Adnan Divjan, BA**[1], Luis M. Acosta, MD[2], Edward Sobek, PhD[3], Nitzan Soffer, PhD[2] and Matthew S. Perzanowski, PhD[4], [1]Columbia University Mailman School of Public Health, New York, NY, [2]Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, New York, NY, [3]Assured Bio Labs, Oak Ridge, TN, [4]Department of Environmental Health Sciences, Columbia University, New York, NY

**592 Fungal Metagenomic Analysis of Indoor Evaporative Cooler Environments in the Great Basin Desert Region**

**Angela R. Lemons, MS**[1], Mary Beth Hogan, MD, FAAAAI[2], Ruth A Gault, PhD[3], Kathleen J Holland, MD[4], Edward Sobek, PhD[5], Kimberly A Olsen-Wilson, MSHS[6] and Brett J. Green, PhD, FAAAAI[1], [1]Allergy and Clinical Immunology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, [2]Department of Pediatrics, University of Nevada School of Medicine, Las Vegas, NV, [3]Department of Microbiology and Immunology, University of Nevada School of Medicine, Reno, NV, [4]Department of Pediatrics, Indiana University, Indianapolis, IN, [5]Assured Bio Labs, Oak Ridge, TN, [6]Department of Pediatrics, University of Nevada School of Medicine, Reno, NV

**593 Internal Transcribed Spacer rRNA Gene Sequencing Analysis of Dustborne Fungi in a Water-Damaged Office Building**

**Brett J. Green, PhD, FAAAAI**[1], Angela R. Lemons, MS[1], Yeonmi Park, MS[2], Jean M. Cox-Ganser, PhD[2] and Ju-Hyeong Park, ScD, MPH, CIH[2], [1]Allergy and Clinical Immunology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention,

SUNDAY

Morgantown, WV, [2]Field Studies Branch, Division of Respiratory Disease Studies, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV

**594** **The Murine Pulmonary Proteomic Profile Associated with Allergic Aspergillus Fumigatus Exposure**

**Ajay P. Nayak, PhD**[1], Tara L. Croston, PhD[2], Angela R. Lemons, MS[2], W.Travis Goldsmith, BSCpE[3], Michael L. Kashon, PhD[4], Dori M. Germolec, PhD[5], Donald H. Beezhold, PhD, FAAAAI[6] and Brett J. Green, PhD, FAAAAI[1], [1]Allergy and Clinical Immunology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, [2]CDC/NIOSH/ACIB, Morgantown, WV, [3]Engineering and Control Technology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, [4]Biostatistics and Epidemiology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, [5]Toxicology Branch, Division of the National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC, [6]Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV

**595** **Measurement of Major Allergen Mus m 1 in Commercial Mouse Allergen Extracts and Mouse Urine**

**Taruna Khurana, PhD**[1], Jessica R. Shartouny[2], Natalie A. David[2] and Jay E. Slater, MD[1], [1]FDA/CBER/OVRR/DBPAP, Silver Spring, MD, [2]FDA/CBER/OVRR/DBPAP

SUNDAY

## Atopic Dermatitis

### FADDA

3604
Sunday, March 6th, 2016, 2:00 PM - 3:15 PM

**596** **Filaggrin Associated Risk for Atopic Dermatitis Is Offset By Protective Missense Variants in Rptn and LCE1B Genes in the Epidermal Differentiation Complex**

**Rasika A. Mathias, ScD**[1], Meher Boorgula[2], Sameer Chavan, MS[2], Kruthika R. Iyer[2], Nicholas M. Rafaels[2], Joseph Potee[2], Jon M. Hanifin, MD, FAAAAI[3], Amy S. Paller[4], Lynda C. Schneider, MD, FAAAAI[5], Richard L Gallo, MD, PhD[6], Emma Guttman-Yassky, MD, PhD[7], Peck Y. Ong, MD, FAAAAI[8], Ingo Ruczinski, PhD[9], Terri H Beaty, PhD[9], Li Gao, MD, PhD[2], Lisa A. Beck, MD, FAAAAI[10], Donald Y.M. Leung, MD, PhD, FAAAAI[11] and Kathleen C. Barnes, PhD, FAAAAI[2], [1]Division of Allergy and Clinical Immunology, Demartment of Medicine,, Johns Hopkins University, Baltimore, MD, [2]Division of Allergy and Clinical Immunology, Department of Medicine, Johns Hopkins University, Baltimore, MD, [3]Oregon Health and Science University, Portland, OR, [4]Northwestern University Feinberg School of Medicine, Chicago, IL, [5]Boston Children's Hospital, Boston, MA, [6]Division of Dermatology, University of California, San Diego, San Diego, CA, [7]Icahn Medical School at the Mount Sinai Medical Center, New York, NY, [8]Children's Hospital Los Angeles/USC, Los Angeles, CA, [9]Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, [10]Department of Dermatology, University of Rochester Medical Center, Rochester, NY, [11]Department of Pediatrics, National Jewish Health, Denver, CO

**597** **The Role of Gastrin Releasing Peptide (GRP) in Atopic Dermatitis (AD) Induced By Interleukin 13 (IL-13)**

**Eun Byul Choi, Master Degree**[1], Zhou-Feng Chen, PhD[2], Zhou Zhu, MD, PhD[3] and Tao Zheng, MD[1], [1]Yale University School of Medicine, New Haven, CT, [2]st. LouisWashington University School of Medicine at, St Louis, MO, [3]Yale University School of Medicine, CT

**598** **Novel Gene Signatures Observed in the Nonlesional Skin from European American Atopic Dermatitis Subjects Who Are Colonized with Staphyloccoccus Aureus**

**Takeshi Yoshida, PhD**[1], Jason R Myers, MS[2], John M Ashton, PhD[2], Anna De Benedetto, MD, FAAAAI[1], Steven R Gill, PhD[2], Catherine Philpot[3], Gloria David, PhD[3], Donald Y. Leung, MD, PhD, FAAAAI[4] and Lisa A. Beck, MD, FAAAAI[1], [1]Department of Dermatology, University of Rochester Medical Center, Rochester, NY, [2]University of Rochester Medical Center, Rochester, NY, [3]Rho, Inc., Chapel Hill, NC, [4]Department of Pediatrics, National Jewish Health, Denver, Colorado, USA

**599** **Staphylococcus Aureus Colonization Is Associated with Increased Peanut Allergy Sensitization in Children with Atopic Dermatitis (AD)**

**Andrea L Jones, MD**, Douglas Everett, PhD and Donald Y.M. Leung, MD, PhD, FAAAAI, National Jewish Health

**600** **Distinct Features Identified in Adult Atopic Dermatitis Subjects Based on Age of Onset**

**Peck Y. Ong, MD, FAAAAI**[1], Denise C. Babineau, PhD[2], Alice Lail, MPH[2], Keli Artis, BS[2], Gloria L. David, PhD[2], Lynda C. Schneider, MD, FAAAAI[3], Mark Boguniewicz[4], Anna De Benedetto, MD, FAAAAI[5], Jon M. Hanifin, MD, FAAAAI[6], Eric L Simpson[6], Amy S Paller[7], Emma Guttman-Yassky, MD, PhD[8], Kathleen C. Barnes, PhD, FAAAAI[9], Donald Y. Leung, MD, PhD, FAAAAI[4] and Lisa A. Beck, MD, FAAAAI[5], [1]Children's Hospital Los Angeles/USC, Los Angeles, CA, [2]Rho, Inc., Chapel Hill, NC, [3]Boston Children's Hospital, Boston, MA, [4]National Jewish Health, Denver, CO, [5]Department of Dermatology, University of Rochester Medical Center, Rochester, NY, [6]Oregon Health and Science University, Portland, OR, [7]Northwestern University Feinberg School of Medicine, Chicago, IL, [8]Icahn Medical School at the Mount Sinai Medical Center, New York, NY, [9]Division of Allergy and Clinical Immunology, Department of Medicine, Johns Hopkins University, Baltimore, MD

## Improving Self Management with Innovative Technologies

### HEDQ

3605
Sunday, March 6th, 2016, 2:00 PM - 3:15 PM

**601** **Adherence Barriers and Dulera Adherence in an Asthma Adherence Management Study: Preliminary Results**

**Andrew G. Weinstein, MD, FAAAAI**[1], Deborah A. Gentile, MD[2], Jennifer Maiolo[2], Erica Butler, BS, CCRC[3] and David P. Skoner, MD[3], [1]Jefferson Medical College, Philadelphia, PA, [2]West Penn Allegheny Health System, Pittsburgh, PA, [3]Allegheny Singer Research Institute, Pittsburgh, PA

**602** **Self-Injectable Epinephrine Adherence Survey Amongst Veterans**

**Anil M Patel, MD**, Joyce XW Lee, MD, Andrew Q Pham, MD and Joseph S Yusin, MD, FAAAAI, VA Greater Los Angeles Health Care System, Los Angeles, CA

**603** **Association Between Medication Adherence Report Scale (MARS-5) and Caregiver-Reported Inhaled Corticosteroid Use in Inner City Children with Asthma**

**Lena Truong, PharmD Candidate**[1], Mona G. Tsoukleris, PharmD, MS[1], Melissa Bellin, PhD[2], Joan Kub, PhD, MA, PHCNS, BC, FAAN[3], Cassia J. Lewis-Land, MA[4], Mary E. Bollinger, DO[5] and Arlene Butz, ScD, CRNP[6], [1]University of Maryland School of Pharmacy, Baltimore, MD, [2]University of Maryland School of Social Work, Baltimore, MD, [3]Johns Hopkins University School of Nursing, Baltimore, MD, [4]Johns Hopkins University, Baltimore, MD, [5]Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD, [6]Johns Hopkins University School of Medicine, Baltimore, MD

**604** **Remote Monitoring of Patients: Two New Smartphone App Symptom Severity Tests for Asthma and Allergic Rhinitis.**

**Steven L. Kagen, MD, FAAAAI**, The Kagen Allergy Clinic, S.C., Appleton, WI

**605** **On-Line Monitoring Tool for Recommended Data Collection of Angioedema Attacks in Patients with Hereditary Angioedema**

**Jaclyn Bjelac, MD**, Cleveland Clinic, Cleveland, OH, Erica J. Glancy, MD, Allergy & Asthma Center, Washington, DC and Cristine Radojicic, MD, Cleveland Clinic Foundation, Cleveland, OH

## Rhinosinusitis & Sleep

## IRSO

3606
Sunday, March 6th, 2016, 2:00 PM - 3:15 PM

**606** **Sleep-Disordered Breathing and Upper Airway Allergy: A Survey of Allergists' Practices**

**Dennis Shusterman, MD, MPH**, University of California, San Francisco, San Francisco, CA, Fuad M. Baroody, MD, FAAAAI, The University of Chicago, Chicago, IL, Timothy J. Craig, DO, FAAAAI, Professor, Penn State University, Department of Medicine and Pediatrics, Hershey, PA, Samuel L. Friedlander, MD, Case Western Reserve University/University Hospitals of Cleveland, Cleveland, OH, Talal M. Nsouli, MD, FAAAI, Georgetown University Medical Center, Washington, DC and Bernard Silverman, MD, FAAAAI, SUNY Downstate Medical Center, Brooklyn, NY

**607** **High Burden of Obstructive Sleep Apnea in Subgroups of Chronic Rhinosinusitis: Importance of Phenotyping Chronic Rhinosinusitis Patients for Stratifying Risk Factors for This Major Comorbidity**

**Jessica W. Hui, MD**[1], Mohamed Benhammuda[2], Vahid Kalantari[3], Arpita Mehta[3], Raj Kota[3], Pete Batra, MD[4], Phillip LoSavio, MD[4], Mary C. Tobin, MD[3] and Mahboobeh Mahdavinia, MD, PhD[3], [1]Internal Medicine/Pediatrics Division, Department of Pediatrics, Rush University Medical Center, Chicago, IL, [2]Department of Immunology and Microbiology, Allergy/Immunology Section, Rush University Medical Center, Chicago, IL, [3]Allergy/Immunology section,Department of Immunology and Microbiology, Rush University Medical Center, Chicago, IL, [4]Department of Otorhinolaryngology-Head and Neck Surgery, Rush University Medical Center, Chicago, IL

**608** **3D Quantitation of Sinonasal Inflammation Correlates with Symptoms and Disease-Specific Quality of Life in Patients with Rhinosinusitis**

**Sooyoung Lim, BS**[1], Michael Ramirez, BS[1], Katherine McKeough, BS[2], Adam Starkey, BS[3], Fawwaz Qayyum, BS[4], Jonathan Garneau, MD[5], Megan K Ford, MD[6], William F Sensakovic, PhD[7], Daniel T Ginat, MD[8], Samuell G Armato III, PhD[8], Fuad M. Baroody, MD, FAAAAI[9] and Jayant M. Pinto, MD[9], [1]Pritzker School of Medicine, [2]Section of Otolaryngology-Head and Neck Surgery, Department of Surgery, The University of Chicago, [3]Department of Radiology, The University of Chicago, [4]3Department of Radiology, ThUniversity of Chicago, [5]Mount Sinai Health System. New York, NY, [6]Department of Medicine, Thomas Jefferson University Hospital, Philadelphia, PA, [7]Department of Radiology, Florida Hospital, Orlando, FL, [8]Department of Radiology, The University of Chicago, Chicago, IL, [9]The University of Chicago, Chicago, IL

**609** **Cross-Talk Between Human Mast Cells and Epithelial Cells By IgE-Mediated Periostin Production in Eosinophilic Nasal Polyps**

**Dae Woo Kim, MD**[1,2], Marianna Kulka, PhD[3,4], A Ra Jo[5], Kyung Mi Eun[6], Narcy Arizmendi[7], Brian P. Tancowny[8], Seung-No Hong[9], Hong Ryul Jin, MD[6], Dong-Kyu Kim, MD[10], Richard F. Lockey, MD[11,12] and Seong Ho Cho, MD, FAAAAI[13,14], [1]Division of Allergy-Immunology, Department of Internal Medicine,Morsani College of Medicine, University of South Florida, Tampa, FL, [2]Department of Otorhinolaryngology-Head and Neck Surgery, Seoul National University College of Medicine, Seoul, South Korea, [3]University of Alberta, Edmonton, AB, Canada, [4]National Research Council Canada, Edmonton, AB, Canada, [5]Division of Allergy-Immunology, Department of Internal Medicine, University of South Florida Morsani College of Medicine, [6]Seoul National University Hospital and Boramae Medical Center, South Korea, [7]Department of Medical Microbiology and Immunology, University of Alberta, Edmonton, Alberta T6G 2E1, [8]Johns Hopkins University, Baltimore, MD, [9]Department of Otorhinolaryngology-Head and Neck Surgery, Boramae Medical Center, Seoul National University College of Medicine, [10]Chuncheon Sacred Heart Hospital, Hallym University College of Medicine, South Korea, [11]University of South Florida Morsani College of Medicine, Tampa, FL, [12]Division of Allergy and Immunology, Department of Internal Medicine, University of South Florida, Morsani College of Medicine, Tampa, FL, [13]University of South Florida, College of Medicine, Tampa, FL, [14]Kyung Hee University, Seoul, South Korea

**610** **Eosinophil Production of PGD2 in Aspirin-Exacerbated Respiratory Disease**

**John W. Steinke, PhD, FAAAAI**, Asthma and Allergic Disease Center, Carter Center for Immunology Research, University of Virginia, Charlottesville, VA, Julie Negri, BS, University of Virginia, Charlottesville, VA, Mary Grace Baker, MD, Yale-New Haven Hospital, New Haven, CT, Spencer Payne, MD, University of Virginia Department of Otolaryngology, Division of Rhinology and Endoscopic Sinus Surgery, Charlottesville, VA, Larry Borish, MD, FAAAAI, Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA and Xin Feng, QiLu Hospital of Shandong University, Shandong, China

SUNDAY

## T Cells and Innate Lymphoid Cells

## MAAI

3607
Sunday, March 6th, 2016, 2:00 PM - 3:15 PM

**611** **Contributions of Two Distinct T Cell Subsets (CD4+, CD8+CD60+) to Induction of Specific Memory IgE Responses**

**Charles J. Kim, BS**[1], Bryan McCarthy, BS[2], Jonathan I. Silverberg, MD, PhD, MPH[3], Seto M Chice, MS[2], Yitzchok M. Norowitz,

BS[4], Maja Nowakowski, PhD[5], Stephan Kohlhoff, MD[2,6], Rauno Joks, MD[2,7], Tamar A. Smith-Norowitz, PhD[2,8] and Helen G. Durkin, PhD[2,9], [1]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, [2]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, Brooklyn, NY, [3]Department of Dermatology, Northwestern University School of Medicine, Chicago, IL, [4]Center for Allergy and Asthma Research at SUNYDownstate Medical Center, [5]Department of Pathology, [6]Department of Pediatrics, State University of New York Downstate Medical Center, Brooklyn, NY, [7]SUNY Downstate Medical Center, Brooklyn, NY, [8]Department of Pediatrics, SUNY Downstate Medical Center, Brooklyn, NY, [9]Department of Pathology at SUNY Downstate Medical Center, Brooklyn, NY

**612 Identification of Functional Peanut-Responsive Tregs in Peanut Allergic Human Blood**

**David Chiang, MS**[1], Hugh A. Sampson, MD, FAAAAI[2] and M. Cecilia Berin, PhD[2], [1]Graduate School of Biomedical Sciences, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY

**613 Ovarian Hormones Increase Alternaria Extract Induced ILC2 Activation**

**Dawn C. Newcomb, PhD**[1], Jacqueline-Yvonne Cephus, BS[2], Matthew T. Stier, BS[3], Melissa T. Bloodworth, BS[2], Hubaida Fuseini, BS[2], Weisong Zhou, PhD[2], Shinji Toki, PhD[1] and R. Stokes Peebles Jr, MD, FAAAAI[2], [1]Division of Allergy, Pulmonary, and Critical Care Medicine, Vanderbilt University, Nashville, TN, [2]Vanderbilt University Medical Center, Nashville, TN, [3]Department of Pathology, Microbiology, and Immunology, Vanderbilt University, Nashville, TN

**614 Expression of Micro RNA-155 Is Induced By Dust Mite Extract in CD4+ T-Cells of Dust Mite Allergic Subjects and Is Inhibited By Glucocorticoids**

**Elizabeth M. Balraj**, Penn State Hershey Medical Center, Alana Roff, Penn State and Faoud T. Ishmael, MD, PhD, FAAAAI, Penn State University, Hershey, PA

**615 Identification of Tr1 Cells in a Pediatric Population**

**Jenna R. Bergerson, MD, MPH**, Ann and Robert H. Lurie Children's Hospital, Chicago, IL; Division of Allergy-Immunology, Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, Kristin A Erickson, Division of Allergy-Immunology, Department of Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL and Anne Marie Singh, Division of Allergy-Immunology, Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL; Division of Allergy & Immunology, Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern University Feinberg School of Medicine, Chicago, IL

SUNDAY

## Featured Asthma Therapy

## ADT

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Sunday, March 6th, 2016, 4:45 PM - 6:15 PM

**616 Suppression of IL-13-Associated Gene Signature in Airway Epithelial Cells By Dexamethasone Is Decreased in Poorly Controlled Asthma**

**Karlyn Pollack, BS**[1], Sanford Williams, MS[1], Kristen Wavell, BS[1], Debbie-Ann Shirley, MD[1], John W. Steinke, PhD, FAAAAI[2], Larry Borish, MD, FAAAAI[3] and W. Gerald Teague, MD[1], [1]University of Virginia, Charlottesville, VA, [2]Asthma and Allergic Disease Center, Carter Center for Immunology Research, University of Virginia, Charlottesville, VA, [3]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA

**617 Predictive Factors of Reaction Severity during Standardized Aspirin Desensitization in Aspirin-Exacerbated Respiratory Disease (AERD).**

**Kristen M. Dazy, MD**[1], Jeremy D. Waldram, MD[1], Jill Waalen, MD, MPH[2], Katharine M. Woessner, MD, FAAAAI[1], Ronald A. Simon, MD, FAAAAI[1] and Andrew White, MD, FAAAAI[1], [1]Scripps Clinic, San Diego, CA, [2]Scripps Translational Science Institute, La Jolla, CA

**618 Expression of Corticosteroid Regulated Genes By Peripheral Blood Mononuclear Cells (PBMCs) in Children from the NIH/Niaid Sponsored Asthma Phenotypes in the Inner City (APIC) Study after One Year of Guidelines-Based Therapy**

**Elena Goleva, PhD**[1], Leisa P. Jackson, BS[1], Baomei Shao, BS[2], Zheng Hu, BS[2], Michelle A. Gill, MD, PhD[2], Denise C. Babineau, PhD[3], Andrew H. Liu, MD, FAAAAI[1] and Donald Y.M. Leung, MD, PhD, FAAAAI[4], [1]National Jewish Health, Denver, CO, [2]UT Southwestern Medical Center, Dallas, TX, [3]Rho Federal Systems Division Inc., Chapel Hill, NC, [4]Department of Pediatrics, National Jewish Health, Denver, CO

**619 SK Potassium Channel Antagonists As Novel Bronchodilators**

**Robert Brenner, PhD**[1], Edward G. Brooks, MD[2], Adriana P. Chapparo, MS[3], Hui-Hsiu Chuang, BA[3], Derek J. Wallace[3], Vladislav Bugay, PhD[3] and Bin Wang, PhD[4], [1]UT Health Science Center San Antonio, San Antonio, TX, [2]Univ. Texas Health Science Center San Antonio, San Antonio, TX, [3]UT Health Science Center San Antonio, San Antonio, [4]Baylor University, Waco, TX

**620 Dupilumab Suppresses Fractional Exhaled Nitric Oxide (FeNO) and Biomarkers of Type 2 Inflammation in Adult Patients with Persistent Uncontrolled Asthma Despite Use of Medium-to-High Dose Inhaled Corticosteroids Plus Long-Acting Beta-Agonists (ICS/LABAs)**

**Brian N. Swanson, PhD**[1], Ariel Teper, MD[1], Jennifer D. Hamilton, PhD[2], Bingzhi Zhang, PhD[1], Heribert Staudinger, MD[1], Nian Tian[1], Ying Wang, PhD[1], Jeffrey E. Ming, MD, PhD[1], Neil M.H. Graham, MD[2] and Gianluca Pirozzi, MD, PhD[1], [1]Sanofi, Bridgewater, NJ, [2]Regeneron Pharmaceuticals, Inc., Tarrytown, NY

## Research Advancement in Allergy and Inflammation

## BCI

3802
Sunday, March 6th, 2016, 4:45 PM - 6:15 PM

**621 Anti-Mcam Monoclonal Antibody PRX003 Inhibits the Unique Migratory Potential of Pathogenic IL-17–Producing T Cells**

**Kenneth Flanagan**, Stephen J. Tam, Lauri Li, Philip J. Dolan, Robin M. Barbour, Jeffrey N. Higaki, Yue Liu, Tarlochan Nijjar, Michael Skov, Wagner Zago, Ted A. Yednock, Gene F. Kinney and Dan Ness, Prothena Biosciences Inc, South San Francisco, CA

**622 IL-10 Differentially Regulates IgE and IgG4 Production through Indirect Effects on Naïve B Cells**

**Adora A. Lin, MD, PhD**, NIAID, National Institutes of Health, Bethesda, MD and Thomas B. Nutman, MD, National Institutes of Health, Bethesda, MD

**623 The Histone Deacetylase Inhibitor Trichostatin a (TSA) Suppresses Alternaria Extract-Induced Murine Innate Allergic Inflammation By Blocking Group 2 Innate Lymphoid Cell (ILC2) Activation**

**Shinji Toki, PhD**[1], Kasia Goleniewska, MS[1], Sara Reiss, MS[1], Weisong Zhou, PhD[1], Dawn C. Newcomb, PhD[1,2], Melissa H. Bloodworth, BS[2], Matthew T. Stier, BS[2], Kelli L. Boyd, PhD[2], Vasiliy V. Polosukhin, MD, PhD[1], Sriram Subramaniam, MB, BS[3] and R. Stokes Peebles, MD[1,2], [1]Division of Allergy, Pulmonary, and Critical Care Medicine, Vanderbilt University, Nashville, TN, [2]Department of Pathology, Microbiology, and Immunology, Vanderbilt University, Nashville, TN, [3]Department of Neurology, Vanderbilt University, Nashville, TN

**624 Impact of Skin Damage on Intestinal Immune Environment and Susceptibility to Food Allergy**

**Ana Belen Blazquez, PhD**, Ichan School of Medicine at Mount Sinai, NY and Maria Cecilia Berin, Associate Professor, Icahn School of Medicine at Mount Sinai, NY

**625 G2A Signaling Dampens Colitic Inflammation Via Production of Ifngamma Which Drives Anti-Inflammatory Monocyte Maturation**

**S. Courtney Frasch, PhD**[1], Eoin McNamee, PhD[2], Doug Kominsky, PhD[2], Claudia Jakubzick, PhD[1], Sean Colgan, PhD[2] and Donna Bratton, MD[3], [1]National Jewish Health, [2]University of Colorado at Denver, [3]National Jewish Health, Denver, CO

## Hazardous Exposures in Public and Work Places

## EORD

3803
Sunday, March 6th, 2016, 4:45 PM - 6:15 PM

**626 Air and Surface Quantification of Peanut Ara h 2 Concentrations in Common Public Settings**

**Jay Jin, MD, PhD**, John W. Yunginger, MD, FAAAAI and Nancy L. Ott, MD, FAAAAI, Mayo Clinic, Rochester, MN

**627 Urinary Triclosan Levels and Asthma Exacerbations in Inner-City School Children**

**Marissa Hauptman, MD, MPH**[1,2], Wanda Phipatanakul, MD, MS[1,3], Iny Jhun, ScD[1,3], Carter Petty, MA[4], Diane R. Gold, MD, MPH[5,6] and Jessica Rabe Savage, MD, MHS[3,7], [1]Boston Children's Hospital, Boston, MA, [2]Region 1 New England Pediatric Environmental Health Specialty Unit, Boston, MA, [3]Harvard Medical School, Boston, MA, [4]Clinical Research Center, Boston Children's Hospital, Boston, MA, [5]Channing Laboratory, Brigham and Women's Hospital, Boston, MA, [6]Department of Environmental Health, Harvard T.H. Chan School of Public Health, Boston, MA, [7]Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA

**628 Effect of Interaction Between Tobacco Smoke and Particulate Matter on Childhood Airway Hyperresponsiveness**

**Song-I Yang**[1], Young-Ho Kim[2], Hyun-Ju Cho[2], Hyo Bin Kim[3], So-Yeon Lee, MD[1] and Soo-Jong Hong[2], [1]Department of pediatrics, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, [2]Department of Pediatrics, Childhood Asthma Atopy Center, Environmental Health Center, Asan Medical Center, University of Ulsan College of Medicine, [3]Department of Pediatrics, Sanggye Paik Hospital, Inje University College of Medicine

**629 School Air Cleaner Intervention to Improve Indoor Air Quality for Children with Asthma**

**Iny Jhun, ScD**[1], Jonathan M. Gaffin, MD, MMSc[1,2], Brent A. Coull, PhD[3], Michelle F. Huffaker, MD[1,4], Carter Petty, MA[5], William J. Sheehan, MD[1,6], Sachin N. Baxi, MD[1,7], Diane R. Gold, MD, MPH[8,9], Petros Koutrakis, PhD[10] and Wanda Phipatanakul, MD, MS[11], [1]Harvard Medical School, Boston, MA, [2]Division of Respiratory Diseases, Boston Children's Hospital, Boston, MA, [3]Department of Biostatistics, Harvard School of Public Health, Boston, MA, [4]Brigham and Women's Hospital, Boston, MA, [5]Clinical Research Center, Boston Children's Hospital, Boston, MA, [6]Boston Children's Hospital, Boston, MA, [7]Division of Allergy and Immunology, Boston Children's Hospital, Boston, MA, [8]Department of Environmental Health, Harvard T.H. Chan School of Public Health, Boston, MA, [9]Channing Laboratory, Brigham and Women's Hospital, Boston, MA, [10]Department of Environmental Health, Harvard School of Public Health, Boston, MA, [11]Division of Allergy and Immunology, Boston Children's Hospital

**630 Dendritic Cell Differential Gene Expression Associated with the Irritant Versus Allergenic Effect of TMA Exposure**

**Debajyoti Ghosh, PhD**, University of Cincinnati College of Medicine, Cincinnati, OH, Ian P. Lewkowich, PhD, Cincinnati Children's Hospital Medical Center, Division of Immunobiology, Cincinnati, OH and Jonathan A Bernstein, MD, University of Cincinnati, Cincinnati, OH

## Immunotherapy for Food Allergy: Mechanism and Clinical Outcome

## FADDA

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Sunday, March 6th, 2016, 4:45 PM - 6:15 PM

**631 Sublingual Immunotherapy (SLIT) Regulates the Expression of Transcription Factors and Interleukins in Peanut Allergic Children**

**Ping Ye, PhD**[1], Michael D. Kulis Jr, PhD[1], Rishu Guo, PhD[1], Edwin H. Kim, MD, MS[1], Brian P. Vickery, MD, FAAAAI[2] and A. Wesley Burks, MD, FAAAAI[1], [1]University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, Chapel Hill, NC

**632 Peanut and Arah2 Specific Immunoglobulin E Is Predictive of Sustained Unresponsiveness Following Peanut Oral Immunotherapy**

**Alanna J. Hickey, BS**[1], Yamini Virkud, MD, MA, MPH[2], Cecilia Washburn, BS[3], Neal Smith, BS[3], Sarita U. Patil, MD[2] and Wayne Shreffler, MD, PhD[4], [1]Food Allergy Center, Massachusetts General Hospital, Boston, MA, [2]Department of Allergy and Immunology, Massachusetts General Hospital, Boston, MA, [3]Department of Rheumatology, Allergy, and Immunology, Massachusetts General Hospital, Charlestown, MA, [4]Division of Allergy and Immunology, Department of Pediatrics, Massachusetts General Hospital and Harvard Medical School, Boston, MA

**633 Omalizumab Facilitates Rapid Oral Desensitization for Peanut Allergy**

**Andrew J. Macginnitie, MD, PhD**[1,2], Rima A. Rachid, MD, FAAAAI[1,2], Antonella Cianferoni, MD, PhD, FAAAAI[3,4], Tina L.R. Dominguez[5], Jennifer Heimall, MD[3,4], Melanie M. Makhija, MD, MS[6], Rachel Robinson, MD[6], Sara V. Little[1], Hana Gragg[1], Paul Lakin[1], Tanya Logvinenko, PhD[1], Jennifer S. LeBovidge, PhD[1], Jennifer Koss[6], Megan T. Ott[3], Courtney B. Rooney[3], Dale T. Umetsu, MD, PhD, FAAAAI[7,8], Jacqueline A. Pongracic, MD, FAAAAI[6], Jonathan M. Spergel, MD, PhD, FAAAAI[3,4], Kari C. Nadeau, MD, PhD, FAAAAI[9] and Lynda C. Schneider, MD, FAAAAI[1,2], [1]Boston Children's Hospital, Boston, MA, [2]Harvard Medical School, Boston, MA, [3]The Children's Hospital of Philadelphia, Philadelphia, PA, [4]Perelman School of Medicine, [5]Stanford University, Stanford, CA, [6]Ann and Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [7]University of California, San

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Francisco, San Francisco, CA, [8]Genentech, South San Francisco, CA, [9]Stanford University School of Medicine, Stanford, CA

**634 Desensitization to Walnut and Test Tree Nuts during a Double Blind, Placebo Controlled Walnut Oral Immunotherapy Trial**

**Amy M. Scurlock, MD**[1], Mallikarjuna R. Rettiganti, PhD[2], Anne M. Hiegel, RN, CRC[3], Amika Sood[4,5], Caroline Daniel[6], Sarah E. Beckwith[6], Jessica L Bettis[6], James D. Sikes[5], Suzanne E. House[2], Jennifer N. Payne[5], Robbie D. Pesek, MD[2], Tamara T. Perry, MD[5], Peggy L. Chandler, APN[3,5], Josh L. Kennedy, MD[2,5], Chunqiao Luo, MS[2], Lynn Christie, MS, RD, LD[3] and Stacie M. Jones, MD[5], [1]Slot 512-13, UAMS/AR Children's Hospital, Little Rock, AR, [2]University of Arkansas for Medical Sciences, Little Rock, AR, [3]Arkansas Children's Hospital, Little Rock, AR, [4]University of Arkansas for Medical Sciences/Arkansas Children's Hospital, [5]UAMS/AR Children's Hospital, Little Rock, AR, [6]Arkansas Children's Hospital Research Institute, Little Rock, AR

**635 Role of T Cell Sub-Populations in Food Allergy**

**Luis Diego Archila Diaz, PhD**[1], David K. Jeong, MD[2], David Robinson, MD[3], Mary L. Farrington, MD[4], Erik R. Wambre, PhD, MBE[1] and William W. Kwok, PhD[5], [1]Benaroya Research Institute, Seattle, WA, [2]Virginia Mason Medical Center, Kirkland, WA, [3]Virginia Mason Medical Center, [4]Virginia Mason Medical Center, Seattle, WA, [5]Benaroya Research Institute at Virginia Mason, Seattle, WA

# Unleashing the Power of Health Information Technology

## HEDQ

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Sunday, March 6th, 2016, 4:45 PM - 6:15 PM

**636 A Simple Intervention Significantly Improves Electronic Documentation of Medication Reactions in the Allergy Clinic**

**Samantha K. Lin, MD**[1], Charlie P. Lin, ScB[2] and Faoud T. Ishmael, MD, PhD, FAAAAI[1,2], [1]Penn State Hershey Medical Center, Hershey, PA, [2]Penn State University College of Medicine, Hershey, PA

**637 Automated Allergy and Infectious Disease Pharmacy Consult to Limit the Use of Aztreonam in Patients with Reported Beta-Lactam Allergy**

**Fonda Jiang, MD**, Rupali Jain, PharmD, Paul S. Pottinger, MD, Andrew G. Ayars, MD and Matthew C. Altman, MD, University of Washington, Seattle, WA

**638 Automated Chart Review for Asthma Ascertainment: An Innovative Approach for Asthma Care and Research in the Era of Electronic Medical Record**

**Chung I. Wi, MD**[1], Sunghwan Sohn, PhD[2], Euijung Ryu, PhD[2], Hongfang Liu, PhD[2], Miguel A. Park, MD[3] and Young J. Juhn, MD, MPH[1], [1]Dept of Pediatric and Adolescent Medicine, Mayo Clinic, Rochester, MN, [2]Mayo Clinic, Rochester, MN, [3]Department of Internal Medicine: Division of Allergic Diseases, Mayo Clinic, Rochester, MN

**639 Reported Incidence of Hypersensitivity Reactions to Non-Steroidal Anti-Inflammatory Drugs in the Electronic Health Record**

**Kimberly G. Blumenthal, MD**[1,2], Kenneth H. Lai, MA[3], Paige G. Wickner, MD, MPH[4], Foster R. Goss, DO[5], Diane L. Seger, RPh[3,6], Sarah P. Slight, MPharm, PhD, PGDip[6,7], Maxim Topaz, RN, PhD[2,6], Frank Y. Chang, MSE[3,6] and Li Zhou, MD, PhD[2,6], [1]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [2]Harvard Medical School, Boston, MA, [3]Partners HealthCare System, Boston, MA, [4]Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Chestnut Hill, MA, [5]University of Colorado, Aurora, CO, [6]Brigham and Women's Hospital, Boston, MA, [7]Durham University, Durham, United Kingdom

# Best of IRSO

## IRSO

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Sunday, March 6th, 2016, 4:45 PM - 6:15 PM

**640 Clinical and Environmental Factors Associated with Habitual Snoring in the Cincinnati Childhood Allergy and Air Pollution Study (CCAAPS)**

**Jennifer A. Kannan, MD**[1], Cole Brokamp, BS[1], David I. Bernstein, MD, FAAAAI[1], James E. Lockey, MD, MS, FAAAAI[1], Manuel S. Villareal, MD, FAAAAI[1], Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[2], Grace K. LeMasters, PhD[1] and Patrick Ryan, PhD[3], [1]University of Cincinnati College of Medicine, Cincinnati, OH, [2]Cincinnati Children's Hospital, Cincinnati, OH, [3]Cincinnati Children's Hospital Medical Center, Cincinnati, OH

**641 Randomised Placebo-Controlled Trial of Grass Pollen Allergen Tablet Immunotherapy for Seasonal Rhinitis: Clinical and Surrogate Outcomes and Early Time Course of Immunologic Changes**

**Esther H. Steveling, MD**[1], Mongkol Lao-Araya, MD[1], Christopher Koulias, MD[1], Merajur Chowdhury[1], Guy Scadding, MRCP[1], Aarif Eifan, MD[1], Alina Dumitru, MD, PhD[1], Martin J. Penagos Paniagua, MD[1], Mohamed H. Shamji, BSc, MSc, PhD, FAAAAI[1] and Stephen R. Durham, MA, MD, FRCP[2], [1]Imperial College London, London, United Kingdom, [2]NHLI Imperial College London, London, United Kingdom

**642 Microparticles in Nasal Lavage; Potential Biomarkers for Chronic Rhinosinusitis and Aspirin Exacerbated Respiratory Disease**

**Toru Takahashi, MD, PhD**[1], James E. Norton, MS[2], Lydia Suh, BSc[1], Roderick G. Carter, BSc[1], Robert C. Kern, MD[3], Bruce K. Tan, MD[3], Stephanie S. Smith, MD[3], Kevin C. Welch, MD[3], David B. Conley, MD[3], Anju T. Peters, MD[1], Leslie C. Grammer, MD[1], Kathleen E. Harris, BSc[1], Whitney W. Stevens, MD, PhD[1], Kathryn E. Hulse, PhD[4], Bruce S. Bochner, MD, FAAAAI[1], Atsushi Kato, PhD[1] and Robert P. Schleimer, PhD[1], [1]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, [3]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL, [4]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

**643 SIRT1 Attenuates Nasal Polypogenesis By Suppressing Epithelial-to-Mesenchymal Transition**

**Hyun-Woo Shin**[1,2], Mingyu Lee[1] and Dae Woo Kim, MD[3,4], [1]Seoul National University College of Medicine, Department of Pharmacology and Biomedical Sciences, South Korea, [2]Seoul National University Hospital, Department of Otorhinolaryngology-Head and Neck Surgery, [3]Seoul National University Hospital and Boramae Medical Center, South Korea, [4]Department of Otorhinolaryngology-Head and Neck Surgery, Seoul National University College of Medicine, Seoul, South Korea

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**644** **Thymic Stromal Lymphopoietin Controls Prostaglandin D2 Generation in Aspirin-Exacerbated Respiratory Disease**
**Kathleen M. Buchheit, MD**[1,2], Katherine N. Cahill, MD[1,2], Howard Katz, PhD[1,2], Katherine Murphy[3], Chunli Feng, MD[4], Kathleen Lee-Sarwar[1,2], Juying Lai[1], Neil Bhattacharyya, MD[2,5], Elliot Israel, MD, FAAAAI[5], Joshua A. Boyce, MD, FAAAAI[1,2] and Tanya M. Laidlaw, MD, FAAAAI[4], [1]Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA, [2]Harvard Medical School, Boston, MA, [3]Brigham and Women's Hospital, [4]Brigham and Women's Hospital, Division of Rheumatology, Immunology, and Allergy, Boston, MA, [5]Brigham and Women's Hospital, Boston, MA

## Mechanisms of Allergic Inflammation

## MAAI

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Sunday, March 6th, 2016, 4:45 PM - 6:15 PM

**645** **Role of Lysophosphatidylcholine in Allergic Airway Disease Manifestation**
**Preeti Bansal**, CSIR Institute of Genomics and Integrative Biology, New Delhi, India, Shailendra N. Gaur, MD, FAAAAI, University Of Delhi, Delhi, India and Naveen Arora, PhD, CSIR- Institute of Genomics and Integrative Biology, Delhi, India

**646** **Oxidative Stress Responses to the Fungal Allergen Alternaria Mediate IL-33 Secretion By Airway Epithelial Cells and Type 2 Immunity in the Airways**
**Koji Iijima, PhD**[1], Takao Kobayashi, PhD[1], Masaru Uchida, MD[1], Erik L. Anderson[1], Diane Squillace[1], Gail M. Kephart[1], Scott M. O'Grady, PhD[2] and Hirohita Kita, MD[1], [1]Mayo Clinic, Rochester, MN, [2]University of Minnesota, St. Paul, MN

**647** **IgG4 Component Allergens Are Preferentially Increased in Eosinophilic Esophagitis As Compared to Patients with Milk Anaphylaxis or Galactose-Alpha-1,3-Galactose Allergy**
**Jeffrey M. Wilson, MD, PhD**[1], Alexander J. Schuyler, BS, BA[1], Anubha Tripathi, MD[1], Elizabeth A. Erwin, MD[2], Scott P. Commins, MD, PhD[1] and Thomas A.E. Platts-Mills, MD, PhD, FAAAAI FRS[3], [1]Division of Asthma, Allergy and Immunology, University of Virginia, [2]Nationwide Children's Hospital, Columbus, OH, [3]University of Virginia Asthma and Allergic Diseases Center, Charlottesville, VA

**648** **Microrna-203 Regulates Aryl Hydrocarbon Receptor in Cockroach Mediated Allergic Responses**
**Yilin Zhao, PhD**, Lipeng Qiu, PhD, Danh Do, PhD, Heng Wang, MD, PhD, Xiaopeng Liu, PhD and Peisong Gao, MD, PhD, Division of Allergy & Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD

**649** **Aspirin Exacerbated Respiratory Disease Involves a Cysteinyl Leukotriene-Driven IL-33-Mediated Mast Cell Activation Pathway**
**Tao Liu, PhD**[1,2], Yoshihide Kanaoka, MD, PhD[3], Nora A. Barrett, MD, FAAAAI[3], Chunli Feng, MD[1], Denise Garofalo[4], Juying Lai[3], Kathleen M. Buchheit, MD[3], Neil Bhattacharyya, MD[5], Tanya M. Laidlaw, MD[1], Howard Katz, PhD[3,6] and Joshua A. Boyce, MD, FAAAAI[3,6], [1]Brigham and Women's Hospital, Division of Rheumatology, Immunology, and Allergy, Boston, MA, [2]Harvard Medical School, Brigham and Womens Hospital, Boston, MA, [3]Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA, [4]Brigham and Women's Hospital, [5]Brigham and Women's Hospital, Boston, MA, [6]Harvard Medical School, Boston, MA

## Best of Allied Health

## Allied Health

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Sunday, March 6th, 2016, 4:45 PM - 6:15 PM

**650** **Pilot Study of an Interdisciplinary Mobile Model to Deliver Asthma Care to Inner-City School Children in the Pittsburgh Region.**
**Jennifer Elliott, PharmD**[1], Najwa Al-Ghamedi, PharmD[1], Paige E. Dewhirst, MPH[2], Joseph Lombardo, PharmD[3], David P. Skoner, MD[4] and Deborah A. Gentile, MD[4], [1]Duquesne University, [2]American Lung Association, [3]Allegheny Health Network, [4]Allegheny Health Network, Pittsburgh, PA

**651** **Exploring Correlations Between Cross-Reactive Tree Nuts in Multiple Food Allergic Patients**
**Annie Chang**[1], Whitney Block, MSN, CPNP, FNP-BC[2], Jennifer B Bollyky, MD[2], R. Sharon Chinthrajah, MD[3], Kari C. Nadeau, MD, PhD, FAAAAI[4] and Arnon Elizur, MD[2], [1]Stanford University, [2]Stanford University, Stanford, CA, [3]Pediatrics, Division of Allergy, Immunology and Rheumatology, Stanford University, Stanford, CA, [4]Pediatric Allergy Immunology, Stanford University School Medicine, Stanford, CA

**652** **Participant's Experience with Food Allergy Clinical Trials**
**Jennifer Fishman, RN, BSN**[1], Jaime Ross, RN, MSN[2], Sally A. Noone, RN, MSN[3], Beth D. Strong, RN, CCRC[4], Zara Atal[5], Carly Ehritz, RN, MSN[5], Jessica Gau, NP CRC[6] and Julie Wang, MD, FAAAAI[2], [1]Ichan School of Medicine at Mount Sinai, New York, NY, [2]The Icahn School of Medicine at Mount Sinai, New York, NY, [3]Icahn School of Medicine at Mount Sinai, New York, NY, [4]Icahn School of medicine at Mount Sinia, New York, NY, [5]Icahn School of Medicine at Mt. Sinai, [6]Mt. Sinai School Medicine, New York, NY

**653** **Parent's Perception of Food Allergy Management in Schools**
**Jaime Ross, RN, MSN**[1], Jennifer Fishman, RN, BSN[2], Sally A. Noone, RN, MSN[3], Beth D. Strong, RN, CCRC[4], Zara Atal[5], Carly Ehritz, RN, MSN[5], Jessica Gau, NP, CRC[6] and Julie Wang, MD, FAAAAI[1], [1]The Icahn School of Medicine at Mount Sinai, New York, NY, [2]Ichan School of Medicine at Mount Sinai, New York, NY, [3]Icahn School of Medicine at Mount Sinai, New York, NY, [4]Icahn School of medicine at Mount Sinia, New York, NY, [5]Icahn School of Medicine at Mt. Sinai, [6]Mt. Sinai School Medicine, New York, NY

**654** **Impact of Endogenous IgG Levels on Immunoglobulin Replacement Efficiency in Primary Immunodeficiency (PID)**
**Stephen R. Jolles, MD, PhD**[1], Mark J. Ponsford[1], John-Philip Lawo, PhD[2] and Mikhail Rojavin, PhD[3], [1]University Hospital of Wales, Cardiff, United Kingdom, [2]CSL Behring GmbH, Marburg, Germany, [3]CSL Behring, King of Prussia, PA

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## Asthma Diagnosis

## ADT

4201
Monday, March 7th, 2016, 9:45 AM - 10:45 AM

**655** **Relationship Between Exhaled Breath Temperature and Ear Temperature in Otherwise Healthy Persons during Febrile Infectious Illness**
**Todor A. Popov, MD, PhD**[1], Tanya Kralimarkova[1] and Lawrence M. DuBuske, MD, FAAAAI[2,3], [1]Sofia Medical University, Sofia,

Bulgaria, [2]George Washington University School of Medicine, Washington, DC, [3]Immunology Research Institute of New England, Gardner, MA

**656 Pulmonary Embolism in a Patient with Factor V Leiden Mutation, Presenting with Symptoms of Asthma Exacerbation**

**Anil Nanda, MD**, Asthma and Allergy Center, Lewisville, TX; UT-Southwestern Medical Center, Dallas, TX and Anita N. Wasan, MD, Allergy and Asthma Center, Lansdowne, VA

**657 The Asthma Control Test (ACT): Does It Reliably Assess Asthma Control in African American Adolescents with Persistent Asthma?**

**Allison J. Burbank, MD**[1], Katherine Mills, BA[2], Haibo Zhou, PhD[3], Qingning Zhou[3] and Michelle L. Hernandez, MD[4], [1]UNC School of Medicine, Chapel Hill, NC, [2]University of North Carolina Chapel Hill School of Medicine, Chapel Hill, NC, [3]University of North Carolina at Chapel Hill, School of Public Health, [4]University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC

**658 Characterization of Urge to Cough in Patients with the Common Cold: Results from a US Internet Survey**

**Peter Dicpinigaitis, MD**[1], Howard M. Druce, MD, FAAAAI[2], Ron Eccles, BSc, PhD, DSc[3], Ronald Turner, MD[4], Maryann Attah, MPH[5] and Ashley L. Mann, MS[5], [1]Albert Einstein College of Medicine, [2]Rutgers-NJ Medical School, [3]Cardiff University Cardiff, [4]University of Virginia, Charlottesville, VA, [5]Pfizer Consumer Healthcare

**659 Sterility Practices in Bronchodilator Administration in Allergy Office Settings**

**Kabir S. Chhabra**[1], Johanna Wickemeyer[1,2], Sudhir Sekhsaria, MD[1] and Naba A. Sharif, MD[1], [1]Asthma, Allergy & Sinus Center, Waldorf, MD, [2]Georgetown University School of Medicine, Washington, DC

**660 Respiratory Disease Evaluation Using Peak Flow Measurement and Environmental Exposure Analysis in Rural Peru**

**Heather N. Hartman, MD** and Paula E North, MD, PhD, Medical College of Wisconsin, Milwaukee, WI

**661 Total Serum IgE Levels in Asthmatic Children**

**Cristine S. Rosario, MD**[1], Nelson A. Rosario, MD, PhD, FAAAAI[2], Herberto J. Chong Neto, MD, PhD, FAAAAI[3], Carlos Antonio Riedi, MD, PhD[4] and Monica Lima[3], [1]Hospital de Clínicas, Federal University of Parana - Brazil, curitiba, Brazil, [2]Federal University of Parana, Curitiba, Brazil, [3]Federal University of Parana, Brazil, [4]Federal University of Paraná, Curitiba, Brazil

**662 Serum Tryptase and Sputum Cellular Profile in Relation to Asthma Severity**

**Ghada E. Fouda**[1], Magd M. Galal[2], Mona H. Alrayes[1] and El-Desouki E. Fouda, MD, FAAAAI[1], [1]Al-Azhar University Allergy & Immunology Center, Cairo, Egypt, [2]Faculty of Medicine for Girls, Al Azhar University, Cairo, Egypt

**663 Validation of an EHR Algorithm to Identify Adult and Pediatric Patients with Asthma in West Chicago.**

**Ashvini Biswas, MD**[1,2], Byung H. Yu, MD[2], Christopher D. Codispoti, MD, PhD[1] and Sindhura Bandi, MD[1], [1]Department of Immunology and Microbiology, Allergy/Immunology Section, Rush University Medical Center, Chicago, IL, [2]Department of Pediatrics, Division of Allergy and Immunology, John H. Stroger Jr. Hospital of Cook County, Chicago, IL

**664 The Allergist's Role in Detection of Severe Alpha-1 Antitrypsin Deficiency**

**Theodore E. Kelbel, MD**, Penn State Hershey Medical Center, Hershey, PA, Darren Morris, Penn State Hershey College of Medicine, Deirdre Walker, Medical University of South Carolina and Timothy J. Craig, DO, FAAAAI, Professor, Penn State University, Department of Medicine and Pediatrics, Hershey, PA

**665 The Reference Value of Peak Expiratory Flow Rate of Children in China**

Chuangli Hao and Chuangli Hao, Children's Hospital Affiliated to Soochow University.

**666 Quantitative Validity of the Sgrq in Patients with Severe Asthma**

**Linda Nelsen**, GlaxoSmithKline, King of Prussia, PA, Sarah Cockle, GlaxoSmithKline, Value Evidence and Outcomes, Stockley Park, United Kingdom, Miriam Kimel, Evidera, Bethesda, MD, Frank C. Albers, MD, PhD, GlaxoSmithKline, Research Triangle Park, NC and Paul Jones, GlaxoSmithKline, Stockley Park, United Kingdom

**667 Comparison of Clinical Usefulness Between Hypertonic Saline-Induced Sputum and Exhaled Breath Condensate in Asthma Patients**

**Terufumi Shimoda, MD**[1], Yasushi Obase, MD[2], Michiyoshi Imaoka, MD[3], Reiko Kishikawa, MD[3] and Tomoaki Iwanaga, MD[1], [1]The National Hospital Organization Fukuoka Hospital, Fukuoka, Japan, [2]Nagasaki University, Nagasaki, Japan, [3]Fukuoka National Hospital, Fukuoka, Japan

**668 Bronchodilator Reversibility Testing Methods By Practicing Allergists**

**Jaydeep S. Sangha**[1], Larick S. David, MSc[1,2], Sudhir Sekhsaria, MD[1] and Naba A. Sharif, MD[1], [1]Asthma, Allergy & Sinus Center, Waldorf, MD, [2]Georgetown University School of Medicine, Washington, DC

**669 Classification of Asthma in a Resident Based Primary Care Clinic**

**Sima J. Patel**[1], Saritha Kartan[2], Yulanka Castro[1] and Mirela Feurdean[1], [1]Rutgers NJMS, [2]Columbia University

**670 Comparison of Non-Invasive Methods for Detecting Exercise-Induced Bronchoconstriction in Asthmatic Children**

**Heysung Baek, MD, PhD**, Department of Pediatrics, Hallym University College of Medicine, Seoul, South Korea, Kenji Izuhara, MD, PhD, Division of Medical Biochemistry, Department of Biomolecular Sciences, Saga Medical School, Saga City, Japan, Man-Yong Han, MD, CHA University Bundang Medical Center, Seongnam, South Korea, Sun-Hee Choi, MD, PhD, Gangdong Kyung Hee University Hospital, Seoul, South Korea, Youn Ho Shin, MD, Department of Pediatrics, CHA Gangnam Medical Center, CHA University School of Medicine, Seoul, Korea, South Korea and Jung Won Yoon, Department of Pediatrics, Myongji Hospital, Gyeonggi-do, South Korea

**671 Exhaled Nitric Oxide Utility in Predicting Asthma Exacerbations**

**Jamie A. Rosenthal, MD**[1] and Leonard C. Altman, MD[1,2], [1]University of Washington, [2]Northwest Asthma and Allergy Center, Seattle, WA

**672 Association Between Asthma Control Test, Peripheral Eosinophil Counts, and Serum Total Immunoglobulin E Levels in Severe Asthmatics**

**Santiago Alvarez Arango, MD**, Jennifer Toh, MD, Denisa Ferastraoaru, MD, MSc, Gabriele de Vos, MD, M.Sc., David L. Rosenstreich, MD, FAAAAI and Sunit P. Jariwala, MD, Albert Einstein/Montefiore Medical Center, Bronx, NY

**673 Estimated Prevalence of AERD in Patients with Diagnosis of Asthma Identified with a Symptom-Based Assessment Questionnaire**

**Ayobami Akenroye, MD, MPH**[1,2], Niharika Thota, MD[3], Rebecca Koransky, MD[4], Anna Tavdy, BA[5], Denisa Ferastraoaru, MD, MSc[6,7] and Elina Jerschow, MD, MSc[4], [1]Jacobi Medical Center, Bronx, NY, [2]Albert Einstein College of Medicine, Bronx, NY, [3]Montefiore Medical Center, Bronx, NY, [4]Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY, [5]New York Medical Center, NY, [6]Division of Allergy and Immunology, Department of Medicine, Montefiore Medical Center, Bronx, NY, [7]Albert Einstein/Montefiore Medical Center, Bronx, NY

**674 Asthma Control Test Composite Score May Not be Superior to Assessments of Rescue Inhaler Use for Predicting Severe Asthma Exacerbations**

**Sonia Cajigal, MD**[1], Edward L Peterson, PhD[2], Karen E Wells, MPH[2], Edward M. Zoratti, MD, FAAAAI[3], David E Lanfear,

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MD, MS[2], Max Seibold, PhD[4], Kumar Rajesh, MD, MS, FAAAAI[5], Esteban Gonzalez Burchard, MD, MPH[6] and L. Keoki Williams, MD, MPH, FAAAAI[3], [1]Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, [2]Henry Ford Health System, [3]Henry Ford Health System, Detroit, MI, [4]National Jewish Health, Denver, CO, [5]Pediatric allergy, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [6]Department of Medicine, University of California, San Francisco, San Francisco, CA

**675 Leukotriene C4 Synthase Expression in Sputum Correlates with Disease Severity Amongst Patients with Different Clinical Phenotypes of Asthma**

**Mary Grace Baker, MD**, Yale-New Haven Hospital, New Haven, CT, John W. Steinke, PhD, FAAAAI, Asthma and Allergic Disease Center, Carter Center for Immunology Research, University of Virginia, Charlottesville, VA, Larry Borish, MD, FAAAAI, Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA and Geoffrey L. Chupp, MD, Yale University, New Haven, CT

**676 Cholinergic Modulation in Elderly Asthmatic Patients Compared to Young Asthmatic and Elderly Non-Asthmatic Patients.**

**Marie-Eve Boulay, MSc**, Francine Deschesnes, BSc, Paul Poirier, MD, PhD and Louis-Philippe Boulet, MD, Institut Universitaire de Cardiologie et de Pneumologie de Québec, Quebec, QC, Canada

**677 Exacerbation Reduction in Severe Eosinophilic Asthma Based on Eosinophil Thresholds**

**Steven W Yancey**[1], Bhabita Mayer[2], Necdet Gunsoy, PhD[2], Oliver N Keene[2], Eugene G Bleecker[3], Christopher Brightling[4] and Ian Pavord[5], [1]GlaxoSmithKline, Respiratory Medical Franchise, Research Triangle Park, NC, [2]GlaxoSmithKline, Clinical Statistics, Stockley Park, United Kingdom, [3]Wake Forest School of Medicine, Center for Genomics and Personalized Medicine, Winston-Salem, NC, [4]University Hospitals of Leicester NHS Trust, Institute for Lung Health, Leicester, United Kingdom, [5]University of Oxford, Respiratory Medicine, Oxford, United Kingdom

**678 Baseline Sputum Parameters in Normals, Asthmatics, COPD, Atopics, Smokers and Ex-Smokers**

**Neil E Alexis, PhD**[1], Heather Wells[2], Eden Siperly[2], Ben Goldstein[2], Ashley g Henderson, MD[3] and David B. Peden, MD, MS, FAAAAI[4], [1]Center Environmental Med. Asthma/Lung Biology, Chapel Hill, NC, [2]UNC CEMALB, [3]UNC Chapel Hill, [4]Office #544, Campus Box 7310, University of North Carolina at Chapel Hill School Medicine, NC

**679 Bronchodilator Reversibility Testing Selection Criteria and Interpretation in Allergy Office Settings**

**Rithik Binoy**, Shruti Anant, Sudhir Sekhsaria, MD and Naba A. Sharif, MD, Asthma, Allergy & Sinus Center, Waldorf, MD

**680 Analysis of Salivary Micro-RNAs and Allergen Profile in Patients with Asthma**

**Jamie Zacharias, MD**, Penn State Hershey Divison of Pulmonary, Allergy, and Critical Care Medicine, Hershey, PA and Faoud T. Ishmael, MD, PhD, FAAAAI, Penn State Hershey Medical Center, Hershey, PA

## Asthma Therapy II: Steroids, Bronchodilators, Other Therapies

## ADT

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Monday, March 7th, 2016, 9:45 AM - 10:45 AM

**681 Efficacy and Safety of Albuterol Multidose Dry Powder Inhaler (MDPI) Versus Placebo in Children With Asthma**

**Craig LaForce, MD, CPI**[1], Herminia Taveras, PhD, MPH[2], Harald Iverson, PhD[2], Paul Shore, MD, MS[3] and Tushar P Shah, MD[3], [1]North Carolina Clinical Research, Raleigh, NC, [2]Teva Pharmaceuticals, Miami, FL, [3]Teva Pharmaceuticals, Frazer, PA

**682 Effects of Roflumilast on Airway Hyperresponsiveness (AHR)**

**Robert G. Townley, MD, FAAAAI**, Swati Agrawal, MBBS, Mina R Hanna, MS, Bryston Y Chang, BS and Peter J Oldenburg, PhD, Creighton University School of Medicine, Omaha, NE

**683 Montelukast Is a Better Controller in Obese Atopic Asthmatics**

**Sherry Farzan, MD**[1], Sundas Khan, MD[2], Claudia Elera[2] and Meredith Akerman, MS[3], [1]Departments of Pediatrics and Internal Medicine, Division of Allergy & Immunology, Hofstra North Shore-LIJ School of Medicine, Great Neck, NY, [2]Department of Medicine, North Shore - LIJ Health System, Hofstra University School of Medicine, Manhasset, NY, [3]Department of Biostatistics, Feinstein Institute of Medicine, North Shore - LIJ Health System, Hofstra University School of Medicine, Manhasset, NY

**684 Once-Daily Tiotropium Respimat® Add-on to at Least Ics Maintenance Therapy Demonstrates Improved Asthma Control in Patients with Symptomatic Asthma, Independent of Serum IgE or Blood Eosinophil Levels**

**Mark L. Vandewalker, MD**[1], Johann Christian Virchow, MD[2], Thomas B. Casale, MD, FAAAAI[3], Michael Engel, MD[4], Petra Moroni-Zentgraf, MD[4], Reinhold Lühmann, PhD[5] and Ronald Dahl, MD[6], [1]Clinical Research of the Ozarks, Columbia, MO, [2]University Clinic Rostock, Rostock, Germany, [3]University of South Florida Morsani College of Medicine, Tampa, FL, [4]Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim Am Rhein, Germany, [5]Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Germany, [6]Odense University Hospital, Odense, Denmark

**685 Feasibility of Using Treatment Response Thresholds for Lung Function and Asthma Symptom Variables As Indicators of Asthma Control in Patients with Moderate to Severe Asthma**

**David J. Slade**[1], Michael DePietro[1], John Horton[1], Donald P. Tashkin[2] and Bradley E. Chipps, MD[3], [1]AstraZeneca LP, Wilmington, DE, [2]University of California, Los Angeles, CA, [3]Capital Allergy & Respiratory Disease Center, Sacramento, CA

**686 Dose-Ranging Efficacy and Safety Study of Albuterol Multidose Dry Powder Inhaler (MDPI) vs Albuterol Hydrofluoroalkane (HFA) and Placebo MDPI in Children With Asthma**

**Paul Y Qaqundah, MD**[1], Herminia Taveras, PhD, MPH[2], Harald Iverson, PhD[2], Paul Shore, MD, MS[3] and Tushar P Shah, MD[3], [1]Pediatric Care Medical Group, Inc., Huntington Beach, CA, [2]Teva Pharmaceuticals, Miami, FL, [3]Teva Pharmaceuticals, Frazer, PA

**687 Comparison of Treatment Modalities for Inpatient Asthma Exacerbation Among U.S. Pediatric Hospitals**

**Meredith A. Dilley, MD**[1,2], William J. Sheehan, MD[1,2], Dionne Graham, PhD[1,3], Carter Petty, MA[4] and Wanda Phipatanakul, MD, MS[1,2], [1]Boston Children's Hospital, Boston, MA, [2]Harvard Medical School, Boston, MA, [3]Institute for Relevant Clinical Data Analytics, [4]Clinical Research Center, Boston Children's Hospital, Boston, MA

**688 Unsuccessful Aspirin Desensitization in Minority Patients with AERD: Association with Increased Eosinophilia and Sinus Surgery Timing.**

**Elina Jerschow, MD, MSc**[1], Teresa Pelletier, BA[2], Ren Zhen[3], Robert Tamayev, MD, PhD[4], Waleed Abuzeid, MD[4], Marvin Fried, MD[5], Golda Hudes, MD, PhD[6], Esperanza Morales[7], Krista Nelson, B.F.A.[7], Jonathan Feldman, PhD[8], Victor Schuster, MD[1], Simon Spivack, MD, M.P.H.[1] and David L. Rosenstreich, MD, FAAAAI[9,10], [1]Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY, [2]Albert Einstein College of Medicine, Bronx, NY, [3]Jacobi Medical Center, Bronx, NY, [4]Albert Einstein College of Medicine/ Montefiore Medical Center, Bronx, NY, Bronx, NY, [5]Albert Einstein College of Medicine/ Montefiore Medical Center, Bronx, NY, 10461, NY, [6]Albert Einstein/ Montefiore Medical Center, New York, NY, [7]Albert Einstein College of

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Medicine/Ferkauf Graduate School of Psychology, Bronx, NY, [8]Graduate School of Psychology of Yeshiva University, Bronx, NY, [9]Albert Einstein/Montefiore Medical Center, Bronx, NY, [10]Division of Allergy and Immunology, Department of Medicine, Montefiore Medical Center, Bronx, NY

**689 Once-Daily Tiotropium Respimat® Add-on to at Least Ics Maintenance Therapy in Patients with Symptomatic Asthma: Methodology of Modeling Analyses By Serum IgE and Blood Eosinophil Levels**

**Hendrik Schmidt, PhD**[1], Petra Moroni-Zentgraf, MD[2], Michael Engel, MD[2], Ronald Dahl, MD[3] and Huib A.M. Kerstjens, MD[4], [1]Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Germany, [2]Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim Am Rhein, Germany, [3]Odense University Hospital, Odense, Denmark, [4]University Medical Center Groningen, University of Groningen, Groningen, Netherlands

**690 Monthly Triamcinolone Acetonide for Severe, Refractory, Life-Threatening Asthma in Children**

**Nadia L. Krupp, MD**[1], Andrea Weist, MD[1] and Cindy Fiscus, RN[2], [1]Indiana University School of Medicine, Indianapolis, IN, [2]Riley Hospital for Children, Indianapolis, IN

**691 Inhaled High Dose Budesonide Is As Effective As Systemic Corticosteroids for Children Under Three with Mild Asthma Exacerbations**

**Mari Saito**, Yutaka Kikuchi and Masaru Hoshina, Haga Red Cross Hospital, Japan

**692 Once-Daily Tiotropium Respimat® Add-on to at Least Ics Maintenance Therapy Demonstrates Improved Lung Function in Patients with Symptomatic Asthma, Independent of Serum IgE or Blood Eosinophil Levels**

**Donald P. Tashkin**[1], Ronald Dahl, MD[2], Johann Christian Virchow, MD[3], Michael Engel, MD[4], Petra Moroni-Zentgraf, MD[4], Liliana Zaremba-Pechmann, PhD[5] and Huib A.M. Kerstjens, MD[6], [1]University of California, Los Angeles, CA, [2]Odense University Hospital, Odense, Denmark, [3]University Clinic Rostock, Rostock, Germany, [4]Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim Am Rhein, Germany, [5]Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Germany, [6]University Medical Center Groningen, University of Groningen, Groningen, Netherlands

**693 Controller Montelukast to Prevent Asthma-like Exacerbation in Preschool Children with Recurrent Wheeze**

**Mizuho Nagao**[1], Takao Fujisawa, MD, PhD, FAAAAI[1], Toshio Katsunuma, MD, PhD[2], Shigemi Yoshihara, MD, PhD[3] and Yuhei Hamasaki, MD, PhD[4], [1]Allergy Center and Institute for Clinical Research, Mie National Hospital, Japan, [2]The Jikei University, Tokyo, Japan, [3]Department of Pediatrics, Dokkyo Medical University, Tochigi, Japan, [4]Department of Pediatrics, Saga University, Saga, Japan

**694 Predominance of Atopic Asthma in Patients with Severe or Difficult-to-Treat Asthma in the Tenor II Cohort**

**Larry Borish, MD, FAAAAI**, Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, Stanley J Szefler, The Breathing Institute/Pulmonary Medicine, Aurora, CO, Robert S. Zeiger, MD, PhD, FAAAAI, Kaiser Permanente Southern California, San Diego, CA, Aimee Foreman, MA, ICON Plc, San Francisco, CA, Steve Greenberg, MD, Novartis Pharmaceutical Corporation, East Hanover, NJ, Tmirah Haselkorn, EpiMetrix, Inc, Los Altos, CA, Farid Kianifard, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ, Meryl Mendelson, MD, Novartis Pharmaceuticals, East Hanover, NJ, Brandee Paknis, PharmD, Novartis Pharmaceutical Corporation, Scott T. Weiss , MD, MS, Channing Laboratory, Harvard Medical School, Boston, MA and Bradley E. Chipps, MD, Capital Allergy & Respiratory Disease Center, Sacramento, CA

**695 Mometasone Furoate (MF) Improves Lung Function in Pediatric Asthma: A Dose-Ranging Study of MF Metered-Dose Inhaler (MDI)**

**Niran J. Amar, MD, FAAAAI**[1], Tulin Shekar, MS[2], Tracey Varnell[2], Anish Mehta[2] and George Philip, MD[3], [1]Allergy Asthma Research Institute, Waco, TX, [2]Merck & Co., Inc., Kenilworth, NJ, [3]Merck & Co., Inc.,, North Wales, PA

**696 Tiotropium Respimat® Add-on to at Least Ics Therapy Demonstrates Reduced Risk of Severe Asthma Exacerbation and Asthma Worsening in Symptomatic Asthma, Independent of IgE or Blood Eosinophil Levels**

**Thomas B. Casale, MD, FAAAAI**[1], Donald P. Tashkin[2], Reinhold Lühmann, PhD[3], Michael Engel, MD[4], Petra Moroni-Zentgraf, MD[4] and Huib A.M. Kerstjens, MD[5], [1]University of South Florida Morsani College of Medicine, Tampa, FL, [2]University of California, Los Angeles, CA, [3]Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Germany, [4]Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim Am Rhein, Germany, [5]University Medical Center Groningen, University of Groningen, Groningen, Netherlands

**697 A Retrospective Study of the Effect of Antifungal Therapy on a Cohort with Asthma and Chronic Rhinosinusitis**

**Evan Li, MD**, Rani Maskatia, MD, Paul Porter, PhD and David B. Corry, MD, Baylor College of Medicine, Houston, TX

**698 Differences in Oral Corticosteroid Prescribing Regimens for Asthma Exacerbations Between Primary Care and Specialty Pediatricians**

**Kara McNamara, MD** and David R. Stukus, MD, FAAAAI, Nationwide Children's Hospital, Columbus, OH

**699 No Significant Growth Velocity Changes in Two Trials Evaluating the Potential Effects of Flunisolide HFA (AerospanTM) on Growth in Pediatric Patients with Mild-to-Moderate Asthma**

**George W. Bensch, MD, FAAAAI**, Allergy, Immunology and Asthma, Stockton, CA and David P. Skoner, MD, Department of Medicine, Allegheny General Hospital, Pittsburgh, PA; Temple University School of Medicine, Philadelphia, PA

**700 Variation of in Vitro Glucocorticoid Response in Asthma**

**Monica B. Reddy, MD**[1], Donald Y.M. Leung, MD, PhD, FAAAAI[2], Joseph D. Spahn, MD[1], Douglas Curran-Everett, PhD[3], Vijaya Knight, MD, PhD[4] and Ronina A. Covar, MD, FAAAAI[4], [1]University of Colorado, [2]Department of Pediatrics, National Jewish Health, Denver, CO, [3]National Jewish Health, Division of Biostatistics and Bioinformatics, Denver, CO, [4]National Jewish Health, Denver, CO

**701 Growth Effects of Concomitant Inhaled (ICS) and Intranasal (INCS) Corticosteroid (CS) Use in Children.**

**David P. Skoner, MD**[1,2], Deborah A. Gentile, MD[1,2], Nicole Pleskovic, BS[3], Erica Butler, BS, CCRC[3] and Asha Patel, MS[3], [1]Allegheny Health Network, Pittsburgh, PA, [2]Temple University School of Medicine, Philadelphia, PA, [3]Allegheny Singer Research Institute, Pittsburgh, PA

## Primary Immunodeficiency

### BCI

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Monday, March 7th, 2016, 9:45 AM - 10:45 AM

**702 Resolution of T Cell Lymphopenia in a Term Infant with Absent TRECs on Newborn Screen**

**Peter Mustillo, MD, FAAAAI**, Nationwide Children's Hospital, Columbus, OH, Rosemary Hage, Ohio Department of Health and Margaret Redmond, MD, Ohio State University/Nationwide Children's Hospital

**703 The University of Virginia Experience at Implementing Newborn Screening for Severe Combined Immunodeficiency (SCID)**

**Thamiris V Palacios, DO**, University of Virginia, Palmyra, VA,

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Brooke Vergales, MD, University of Virginia, Charlottesville, VA, Julia Wisniewski, MD, University of Virginia, Division of Pediatric Respiratory Medicine and Allergy, Charlottesville, VA, Larry Borish, MD, FAAAAI, Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA and Monica G. Lawrence, MD, University of Virginia, Department of Medicine, Division of Asthma, Allergy and Immunology, Charlottesville, VA

**704 A Call for an Early Clinical Consideration for Ataxia-Telangiectasia in Infants with Low TREC and Combined Immunodeficiency**

**Rony Greemberg, MD**, Hospital for Sick Children, University of Toronto, Toronto, ON, Canada and Ronit Herzog, MD, New York University Langone Medical Center, New York University School of Medicine, New York, NY

**705 Immune Dysregulation, Polyendocrinopathy, Enteropathy, X-Linked Syndrome (IPEX) Associated with Neurological Presentation**

**Mehdi M. Adeli, MD**[1,2], Heidi Sandige, Co - Author[2,3], Adiba Hamad[1] and Eman Almuslemani[1,2], [1]Hamad Medical Corporation, Doha, Qatar, [2]Sidra Medical and Research Center, Doha, Qatar, [3]Weill Cornell Medical College in Qatar, Doha, Qatar

**706 Novel Presentation of STAT1 Gain of Function (GOF) with Specific Antibody Deficiency without Fungal Infection**

**Maya Gharfeh**[1], Alexander Vargas-Hernandez[2], Ivan K. Chinn, MD[3], I. Celine Hanson, MD, FAAAAI[4,5] and Lisa R. Forbes, MD[3,6], [1]Texas Children's Hospital, Houston, TX, [2]Texas Children's Hospital Center for Human Immunobiology, Houston, TX, [3]Baylor College of Medicine, Houston, TX, [4]Baylor College of Medicine and Texas Children's Hospital, Department of Pediatrics Section of Immunology, Allergy and Rheumatology, Houston, TX, [5]Baylor College of Medicine/Texas Children's Hospital, Houston, TX, [6]Baylor College of Medicine-Texas Children's Hospital, Section of Immunology, Allergy, and Rheumatology, Houston, TX

**707 Two Symptomatic Patients with Atypical Heterozygous Artemis Mutation Along with Other Mutations Including TACI, While Parents with an Isolated Heterozygote Mutation Were Asymptomatic**

**Lahari Rampur, MD**, Albert Einstein/Children's Hospital at Montefiore, Bronx, NY, Rachel Eisenberg, MD, Montefiore medical center, Bronx, NY, Jennifer Toh, MD, Albert Einstein/Montefiore Medical Center, Bronx, NY and Arye Rubinstein, MD, Albert Einstein College of Medicine and Montefiore Hospital, Bronx, NY

**708 Detection of the 22q11 Deletion Using Dried Blood Spots and Digital PCR**

**Lisa J. Kobrynski, MD, MPH, FAAAAI**, Emory University/Children's Healthcare of Atlanta, Atlanta, GA; Emory University School of Medicine, Atlanta, GA

**709 Newborn Screening for SCID Is Associated with a Shorter Interval from Diagnosis to Transplant**

**Juhee Lee, MD**, Kathleen E. Sullivan, MD, PhD, FAAAAI, Soma Jyonouchi, MD, Alix E Seif, MD, MPH, Nancy Bunin, MD and Jennifer Heimall, MD, The Children's Hospital of Philadelphia, Philadelphia, PA

**710 Incongruent Phenotypic Expression of Autosomal Dominant Hyper IgE Syndrome (AD-HIES) in a Mother and Son**

**Charles J. Calais, DO**, National Capital Consortium

**711 Prolonged Immune Suppression after Rituximab Use in Children**

**Susanne LaBarba, DO**[1], Blanka M. Kaplan, MD, FAAAAI[1] and Barbara Eberhard, MD[2], [1]Departments of Pediatrics and Internal Medicine, Division of Allergy & Immunology, Hofstra North Shore-LIJ School of Medicine, Great Neck, NY, [2]Department of Pediatrics, Division of Pediatric Rheumatology, Hofstra North Shore-LIJ School of Medicine, New Hyde Park, NY

**712 A Case of Severe Combined Immunodeficiency (SCID) Due to Cartilage Hair Hypoplasia (CHH) with Normal Vaccine Responses and T-Cell Proliferation to Pokeweed Mitogen**

**Erin L. Reigh, MD, MS**, Washington University/Barnes-Jewish Hospital, St. Louis, MO and Megan Cooper, Washington University/St. Louis Children's Hospital, MO

**713 Idiopathic CD4 Lymphocytopenia: Immunologic Characteristics, Clinical Manifestations, and Disease Course**

**Jenni Y. Yoon, MD**, Panida Sriaroon, MD, Jennifer W. Leiding, MD and Mark Ballow, MD, FAAAAI, University of South Florida, St. Petersburg, FL

**714 Efficacy of Recombinant Human Hyaluronidase-Facilitated Subcutaneous Infusion of Immunoglobulin G (IgG) (IGHy) in Patients with Primary Immunodeficiency Disease (PIDD): Infections over Time**

**Richard L. Wasserman, MD, PhD, FAAAAI**[1], Mark R. Stein, MD, FAAAAI[2], Lisa J. Kobrynski, MD, MPH, FAAAAI[3], Sudhir Gupta, MD, PhD, FAAAAI[4], J. Andrew Grant, MD, FAAAAI[5], Arye Rubinstein, MD, FAAAAI[6], Christopher J. Rabbat, PhD[7], Werner Engl, PhD[8], Barbara McCoy, PhD[8], Heinz Leibl, PhD[8] and Leman Yel, MD, FAAAAI[9], [1]Allergy Partners of North Texas, Dallas, TX, [2]Allergy Associates of the Palm Beaches, North Palm Beach, FL, [3]Emory University, Atlanta, GA, [4]University of California, Irvine, Irvine, CA, [5]University Texas Medical Branch, Galveston, TX, [6]Albert Einstein College of Medicine and Montefiore Hospital, Bronx, NY, [7]Baxalta US, Inc, Bannockburn, IL, [8]Baxalta Innovations GmbH, Vienna, Austria, [9]Baxalta US, Inc, Westlake Village, CA

**715 Incidence of Clinically Diagnosed Digeorge Syndrome in Olmsted County, Minnesota**

**Cristina Alcaraz**[1], Jay Jin, MD, PhD[2], Erin Conboy[3] and Avni Y. Joshi, MD[2], [1]UNC, [2]Mayo Clinic, Rochester, MN, [3]Mayo Clinic

**716 Local Adverse Reaction Rates Decreased over Time during Treatment with Recombinant Human Hyaluronidase-Facilitated Subcutaneous Infusion of Immunoglobulin G (IGHy) in Patients with Primary Immunodeficiency Disorders in the IGHy Phase 3 Studies**

**Mark R. Stein, MD, FAAAAI**[1], Richard L. Wasserman, MD, PhD, FAAAAI[2], Isaac Melamed, MD[3], Sudhir Gupta, MD, PhD, FAAAAI[4], Lisa J. Kobrynski, MD, MPH, FAAAAI[5], Arye Rubinstein, MD, FAAAAI[6], Christopher J. Rabbat, PhD[7], Werner Engl, PhD[8], Barbara McCoy, PhD[8], Heinz Leibl, PhD[8] and Leman Yel, MD, FAAAAI[9], [1]Allergy Associates of the Palm Beaches, North Palm Beach, FL, [2]Allergy Partners of North Texas, Dallas, TX, [3]IMMUNOe Health Centers, Centennial, CO, [4]University of California, Irvine, Irvine, CA, [5]Emory University, Atlanta, GA, [6]Albert Einstein College of Medicine and Montefiore Hospital, Bronx, NY, [7]Baxalta US, Inc, Bannockburn, IL, [8]Baxalta Innovations GmbH, Vienna, Austria, [9]Baxalta US, Inc, Westlake Village, CA

**717 Resolution of Primary Immune Defect in 22q11.2 Deletion Syndrome**

**Yiwa Suksawat, MD**, Jittima Veskitkul, MD, Orathai Jirapongsananuruk, MD, Nualanong Visitsunthorn, MD, Pakit Vichyanond, MD, FAAAAI and Punchama Pacharn, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand

**718 Real-World Use of Recombinant Human Hyaluronidase-Facilitated Subcutaneous Infusion of Immunoglobulin G (IG) (IGHy) in Patients with Primary Immunodeficiency Disorders (PIDD)**

**Kevin P. Rosenbach, MD, FAAAAI**[1], Stephanie Hughes, PharmD[2] and Leon Rozen, MBBS[2], [1]CareOne Allergy Center, Naples, FL, [2]Baxalta US Inc, Bannockburn, IL

**719 Case Report of an Infant Female with X-Linked Chronic Granulomatous Disease Due to a De Novo Mutation in CYBB and Extremely Skewed X-Chromosome Inactivation (Lyonization)**

**Taylor Alberdi**, University of South Florida Morsani College of

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Medicine, MR Morrow, University of South Florida and Jennifer W. Leiding, MD, University of South Florida, St. Petersburg, FL

**720 Construction and Validation of a Health-Related Quality of Life (HR-QOL) Instrument for Patients with Primary Antibody Deficiency Disease.**

**Mark Ballow, MD, FAAAAI**[1], Mark R. Conaway, PhD[2], Rima A. Rachid, MD, FAAAAI[3], Filiz O. Seeborg, MD, MPH[4], Panida Sriaroon, MD[1], Carla M. Duff, CPNP MSN CCRP IgCN[1], M. Elizabeth M. Younger, CRNP, PhD[5], Ralph Shapiro, MD[6] and Ted M. Burns[2], [1]University of South Florida, St. Petersburg, FL, [2]University of Virginia, Charlottesville, VA, [3]Boston Children's Hospital, Boston, MA, [4]Baylor College of Medicine and Texas Children's Hospital, Department of Pediatrics, Section of Immunology, Allergy and Rheumatology, Houston, TX, [5]Johns Hopkins University School of Medicine, Baltimore, MD, [6]Midwest Immunology Clinic, Plymouth, MN

**721 Efficacy, Safety, Tolerability, and Pharmacokinetics of Human Immune Globulin Subcutaneous, 20% (IGSC 20%): Final Analysis of a Phase 2/3 Study in Patients with Primary Immunodeficiency Disease (PIDD) in North America**

**Daniel Suez, MD, FAAAAI**[1], Isaac Melamed, MD[2], Iftikhar Hussain, MD, FAAAAI[3], Mark R. Stein, MD, FAAAAI[4], Sudhir Gupta, MD, PhD, FAAAAI[5], Kenneth Paris, MD, MPH[6], Sandor Fritsch, PhD[7], Christelle Bourgeois, PhD[7], Heinz Leibl, PhD[7], Barbara McCoy, PhD[7] and Leman Yel, MD, FAAAAI[8], [1]Allergy, Asthma and Immunology Cl., PA, Irving, TX, [2]IMMUNOe Health Centers, Centennial, CO, [3]Vital Prospects Clinical Research Institute, PC, Tulsa, OK, [4]Allergy Associates of the Palm Beaches, North Palm Beach, FL, [5]University of California, Irvine, Irvine, CA, [6]LSU Health Sciences Center, New Orleans, LA, [7]Baxalta Innovations GmbH, Vienna, Austria, [8]Baxalta US, Inc, Westlake Village, CA

**722 Importance of Identifying Pathogenic Causes of Infection in Lung Abscess in Chronic Granulomatous Disease**

**Megan Goebel, MD**, The Ohio State University Wexner Medical Center and Peter Mustillo, MD, FAAAAI, Nationwide Children's Hospital, Columbus, OH

**723 Ataxia Telangiectasia Presenting with Absent IgG, IgA, and Elevated IgM**

**Michelle Korah-Sedgwick, MD** and Kenneth Paris, MD, MPH, LSU Health Sciences Center, New Orleans, LA

**724 Successful Lung Transplant for Bronchiectasis in an Adult Male with Autosomal Recessive Chronic Granulomatous Disease with a Novel NF1 Gene Mutation.**

**Ryan B. Israelsen, MD**[1], Merritt L. Fajt, MD[2], Maria M. Crespo, MD[2] and Andrej A. Petrov, MD[2], [1]University of Pittsburgh Medical Center, Pittsburgh, PA, [2]University of Pittsburgh Medical Center, Division of Pulmonary, Allergy and Critical Care Medicine, Pittsburgh, PA

**725 Prenatal Findings Leading to Early Diagnosis of X-Linked Inhibitor of Apoptosis Protein (XIAP) Deficiency**

**Angela Chang, MD**, Joseph Shieh, MD, PhD, Morna J. Dorsey, MD, MMSc, FAAAAI and Jennifer M. Puck, MD, Department of Pediatrics, University of California San Francisco and UCSF Benioff Children's Hospital, San Francisco, CA

**726 Natural Killer (NK) Cell Deficiency: Clinical Phenotypes in Presence or Absence of Antibody Deficiency**

**Svjetlana Dolovcak, MD**, University of Iowa Hospitals and Clinics, Iowa City, Nicholas L. Hartog, MD, Washington University School of Medicine, Saint Louis, MO and Zuhair K. Ballas, MD, FAAAAI, VA Medical Center, Iowa City, IA; University of Iowa Health Care, Iowa City, IA

**727 Herpes Zoster Infection Prompting Diagnosis of Job's Syndrome in a Teenage Patient**

**Sheila M. Bina, MD**, Panida Sriaroon, MD and Jennifer W. Leiding, MD, University of South Florida, St. Petersburg, FL

**728 Transplant Outcomes for Primary Immunodeficiencies in a Tertiary Center 1995-2015**

**Nikita Raje, MD, MBBS**, Children's Mercy Hospital & Clinics, Kansas City, MO, Duha Al-Zubeidi, Children's Mercy Hospital and Barbara Chignola, CCRC, CMH

**729 Immune and Clinical Assessment in a Cohort of Pediatric Hispanic Patients with Partial Digeorge Syndrome: An Institutional Review.**

**Hanadys Ale, MD**[1], Raquel Olavarrieta, MD[1], Zaimat Beiro, BS[2], William R. Blouin, MSN, ARNP, CPNP[1], Vivian P. Hernandez-Trujillo, MD, FAAAAI[1] and Jose G. Calderon, MD[1], [1]Nicklaus Children's Hospital, Miami, FL, [2]Florida International University Herbert Wertheim College of Medicine, Miami, FL

**730 Removal of Immunosuppression Unmasks a Case of Autoimmune Lymphoproliferative Syndrome (ALPS)**

**Mirinda A. Gillespie, MD**[1], Sheila M. Bina, MD[2] and Jennifer W. Leiding, MD[2], [1]All Children's Hospital, [2]University of South Florida, St. Petersburg, FL

**731 Wiskott-Aldrich Syndrome in a Two-Month-Old Boy Presenting with Intussusception and Normal-Sized Platelets.**

**Vanessa L. Bundy, MD, PhD, FAAP**, UCLA and Maria Garcia-Lloret, MD, FAAAAI, Division of Allergy and Immunology, Department of Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, CA

# Replacement Therapy in the Treatment of Immune Defects

## BCI

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Monday, March 7th, 2016, 9:45 AM - 10:45 AM

**732 Reversible Hypogammaglobulinemia Due to Dimethyl Fumarate**

**Umbreen Lodi, MD**, Division of Pulmonary, Allergy & Critical Care Medicine Emory University School of Medicine, Atlanta, GA, Bradley J Larson, MD, Northwest Georgia Oncology Centers, P.C, Carrollton,, GA, Laura L Larson, MD, Infectious Disease Section, Tanner Medical Group,, Carrollton, GA and Theodore M. Lee, MD, FAAAAI, Division of Pulmonary, Allergy,and Critical Care, Emory University School of Medicine, Atlanta, GA; Peachtree Allergy and Asthma Clinic, PC, Atlanta, GA

**733 Systemic Hypersensitivity to G-CSF in a Healthy Donor Followed By Successful Drug Challenge Allowing Stem Cell Donation**

**Ki Lee Milligan, MD**[1], Enkhtsetseg Purev, MD[2], Richard Childs, MD[2] and Joshua D. Milner, MD[3], [1]NIH/NIAID, [2]NIH/NHLBI, [3]Laboratory of Allergic Diseases, NIAID/NIH, Bethesda, MD

**734 Flexible Subcutaneous Immunoglobulin G Dosing in Primary Immunodeficiency - Quality of Life Outcomes**

**Claire Jones** and Sadia Noorani, MD, Sandwell and West Birmingham Hospitals NHS Trust, Birmingham, United Kingdom

**735 Identical Twins with X-Linked Agammaglobulinema Requiring Differing Amounts of Subcutaneous Immunoglobulin Secondary to Protein Losing Enteropathy**

**Jennifer Lan, MD**[1], Shelby N. Elenburg, MD[1,2], John Eshun, MD[3] and Jay A. Lieberman, MD[1], [1]Division of Allergy and Immunology, Department of Pediatrics, The University of Tennessee Health Science Center, Memphis, TN, [2]Allergy and Asthma Center, [3]Division of Gastroenterology, Department of Pediatrics, The University of Tennessee Health Science Center

**736 Comparison of the Effect of Aspirin and Heparin with or without Intravenous Immunoglobulin in Treatment of Recurrent Abortion with Unknown Etiology: A Clinical Study**

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**Zeinab Nazari**, 1Obstetric & Gynecologist, Fellowship of Oncology, Mazandaran University of Medical Sciences, Sari, Iran, Javad Ghaffari, ssociate professor of Allergy and clinical immunology, Department of Immunology and Allergy, Mazandaran University of Medical Sciences, Sari, Iran, and Aghdas Ebadi, Mazandaran University of Medical Sciences, Sari, Iran

**737 Comparison of the Efficacy and Safety of Three Intravenous Immunoglobulin Brands in Pediatric Patients with Primary Immunodeficiency**

**Vorapan - Engchuan, MD**, Prince of Songkla University, Hatyai, Thailand, Araya Yuenyongviwat, MD, Prince of Songkla University, Songkhla, Thailand and Pasuree Sangsupawanich, MD, PhD, Prince of Songkla University, Hat-yai, Thailand

**738 Effectiveness of Subcutaneous IgG Supplementation in a Patient with Myotonic Dystrophy**

**Hannah Laure El Fassy**[1] and Hugo Chapdelaine, MD[1,2], [1]Division of Allergy and Clinical Immunology, Department of Medicine, Centre Hospitalier Université de Montréal, Montréal, Quebec, Canada, Montreal, QC, Canada, [2]Centre Hospitalier Universitaire Sainte-Justine, Montreal, QC, Canada

**739 A 17-Year-Old Male with a Small Bowel Neuroendocrine Tumor (NET): Flushing Differential Diagnosis**

**Maria Alejandra Forero Molina**[1,2], Elizabeth Garcia-Gomez, MD[1,2], Deyanira Gonzalez-Devia, MD[1,2], Rafael García Duperly, MD[1,2] and Alonso Vera Torres, MD[1,2], [1]Universidad de los Andes, Bogota, Colombia, [2]Hospital Universitario Fundación Santa Fe de Bogotá, Bogota, Colombia

**740 Diagnosis of Multicentric Castleman's Disease: An Evaluation of a Patient with Polygammopathy.**

**Rahul Datta, MD, PhD**, Yale Department of Allergy and Immunology, New Haven, CT and Christina C. Price, MD, Yale University School of Medicine, New Haven, CT

**741 Case Series of Tolerability of SCIg in Young Adults with Ataxia Telangiectasia**

**Vivian P. Hernandez-Trujillo, MD, FAAAAI**, William R. Blouin, MSN, ARNP, CPNP and Jose G. Calderon, MD, Nicklaus Children's Hospital, Miami, FL

**742 Unfortunate Case of a Patient with Myotonic Dystrophy Type 2 and Severe Immunodeficiency**

**Xiao C. Wan, MD**, University of California San Francisco, San Francisco, CA and Katherine E. Gundling, MD, UCSF, San Francisco, CA

## Eosinophilic Gastrointestinal Disorders and Food Allergy

### FADDA

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Monday, March 7th, 2016, 9:45 AM - 10:45 AM

**743 A Recombinant Cystatin from Ascaris Lumbricoides Has Immunomodulatory Effects**

**Sandra M Coronado**[1], Luis Barrios[2], Josefina Zakzuk[1], Luis Franco[2] and Luis Caraballo, MD, PhD[1], [1]Institute for Immunological Research/University of Cartagena, Cartagena, Colombia, [2]Department of Pharmaceutical Sciences, University of Cartagena, Cartagena, Colombia

**744 IL-33 Is Selectively Expressed By Esophageal Basal Layer Epithelial Cells during Allergic Inflammation**

**Jared Travers**, Mark Rochman, PhD, Ting Wen, PhD and Marc E. Rothenberg, MD, PhD, FAAAAI, Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA

**745 CXCR4/SDF-1 Axis Promotes EMT Mediated Fibrosis in Eosinophilic Esophagitis (EoE)**

**Chandrashekara Puthanapura Mahadevappa, PhD**, Sathisha Upparahalli Venkateshaiah, PhD, Murli Manohar and Anil Mishra, PhD, FAAAAI, Department of Medicine, Pulmonary Diseases, Tulane Eosinophilic Disorder Center, Tulane University School of Medicine, New Orleans, LA

**746 Half Cow's Milk-Induced Food Protein Induced Enterocolitis Syndrome (FPIES) Require Amino Acid Feeding**

**Sibylle Blanc**[1], Delphine Deboissieu, MD[2], Nicolas Kalach, MD, Ph D[3], Pascale Soulaines[2], Florence Campeotto, MD, PhD[2], Marie-Pierre Cordier-Collet, MD[2], Clara Malka[2], Isabelle Montaudié-Dumas, MD[1], Carole Piccini-Bailly, MD[1], Lisa Giovannini-Chami, MD, PhD[1], Thierry Bourrier, MD[1] and Christophe Dupont, MD, PhD[2], [1]Hôpitaux pédiatriques de Nice CHU-Lenval, Nice, France, [2]Hopital Necker Enfants Malades, Paris, France, [3]Hôpital Saint Vincent de Paul, Groupement des Hospitaux de l'Institut Catholique de Lille (GH-ICL), Lille, France

**747 Investigation of Periostin and TARC Levels in the Search for a Non-Invasive Biomarker in Children and Adults with Eosinophilic Esophagitis**

**Anubha Tripathi, MD**, Division of Asthma, Allergy & Immunology, Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, Lisa J Workman, BA, University of Virginia Asthma and Allergic Diseases Center, Charlottesville, VA, Kush S Patel, BS, University of Virginia School of Medicine, Charlottesville, VA, Barrett H Barnes, MD, Division of Pediatric Gastroenterology, University of Virginia Health System, Charlottesville, VA, Thomas A.E. Platts-Mills, MD, PhD, FAAAAI FRS, Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA and Scott P. Commins, MD, PhD, Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA

**748 Subcellular Localization of CAPN14 in Human Esophageal Epithelial Cells**

**Jeffrey K. Rymer**[1,2], Jared Travers[1], Mark Rochman, PhD[1], Benjamin P. Davis, MD, PhD[1] and Marc E. Rothenberg, MD, PhD, FAAAAI[1], [1]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, [2]Department of Molecular Genetics, Biochemistry, and Microbiology, University of Cincinnati College of Medicine, Cincinnati, Ohio, USA

**749 Microarray Analysis and Transcriptional Phenotypes in Pediatric Patients with Eosinophilic Esophagitis**

**Russell Ault**[1], Bennett Smith[2], Melissa Robinson[2], Asuncion Mehias[2], Patrice G. Kruszewski, DO[3], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI FRS[4], Octavio Ramilo[5] and Elizabeth A. Erwin[2], [1]The Ohio State University, [2]Nationwide Children's Hospital, [3]Emory University, Atlanta, GA, [4]University of Virginia Asthma and Allergic Diseases Center, Charlottesville, VA, [5]The Research Institute at Nationwide Children's Hospital

**750 Differences in CD4IL-17+ in Children and Adults with Eosinophilic Esophagitis**

**Sayantani B. Sindher, MD**[1], Linda Monaco-Shawver, BS[2], Alexis Berry[1], Jonathan M. Spergel, MD, PhD, FAAAAI[1] and Antonella Cianferoni, MD, PhD, FAAAAI[3], [1]The Children's Hospital of Philadelphia, Philadelphia, PA, [2]The Children's Hospital of Philadelphia, Phila, PA, [3]3615 Civic Center Boulevard, The Children's Hospital of Philadelphia, Philadelphia, PA

**751 Aeroallergen and Food Sensitization Patterns in Adults with Eosinophilic Esophagitis**

**Hoang Pham, MD 2016, BSc, BA**[1], Zave H. Chad, MD, FRCPC[2], Gordon L. Sussman, MD, FAAAAI[3,4], Jacques Hébert, MD[5], Charles W. Frankish, MD[6], Timothy Olynych, MD, PhD[7], Amarjit

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Singh Cheema, MD[8], Jaime Del Carpio, MD[9], Rachel Harrison, BSc[10], Stephanie Santucci, RN[10], Paul Keith, MD, FAAAAI[11] and William H. Yang, MD[7,10], [1]University of Ottawa, Faculty of Medicine, Ottawa, ON, Canada, [2]Department of Pediatrics, University of Ottawa, Ottawa, ON, Canada, [3]Gordon Sussman Clinical Research, Toronto, ON, Canada, [4]University of Toronto, ON, Canada, [5]Centre de Recherche Appliquée en Allergie de Québec, Québec City, QC, Canada, [6]Kanata Allergy Services, Kanata, ON, Canada, [7]University of Ottawa Medical School, Faculty of Medicine, Ottawa, ON, Canada, [8]Trillium Health Partners, Mississauga, ON, Canada, [9]McGill University Health Centre, Montreal, QC, Canada, [10]Ottawa Allergy Research Corporation, Ottawa, ON, Canada, [11]Department of Medicine, McMaster University, Hamilton, ON, Canada

**752 Allergic Background and Time to Diagnosis in Children with Eosinophilic Esophagitis in British Columbia**

**Christopher Mill, BSc, MPH**[1], Vishal Avinashi, MD, MPH[1], Timothy Teoh, BSc[1], Christopher Koo, BSc[1] and Edmond S. Chan, MD, FAAAAI[2], [1]University of British Columbia, Vancouver, BC, Canada, [2]Division of Allergy & Immunology, Department of Pediatrics, Faculty of Medicine, University of British Columbia, BC Children's Hospital, Vancouver, BC, Canada

**753 High Incidence of Atopy in Young Children with Eosinophilic Esophagitis**

**Michelle Tobin**, Rupinder K. Gill, Sunny Chang and Susan Schuval, MD, FAAAAI, Stony Brook Children's Hospital, Stony Brook, NY

**754 Presence of Food Allergy Alters the Presentation of Pediatric Eosinophilic Esophagitis**

**Barry J. Pelz, MD**[1], Joshua B. Wechsler, MD[2], Anusha Reddy Gaddam, MS[3], Katie Amsden, MPH[4], Barry Wershil, MD[2], Amir F. Kagalwalla, MD[2] and Paul Bryce, PhD[5], [1]Division of Allergy & Immunology, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Division of Gastroenterology, Hepatology, and Nutrition, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Ann & Robert H Lurie Children's Hospital of Chicago, Chicago, IL, [4]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [5]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

**755 Aeroallergen, Food and Panallergen Sensitization Patterns in Eosinophilic Esophagitis Patients**

**Mary Beth Hogan, MD, FAAAAI**[1], Vonita Chawla[2], Rebecca Scherr[2], Gayle Allenback[2], Alex Wonnaparhown[2] and Nevin W. Wilson, MD, FAAAAI[2], [1]Department of Pediatrics, University of Nevada School of Medicine, Las Vegas, NV, [2]University of Nevada School of Medicine, Las Vegas, NV

**756 Serum IgG4 Antibodies in Pediatric Subjects with Eosinophilic Esophagitis Treated with Cow's Milk Elimination Diet or Swallowed Fluticasone: High Levels of Specific IgG4 to Cow's Milk Components Despite Low to Negative IgE Antibodies**

**Alexander J. Schuyler, BS BA**[1], Anubha Tripathi, MD[2], Patrice G. Kruszewski, DO[3], John M. Russo, MD[4], Lisa J. Workman, BA[5], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI FRS[5] and Elizabeth A. Erwin, MD[4], [1]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [2]Division of Asthma, Allergy and Immunology, University of Virginia, Charlottesville, VA, [3]Emory University, Atlanta, GA, [4]Nationwide Children's Hospital, Columbus, OH, [5]University of Virginia Asthma and Allergic Diseases Center, Charlottesville, VA

**757 Food-Specific IgG4 Is Associated with Eosinophilic Esophagitis**

**Benjamin L. Wright, MD**[1,2], Michael D. Kulis Jr., PhD[3], Rishu Guo, PhD[3], Kelly Orgel, BS[3], W. Asher Wolf, MD[3], A. Wesley Burks, MD, FAAAAI[3], Brian P. Vickery, MD, FAAAAI[3] and Evan S. Dellon, MD, MPH[3], [1]Mayo Clinic in Arizona, Scottsdale, AZ, [2]Phoenix Children's Hospital, Phoenix, AZ, [3]University of North Carolina at Chapel Hill, Chapel Hill, NC

**758 Identification of Food Sensitivity in Adult Eosinophilic Esophagitis Patients Lacks Clinical Utility**

**Ashleigh A. Olson, MD**[1], David M. Manthei[1], Chloe Kim, MD[1], Michael D. Evans, MS[1] and Sameer K. Mathur, MD, PhD, FAAAAI[1,2], [1]University of Wisconsin School of Medicine and Public Health, Madison, WI, [2]William S. Middleton Veterans Hospital, Madison, WI

**759 Patch Test and Immediate Hypersensitivity Tests to Foods in Pediatric Patients with Eosinophilic Esophagitis**

**Ratika Gupta, MD**, Winthrop University Hospital, Rose Calixte, PhD, Winthrop University Hospital, Mineola, NY and Luz S. Fonacier, MD, FAAAAI, Winthrop University Hospital, Allergy & Immunology, Mineola, NY

**760 Amino Acid-Based Diet Induces Histological Remission, Reduces Clinical Symptoms and Restores Esophageal Mucosal Integrity in Adult Eosinophilic Esophagitis Patients**

**Marijn J Warners**[1], Berber J. Vlieg-Boerstra, PhD, RD[2], Joanne Verheij[1], Marleen T.J. Van Ampting[3], Lucien F. Harthoorn[3], Wouter J de Jonge[4], Andreas J.P.M. Smout[1] and Albert J. Bredenoord[1], [1]Academic Medical Center, Amsterdam, Netherlands, [2]Emma Children's Hospital, Academic Medical Center, Amsterdam, Netherlands, [3]Nutricia Advanced Medical Nutrition, Utrecht, Netherlands, [4]Tytgat Institute for Liver and GI research, Academic Medical Center, Amsterdam, Netherlands

**761 Successful Treatment of Eosinophilic Gastroenteritis with a Multiple-Food Elimination Diet**

**Yoshiyuki Yamada, MD, PhD**[1], Yuka Isoda[1], Akira Nishi, MD[1], Yuko Jinbo[1], Satoru Watanabe[1,2] and Masahiko Kato, MD, PhD, FAAAAI[1,3], [1]Gunma Children's Medical Center, Shibukawa, Gunma, Japan, [2]Gunma University Faculty of Medicine School of Health Science, Maebashi, Gunma, Japan, [3]Department of Pediatrics, Tokai University School of Medicine, Isehara, Kanagawa, Japan

**762 Long-Term Safety and Efficacy of Reslizumab in Children and Adolescents with Eosinophilic Esophagitis: A Review of 477 Doses in 12 Children over 7 Years**

**Jonathan E. Markowitz**[1,2], Laura Jobe[2], Michelle Miller[2], Carrie Frost[3] and Ransome Eke[3], [1]Greenville Children's Hospital, Greenville, SC, [2]University of South Carolina School of Medicine-Greenville, Greenville, SC, [3]Greenville Health System, Greenville, SC

**763 Quality of Life in Eosinophilic Esophagitis**

**Shreya N. Patel, MD**[1], John Oppenheimer, MD, FAAAAI[1], Tamara Feldman, MD[2], Annette Langseder, RN[2], Peter Wilmot, MD[2], Oren Koslowe, MD[2], Joel Rosh, MD[2], Maria Perez, MD[2], Barbara Verga, MD[2], Alycia Leiby, MD[2] and Neha Pandey, MD[2], [1]Rutgers-New Jersey Medical School, Newark, NJ, [2]Atlantic Health, Goryeb Children's Hospital, Morristown, NJ

**764 Long-Chain Polyunsaturated Fatty Acid Intake in Children with Eosinophilic Esophagitis**

**Alison M. Cassin, MS RD CSP**[1], Carina Venter, PhD, RD[2], Kara Kliewer, PhD, RD[3], Kate Maslin, MSc, RD[4] and Marc E. Rothenberg, MD, PhD, FAAAAI[3], [1]Division of Nutrition Therapy, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, [2]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, Cincinnati, OH, [3]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, [4]University of Portsmouth, United Kingdom

**765 Food Allergy in Infancy Is Associated with Dysbiosis of the Intestinal Microbiota**

**Rima A. Rachid, MD, FAAAAI**[1], Georg Gerber, MD, PhD, MPH[2], NIng Li, PhD[3], Dale T. Umetsu, MD, PhD, FAAAAI[4], Lynn Bry, MD, PhD[2] and Talal A Chatila, MD, MSc[5,6], [1]Division of

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Allergy/Immunology, Boston Children's Hospital, Harvard Medical School, Boston, MA, [2]Brigham and Women Hospital-Harvard Medical School, [3]Brigham and Women Hospital- Harvard Medical School, [4]Genentech, South San Francisco, CA, [5]Boston Children's Hospital, Boston, MA, [6]Harvard University, Boston, MA

**766 Peanut Sensitivity in Children Is Highlighted By Increased IL-13 Production and Cyp11a1 Expression**

**Erwin W. Gelfand, MD, FAAAAI**[1], Meiqin Wang, MD, PhD[1], Carah Santos, MD[1], Jennifer Fish, PNP[1] and Bruce J. Lanser, MD[2], [1]National Jewish Health, Denver, CO, [2]Pediatrics, National Jewish Health, Denver, CO

**767 Arctigenin Isolated from Arctium Lappa L. Inhibits IgE Production**

**Changda Liu, PhD**[1], Kamal D. Srivastava, PhD[2], Nan Yang, PhD[3], Madisyn A. Primas[4], Renna Bushko[4], Kyle Chin[4], Matthew Batnick[4] and Xiu-Min Li, MD, MS[2], [1]Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [3]Pediatric Allergy and Immunology, Icahn School of Medicine at Mount Sinai, New York, NY, [4]Icahn School of Medicine at Mount Sinai

**768 Effects of the Toll-like Receptor 4 (TLR4) Agonist Glucopyranosyl Lipid a (GLA) on Allergen-Induced Inflammation and Anaphylaxis in a Mouse Model of Peanut Allergy**

**Keith Graver**[1], George Qian[2], Xiaying Wu[2], Li Li[3], Dongling Chen[4], Mayra Fernandez[2], Timothy J. Soos[3], Christopher Arendt[4] and El-Bdaoui Haddad[4], [1]Bio-Innovation Global BioTherapeutics Sanofi, Cambridge, MA, [2]Sanofi, MA, [3]Bio-Innovation, Global Biotherapeutics, SANOFI, Cambridge, MA, [4]Bio-Innovation, Global BioTherapeutics, Sanofi, Cambridge, MA

**769 Identification of Japanese Apricot Peamaclein As a New Allergen Related to Food-Dependent Exercise-Induced Anaphylaxis Due to Japanese Apricot: Cross-Reactivity to Pru p 7**

**Naoko Inomata**, Mami Miyakawa, Asa Hotta and Michiko Aihara, Dept. of Dermatology, Yokohama City University

**770 Effects of Pressure and Temperature Processing on the Allergic Reactivity of the Chestnut**

**Natividad De Las Cuevas, PhD**[1], Karen M Lozano, MD[1], Ramón Vives Conesa, MD[1], Jesús F Crespo, MD, PhD[2] and Maria Del Carmen Dieguez, MD, PhD[1], [1]Hospital Universitario 12 de Octubre, Madrid, Spain, [2]Instituto de Salud Carlos III, Madrid, Spain

**771 Cross-Reactivity Among Peanut and Tree Nut Allergens**

**Soheila J. Maleki, PhD, FAAAAI**[1], Hsiaopo Cheng, M.S.[1], John C. Wolf[2], Suzanne S. Teuber, MD, FAAAAI[3], Catherine Schein, PhD[4,5], Casey C Grimm, PhD[1] and Barry K. Hurlburt, PhD[1], [1]USDA-ARS-SRRC, New Orleans, LA, [2]USDA-ARS-SRRC, [3]UC Davis School of Medicine, Davis, CA, [4]Foundation for Applied Molecular Evolution, Gainesville, FL, [5]UTMB

**772 Walnut Food Allergenic Extracts**

**Greg A. Plunkett, PhD**, ALK-Abelló, Inc, Round Rock, TX and Brad Mire, ALK-Abello, Round Rock, TX

**773 Study of Relevant Allergens in Children and Adults with Lentil Allergy in a Population of Madrid Compared to Those with Allergy to Lentil and Peanut**

**Maria Luisa Somoza, MD**[1], Natalia Blanca-López, MD, PhD[1], Diana Perez Alzate, MD[1], Maria Isabel Garcimartin, MD[1], Francisco Javier Ruano[1], Maria Vazquez De La Torre, MD[1], Elisa Haroun, MD[1], Francisca Gómez, MD, PhD[2], Cristobalina Mayorga, PhD[2], Ana Aranda, PhD[3], Miguel Blanca, MD, PhD[2] and Gabriela Canto, MD, PhD[1], [1]Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, [2]Allergy Unit, IBIMA-University Hospital of Malaga, Málaga, Spain, [3]Research Laboratory, IBIMA-University Hospital of Málaga, Málaga, Spain

**774 Cross-Reactivity Among Cereal Grains**

**Juliana Guimarães Mendonça**[1], Roberta Almeida Castro[1], Pablo Torres Cordova[2], Paula Rezende Meireles[1], Daniele Danella Figo[1], Keity Souza Santos, PhD[3], Jorge Kalil, MD, PhD[4], Fabio Fernandes Morato Castro, MD, PhD[5] and Ariana C. Yang, MD, PhD[6], [1]São Paulo University, [2]São Paulo University, Sao Paulo, Brazil, [3]Cerqueira Cesar, Sao Paulo University School of Medicine, Sao Paulo - SP, Brazil, [4]Clinical Immunology and Allergy Division, University of Sao Paulo, Sao Paulo, Brazil, [5]São Paulo University-Allergy and Immunopathology Division, [6]São Paulo University-Allergy and Immunopathology Division, Brazil

**775 Sensitization Profile of Individuals to Shellfish in the Chesapeake Bay Area**

**Aishah Ali, MD**, Department of Medicine, Division of Allergy and Clinical Immunology, Johns Hopkins University School of Medicine, MD, Robert G. Hamilton, PhD D.ABMLI FAAAAI, Johns Hopkins University School of Medicine, Baltimore, MD and Sarbjit S. Saini, MD, FAAAAI, Department of Medicine, Division of Allergy and Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD

**776 Removing Peanut Allergen Ara h 1 from Peanut Extracts Using p-Aminobenzamidine**

**Si-Yin Chung, PhD** and Shawndrika Reed, USDA-ARS, New Orleans, LA

**777 Impacts on Rice Allergic Proteins with Different Methods of Food Processing**

**Xiaoluan Li**, the 1st hospital of Hebei Medical University, Shijiazhuang, China and Ying Xie, The 1st hospital of Hebei Medical University, Shijiazhuang, China

**778 Co-Sensitization Patterns of Crustaceans and Mollusks**

**Travis M. Sifers, MD**, University of Missouri - Kansas City; Department of Pediatrics - Children's Mercy Hospital, Kansas City, MO, Ashley K Sherman, Children's Mercy Hospital and Clinics, Charles S. Barnes, PhD, Division of Allergy & Immunology, Children's Mercy Hospitals and Clinics, Kansas City, MO and Christina E. Ciaccio, MD, MSc, FAAAAI, The University of Chicago, Chicago, IL

**779 A Retrospective Study of Clinical Shrimp Allergy in the Setting of Shrimp, Cockroach and Dustmite Sensitization**

**Mili Shum, MD**[1,2], Danielle C Brooks[3], Shanmuga Priya Jothi, MD[3], Ashley Quevedo[4] and Rauno Joks, MD[5], [1]State University of New York Downstate Medical Center, Brooklyn, NY, [2]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, [3]SUNY Downstate Medical Center, Brooklyn, NY, [4]Brown University, [5]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, Brooklyn, NY

**780 Natural Variability of Allergen Levels in Soybeans Across North and South Americas from Five Growing Seasons**

**Tao Geng, PhD**, Monsanto Company, St. Louis, MO

**781 Quality of Life and Feeding Difficulties Associated with Childhood Fpies and IgE-Mediated Food Allergies**

**Marion E. Groetch, MS RD**[1], Zara Atal[2] and Anna H. Nowak-Wegrzyn, MD, FAAAAI[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Icahn School of Medicine at Mt. Sinai

**782 Case Series of 5 Patients with Anaphylaxis to Hemp Seed Ingestion**

**Kristen Bortolin, B.Sc.**[1], Moshe Ben-Shoshan, MD, MSc[2], Chrystyna Kalicinsky, MD, FRCPC[3], Elana Lavine, MD, FRCP(C)[4], Christine Lejtenyi, MD, FRCPC[5], Richard J. Warrington, MD, PhD, FAAAAI[3] and Tracy Pitt, MD, F.R.C.P.C.[4], [1]Ross University School of Medicine, Miramar, FL, [2]The Research Institute of the McGill University Health Centre, Meakins- Chrisitie Laboratories, Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, Montreal Children's Hospital, Montreal, QC, Canada, [3]Section of Allergy & Clinical Immunology, Health Sciences Centre, Winnipeg, MB, Canada, [4]Queen's University, Kingston, ON, Canada, [5]Division of Allergy, Montreal Children's Hospital, Montreal, QC, Canada

**783 The Clinical Prehistory of Food-Protein Induced Enterocolitis Syndrome (FPIES)**

**Valentina Pecora**[1], Lamia Dahdah[2], Oscar Mazzina[2], Daniela Vessicchio[2] and Alessandro G. Fiocchi, MD[3], [1]Paediatric Hospital

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Bambino Gesù, Rome, Holy See, [2]Pediatric Hospital Bambino Gesù, [3]Bambino Gesu Children Hospital, Roma

**784** **Factors Affecting the Attainment of Tolerance Status in a Cohort of Food Protein-Induced Enterocolitis Patients**

**Eric C.K. Lee, BSc (Hons)**[1,2], Dianne E. Campbell, MD, FRACP, PhD[1,2] and Sam S. Mehr, MBBS, BMedSci, FRACP, FRCPA[1], [1]Department of Allergy and Immunology, The Children's Hospital at Westmead, Westmead, Australia, [2]Discipline of Paediatrics and Child Health, The University of Sydney, Sydney, Australia

**785** **Economic Impact of Childhood Fpies and IgE-Mediated Food Allergies**

**Anna H. Nowak-Wegrzyn, MD, FAAAAI**, Icahn School of Medicine at Mount Sinai, New York, NY and Zara Atal, Icahn School of Medicine at Mt. Sinai

**786** **Plasma Cytokine/Chemokine Profiles in Non-IgE-Mediated Gastrointestinal Food Allergy**

**Kanami Orihara, PhD**[1,2], Ichiro Nomura, MD, PhD[1], Tetsuo Shoda, MD, PhD[1], Hideaki Morita, MD, PhD[1], Hiroko Suzuki, MD, PhD[1], Akio Matsuda, PhD[1], Hirohisa Saito, MD, PhD[1] and Kenji Matsumoto, MD, PhD[1], [1]Department of Allergy and Clinical Immunology, National Research Institute for Child Health and Development, Tokyo, Japan, [2]Waseda Institute for Advanced Study, Waseda University, Tokyo, Japan

**787** **Clinical Characteristics of Non-IgE-Mediated Gastrointestinal Food Allergy: Analysis of Nation-Wide Web-Based Online Patient Registry**

**Ichiro Nomura, MD, PhD**[1,2], Hiroko Suzuki, MD, PhD[2], Tetsuo Shoda, MD, PhD[1,2], Hideaki Morita, MD, PhD[2], Kanami Orihara, PhD[2], Yukihiro Ohya, MD, PhD[1], Hirohisa Saito, MD, PhD[2] and Kenji Matsumoto, MD, PhD[2], [1]Division of Allergy, National Center for Child Health and Development, Tokyo, Japan, [2]Department of Allergy and Clinical Immunology, National Research Institute for Child Health and Development, Tokyo, Japan

**788** **IgE Casein/IgE Î²-Lactoglobulin in Gastrointestinal Phenotype of Cow's Milk Allergy**

**Victor Matheu, MD, PhD**[1,2], Paloma Poza-Guedes, MD[1,3], Inmaculada Sanchez-Machin, MD[1,4], Yvelise Barrios, MD, PhD[5], Andres Franco, MD[5] and Ruperto Gonzalez, MD, PhD[1,3], [1]Hospital Universitario de Canarias, La Laguna, Spain, [2]Hospital Quiron Tenerife, Santa Cruz de Tenerife, Spain, [3]Alergocan, Santa Cruz de Tenerife, Spain, [4]Hospital Quirón, Santa Cruz de Tenerife, Spain, [5]Immunology, Hospital Universitario de Canarias, LA LAGUNA, Spain

## Urticaria and Angioedema

MONDAY

### FADDA

4206

Monday, March 7th, 2016, 9:45 AM - 10:45 AM

**789** **The Effectiveness of Allergy Evaluation in Patients with Chronic Spontaneous Urticaria**

**Roy A. Orden, MD**[1], Yi-Chen Liu[2], Yea-Jen Hsu, PhD, MHA[2] and Jodi B Segal, MD, MPH[1,2], [1]Johns Hopkins University School of Medicine, Baltimore, MD, [2]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

**790** **Exploring the Real-World Profile of Refractory and Non-Refractory Chronic Idiopathic Urticaria Patients in the US**

**Susan Gabriel, MSc**[1], Meryl Mendelson, MD[1], Alexander J. Gillespie[2] and Ben Hoskin[2], [1]Novartis Pharmaceuticals, East Hanover, NJ, [2]Adelphi Real World

**791** **Diagnostic Utility of Challenge Procedures for Physical Urticaria/Angioedema Syndromes: A Systematic Review**

**Lyda Cuervo Pardo, MD**, Cleveland Clinic Foundation, Cleveland, OH, Alexei Gonzalez-Estrada, MD, Cleveland Clinic Foundation and David M. Lang, MD, FAAAAI, 9500 Euclid Avenue - A90, Cleveland Clinic, Cleveland, OH

**792** **A Randomized Trial of Icatibant in ACE-Inhibitor–Induced Angioedema**

**Ulrich Strassen**[1], Jens Greve[2], Klaus Stelter[3], Miriam Havel[3], Nicole Rotter[2], Johannes Veit[2], Beate Schossow[4], Alexander Hapfelmeier[5], Victoria Kehl[5], Georg Kojda[6], Thomas K. Hoffmann[2] and Murat Bas, MD[7], [1]Department of Otorhinolaryngology, Klinikum rechts der Isar, Technische Universität München, Munich, Germany, [2]Department of Otorhinolaryngology, Head and Neck Surgery, Ulm University Medical Center, Ulm, [3]Department of Otorhinolaryngology, Grosshadern Medical Center of the University of Munich, [4]Münchner Studienzentrum, Klinikum rechts der Isar, Technische Universität München, [5]Institut für Medizinische Statistik und Epidemiologie, Klinikum rechts der Isar, Technische Universität München, [6]Institute of Pharmacology and Clinical Pharmacology, University Hospital Düsseldorf, [7]Department of Otorhinolaryngology, Klinikum rechts der Isar, Technische Universität München

**793** **Safety of a C1 Esterase Inhibitor Concentrate in Pregnant Women with Hereditary Angioedema: Findings from the International Berinert Patient Registry**

**James A. Fox, MD, FAAAAI**[1], Inmaculada Martinez-Saguer[2], Arthur B. Vegh, MD, FAAAAI[3], Walter A Wuillemin, PhD, MD[4], Jonathan M. Edelman, MD[5], Debora Williams-Herman, MD[5], Mikhail Rojavin, PhD[5] and Tanja Rosenberg, MD[6], [1]Fox Skin and Allergy Associates, Branchberg, NJ, [2]Haemophilia Centre Rhine Main, Mörfelden-Walldorf, Germany, [3]Puget Sound Allergy, Asthma, and Immunology, Tacoma, WA, [4]Luzerner Kantonsspital, Luzern, Switzerland, [5]CSL Behring, King of Prussia, PA, [6]CSL Behring, Marburg, Germany

**794** **Novel Association of GAD68-Positive Autoimmune Inner Ear Disease with Autoimmune Urticaria**

**Jack G. Ghably, MD**[1], Sara Atwater, MD[2], Mark Guido, MD[2], Aman Nasir, MD[2] and Guha Krishnaswamy, MD, FAAAI, CC-D, ABIHM[3], [1]University of Alabama at Birmingham, Birmingham, AL, [2]WAKE FOREST BAPTIST MEDICAL CENTER, [3]WAKE FOREST BAPTIST MEDICAL CENTER, WINSTON SALEM, NC

**795** **Angiotensin Converting Enzyme Inhibitors and Angiotensin II Receptor Blockers-Induced Angioedema at the Emergency Department**

**Sarah Micozzi, MD**, Marta Seoane, MD, Dasha Roa Medellin, MD, Maria Elisa Caralli, MD, Ana Rodriguez, MD, Mercedes Sáenz de Santa María, MD, María L. Baeza, MD, PhD and Inés Torrado, MD, University General Hospital Gregorio Marañón

**796** **Frequency and Characteristics of Systemic Complaints Among Chronic Idiopathic/Spontaneous Urticaria Patients**

**Judy Doong, BS**[1], Eric Oliver, MD[2] and Sarbjit S. Saini, MD, FAAAAI[2], [1]Johns Hopkins University School of Medicine, Baltimore, MD, [2]Department of Medicine, Division of Allergy and Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD

**797** **Importance of Patch Test in Diagnosing Chronic Spontaneous Urticaria**

**Maged Refaat, MD**, Rasha Shahin, MD, Asmaa Moustafa, MD and Walaa Abu El-Yazeed, MB, BCh, Department of Allergy and Clinical immunology,Ain Shams university, Cairo, Egypt

**798** **Pediatric Use of a C1 Esterase Inhibitor Concentrate for Hereditary Angioedema: Findings from the International Berinert® (C1-INH) Registry**

**Inmaculada Martinez-Saguer**, Haemophilia Centre Rhine Main, Moerfelden-Walldorf, Germany, James W. Baker, MD, FAAAAI,

Baker Allergy, Asthma, and Dermatology, lake Oswego, OR and Paula J. Busse, MD, FAAAAI, Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY

**799 The Role of Component Resolved Diagnostics for Assessing Hidden Allergens of Idiopathic Urticaria in Childhood**

**Jae-Won Oh**, Yeo-Soon Chang, Ha-Na Kang and Young-Jin Choi, Hanyang University Guri Hospital, Guri, South Korea

**800 Use of a C1 Esterase Inhibitor Concentrate in Elderly Patients with Hereditary Angioedema: Findings from the International Berinert® (C1-INH) Registry**

**Anette Bygum, MD**[1], Inmaculada Martinez-Saguer, MD[2], Murat Bas, MD[3], Jeffrey M. Rosch, MD, FAAAAI[4], Jonathan M. Edelman, MD[5], Mikhail Rojavin, PhD[5] and Debora Williams-Herman, MD[5], [1]Odense University Hospital, Department of Dermatology, Denmark, [2]Haemophilia Centre Rhine Main, Mörfelden-Walldorf, Germany, [3]Klinikum rechts der Isar, Technische Universitat Munchen, Hals-Nasen-Ohren Klinik, Munchen Bayern, Germany, [4]Central PA Asthma & Allergy Care, Altoona, PA, [5]CSL Behring, King of Prussia, PA

**801 Role of Urinary N-Methylhistamine in Chronic Urticaria**

**Bhavisha Patel, MD** and Rohit D. Divekar, MBBS, PhD, Mayo Clinic, Rochester, MN

**802 HAE with Normal C1-INH with Inconsistent Response to C1 Esterase Inhibitor Infusion but Reliably Responsive to Icatibant**

**Stephanie Santucci, RN**[1], Hoang Pham, MD 2016, BSc, BA[2] and William H. Yang, MD[1,3], [1]Ottawa Allergy Research Corporation, Ottawa, ON, Canada, [2]University of Ottawa, Faculty of Medicine, Ottawa, ON, Canada, [3]University of Ottawa Medical School, Faculty of Medicine, Ottawa, ON, Canada

**803 A Case of Successful Treatment of Autoinflammatory Syndrome-Associated Chronic Urticaria with Anakinra**

**Young-Il Koh, MD**[1], Min-joo Ahn, MD[2], Ji Eun Yu, MD[2] and Jiung Jeong, MD[2], [1]Chonnam National University Medical School, Gwangju, South Korea, [2]Chonnam National University Hospital, Gwangju, South Korea

**804 Aspirin Desensitization in Two Patients with Refractory Urticaria, Positive Chronic Uritcaria Index, and Elevated Mast Cell Mediators**

**Ogechukwu S. Ndum, MD**[1], Kiela Samuels, PharmD[2], Georgiana M. Sanders, MD, MS FAAAAI[3] and Christine L. Holland, MD[1], [1]University of Michigan Medical Center, Division of Allergy and Clinical Immunology, Ann Arbor, MI, [2]University of Michigan Health System, Ann Arbor, MI, [3]University Michigan Medical Center, Division of Allergy and Clinical Immunology, Ann Arbor, MI

**805 Mimics of Angioedema**

**Jacqueline Hirsh**, Yale-New Haven Hospital and Christina C. Price, MD, Yale University School of Medicine, New Haven, CT

**806 Assessment of Inhibitory Antibody Formation in Subjects with Hereditary Angioedema Treated with Plasma-Derived C1-Esterase Inhibitor Concentrate (Berinert®)**

**Henriette Farkas, MD, PhD, DSc**[1], Dumitru Moldovan, MD, PhD[2], Krystyna ObtuÂowicz, MD[3], T Shirov, MD, PhD[4], Jonathan M. Edelman, MD[5], Debora Williams-Herman, MD[5] and Mikhail Rojavin, PhD[5], [1]Semmelweis University, Budapest, Hungary, [2]Department of Allergology–Immunology, Mures County Hospital, Tirgu-Mures, Romania, [3]Jagiellonian University, Krakow, Poland, [4]MHAT "Tsaritsa Yoanna - ISUL", Sofia, Bulgaria, [5]CSL Behring, King of Prussia, PA

**807 Low Levels of Melatonin Increase Nitric Oxide Production from IFN-Gamma/Vitamin D Stimulated PBMC and May Contribute to Seasonal Increase in Angiodema in Summer.**

**Karyn Winkler, MD**[1,2], Dylan Martin, BS[3], Maja Nowakowski, PhD[4] and Rauno Joks, MD[1,5], [1]Center for Allergy and Asthma Research, [2]Department of Pediatrics, [3]College of Medicine, [4]Department of Pathology, [5]Department of Medicine, SUNY Downstate Medical Center, Brooklyn, NY

**808 Report of Colombian Registry for Hereditary Angioedema**

**Maria Margarita Olivares, MD**[1], Rosa Farfan, MD[2], Carlos E Olmos, MD[3], Catalina Gomez, MD[3], Jorge Sanchez, MD[4,5], Maria C Ortega-Lopez, MD[6,7], Jairo A. Rodriguez, MD, PhD[8], Jorge Rabal, MD[9], Mauricio Sarrazola, MD[10], Susana Diez-Zuloaga, MD[11,12], Alejandro Carreno, MD[13], Alejandro Echenique, MD[13], Eduardo Jr De Zubiria, MD[14] and Gerardo Ramirez, MD[15], [1]Clinica Medellin sede Poblado, Medellin, Colombia, [2]Unidad Alergologica, Medellin, Colombia, [3]CAYRE IPS, Bogota, Colombia, [4]Group of clínical and experimental Allergy (GACE), University of Antioquia, medellin, Colombia, [5]Foundation for the Develoment of Medical and Biological Science (FUNDEMEB)., MEDELLIN, Colombia, [6]Hospital Militar Central, Bogota, Colombia, [7]Hospital Universitario Infantil de San José, Bogota, Colombia, [8]Universidad Surcolombiana, Neiva, Colombia, [9]Organizacion Clinica General del norte, Barranquilla, Colombia, [10]Clinica San jose, Cucuta, Colombia, [11]Universidad de Antioquia, Medellin, Colombia, [12]IPS Universitaria Universidad de Antioquia, Medellin, Colombia, [13]Centro de alergologia Alejandro Carreño SAS, Santa Marta, Colombia, [14]Centro de Alergia e inmunologia, Bogota, Colombia, [15]Centro medico Carlos Ardila Lulle, Bucaramanga, Colombia

**809 Refined Method for Collection of Plasma Samples to Evaluate the Role of Plasma Kallikrein in Various Disease States**

**Jonathan A. Bernstein, MD**[1], H. James Wedner, MD, FAAAAI[2], Paula J. Busse, MD, FAAAAI[3], Aleena Banerji, MD[4], Marco Cicardi[5], C Sufritti[6], Edward G. Brooks, MD[7], Adam Cheifitz[8], Lawrence B Schwartz, MD, PhD, FAAAAI[9], Cem Akin, MD, PhD, FAAAAI[10], Daniel Sexton[11], Chris Stevens[11], Leslie E. Stolz[11], Malini Viswanathan[11], Ryan Faucette[11], Joseph C. Biedenkapp[11], Yung H. Chyung[11] and Burt Adelman[11], [1]University of Cincinnati College of Medicine, Cincinnati, OH, [2]Washington University School of Medicine, St. Louis, MO, [3]Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY, [4]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [5]Department of Biomedical and Clinical Sciences "Luigi Sacco", University of Milan, Luigi Sacco Hospital, Milan, Italy, Milan, Italy, [6]University of Milan, Milan, Italy, [7]Univ. Texas Health Science Center San Antonio, San Antonio, TX, [8]Beth Israel Deaconess Medical Center, Boston, MA, [9]Virginia Commonwealth University, Richmond, VA, [10]Harvard Medical School, Brigham and Women's Hospital, Boston, MA, [11]Dyax Corp., Burlington, MA

**810 Hydroxychloroquine As a Steroid-Sparing Agent in an Infant with Chronic Urticaria**

**Onyinye I Iweala, MD, PhD**[1], Christopher C. Copenhaver, MD[2], Eveline Y. Wu, MD[1] and Timothy P Moran, MD, PhD[1], [1]University of North Carolina, Chapel Hill, NC, [2]Allergy Partners of Western North Carolina, Asheville, NC

**811 CRTh2 and Aspirin/NSAID Intolerance in Chronic Spontaneous Urticaria**

**Eric T. Oliver, MD**, Kristin Chichester, MS, Patricia M. Sterba, MS, Kelly Devine, RN and Sarbjit S. Saini, MD, FAAAAI, Department of Medicine, Division of Allergy and Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD

**812 Differential Expression of Micro-RNAs in Circulating Blood of Chronic Idiopathic Urticaria Patients with Hives**

**C.K. E Lin, PhD**[1], John S. Kaptein, PhD[1] and Javed Sheikh, MD, FAAAAI[2], [1]Southern California Permanente Medical Group, Los Angeles, CA, [2]Kaiser Permanente Los Angeles Medical Center

**813 Improvement of Chronic Urticaria with Vitamin D Repletion Is Associated with Baseline Markers of Autoimmunity**

**Shaan Waqar, MD**, Robert J. Sporter, MD and Sherry Farzan, MD, Departments of Pediatrics and Internal Medicine, Division of Allergy & Immunology, Hofstra North Shore-LIJ School of Medicine, Great Neck, NY

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**814 Cytokine and Estrogen Stimulation of Endothelial Cells Augments Activation of the Surface-Bound Prekallikrein-High Molecular Weight Kininogen Complex: Implications for Hereditary Angioedema (HAE)**

**Kusumam Joseph, PhD**[1], Baby G. Tholanikunnel, PhD[2] and Allen P. Kaplan, MD, FAAAAI[1], [1]Medical University of South Carolina, Charleston, SC, [2]Medical University of South Carolina

**815 Clinical Features of Patients with Hereditary Angioedema with Normal C1 Inhibitor: A Study of Seventy-Four Brazilian Individuals Belonging to Nine Unrelated Families.**

**Juliana A. Sella, MD**[1], Luana Delcaro, BSc[1], Janaina M. L. Melo, MD[1], Thais M Nociti, MD[1], Marina M Dias, Chem[1], Solange R Valle, MD, PhD[2], Alfeu T França, MD[2], Soloni Levy, MD[2], Faradiba Sarquis Serpa, MD[3], Mariana PL Ferriani, MD[1], Adriana S Moreno, PhD[1] and Luisa Karla P. Arruda, MD, PhD, FAAAAI[1], [1]Ribeirao Preto Medical School - University of Sao Paulo, Ribeirao Preto, Brazil, [2]Clementino Fraga Filho University Hospital- UFRJ, Rio de Janeiro, Brazil, [3]EMESCAM, Vitoria, Brazil

**816 C1-Esterase Inhibitor Concentrate for Acute Laryngeal Hereditary Angioedema (HAE) Attacks: Different Treatment Response Based on Dosing Regimen?**

**Konrad Bork**, Department of Dermatology, Johannes Gutenberg University, Mainz, Germany, Jonathan A. Bernstein, MD, University of Cincinnati College of Medicine, Cincinnati, OH, Thomas Machnig, CSL Behring GmbH, Marburg, Germany and Timothy J. Craig, Penn State University College of Medicine, Hershey, PA

**817 Subcutaneous Icatibant for the Treatment of Acute Attacks of Hereditary Angioedema: Comparison of Self-Administration to Administration at a Medical Facility**

**Iris Otani, MD**, Massachusetts General Hospital, Boston, MA, William R. Lumry, MD, FAAAAI, AARA Research Center, Dallas, TX; Allergy and Asthma Specialists, Dallas, TX, Huamin Henry Li, MD, PhD, FAAAAI, Institute for Asthma and Allergy, Chevy Chase, MD, Timothy J. Craig, DO, FAAAAI, Professor, Penn State University, Department of Medicine and Pediatrics, Hershey, PA, Marc A. Riedl, MD, MS, University of California, San Diego, La Jolla, CA, Bruce L. Zuraw, MD, University of California, San Diego, San Diego, CA and Aleena Banerji, MD, Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, MA

**818 Targeting Factor 12 (F12) with a Novel RNAi Delivery Platform As a Prophylactic Treatment for Hereditary Angioedema (HAE)**

**Stacey Melquist**[1], Darren Wakefield[1], Holly Hamilton[1], Qili Chu[1], Aaron Almeida[1], Lauren Almeida[1], Megan Walters[1], Jessica Montez[1], Julia Hegge[1], Jason Klein[1], Christine Hazlett[1], Tracie Milarch[1], Stephanie Bertin[1], Aaron Andersen[1], Edie Doss[1], Rachael Schmidt[1], Linda Goth[1], Sheryl Ferger[1], David Rozema[1], James Hamilton[2], David Lewis[1] and Steven Kanner[1], [1]Arrowhead Research Corporation, Madison, WI, [2]Arrowhead Research Corporation, Pasadena, CA

**819 Relationship Between Drug Exposure and Clinical Response Observed in the Phase 1b Study of DX-2930 in Subjects with Hereditary Angioedema**

**Joshua S. Jacobs, MD**[1], Paula J. Busse, MD, FAAAAI[2], Aleena Banerji, MD[3], Mustafa Shennak[4], William R. Lumry, MD, FAAAAI[5], Mark A. Davis-Lorton, MD, FAAAAI[6], H. James Wedner, MD, FAAAAI[7], James W. Baker, MD, FAAAAI[8], Jonathan A. Bernstein, MD[9], Richard F. Lockey, MD[10], H. Henry Li, MD, PhD[11], Timothy J. Craig[12], Marco Cicardi[13], Marc A. Riedl, MD, MS[14], Ahmad Al-Ghazawi[4], Carolyn Soo[15], Ryan Iarrobino[15], Daniel Sexton[15], Christopher TenHoor[15], Ryan Faucette[15], Joseph C. Biedenkapp[15], Yung H. Chyung[15] and Burt Adelman[15], [1]Allergy and Asthma Clinical Research, Walnut Creek, CA, [2]Mount Sinai School of Medicine, New York, NY, [3]Massachusetts General Hospital, Boston, MA, [4]Triumpharma, Amman, Jordan, [5]AARA Research Center, Dallas, TX, [6]Winthrop University Hospital, Mineola, NY, [7]Washington University School of Medicine, St. Louis, MO, [8]James W. Baker, MD, LLC, Lake Oswego, OR, [9]University of Cincinnati College of Medicine, Cincinnati, OH, [10]Division of Allergy and Immunology, Department of Internal Medicine, University of South Florida, Morsani College of Medicine, Tampa, FL, [11]Institute for Asthma and Allergy, Chevy Chase, MD, [12]Penn State University College of Medicine, Hershey, PA, [13]Department of Biomedical and Clinical Sciences "Luigi Sacco", University of Milan, Luigi Sacco Hospital, Milan, Italy, Milan, Italy, [14]University of California, San Diego, La Jolla, CA, [15]Dyax Corp., Burlington, MA

**820 C1 Inhibitor for Routine Prophylaxis in Patients with Hereditary Angioedema: Interim Results from a European Registry Study**

**Emel Aygören-Pürsün**[1], Markus Magerl[2], Inmaculada Martinez-Saguer[3], Hilary J Longhurst[4], Ulrich Straßen[5], Ludovic Martin[6], Teresa Caballero, MD, PhD[7], Petra Staubach[8], Marcus Maurer[2], Mohamed Hamdani[9] and Irmgard Andresen[10], [1]Department for Children and Adolescents, Angioedema Centre, University Hospital Frankfurt, Goethe University, Frankfurt, Germany, [2]Department of Dermatology and Allergy, Charité – Universitätsmedizin, Berlin, Germany, [3]Haemophilia Centre Rhine Main, Moerfelden-Walldorf, Germany, [4]Department of Immunology, Barts Health NHS Trust, London, United Kingdom, [5]Department of Otorhinolaryngology, Head and Neck Surgery, Technical University of Munich, Munich, Germany, [6]National Reference Centre for Angioedema, CREAK, Angers, France, [7]Allergy Department, Hospital La Paz Institute for Health Research (IdiPaz), Biomedical Research Network on Rare Diseases (CIBERER, U754), Madrid, Spain, [8]Department of Dermatology, University Medical Center, University of Mainz, Mainz, Germany, [9]Shire, Lexington, MA, [10]Shire, Zug, Switzerland

**821 Pharmacodynamic Effect of DX-2930 on Plasma Kallikrein in Hereditary Angioedema Patients**

**Mark A. Davis-Lorton, MD, FAAAAI**[1], Paula J. Busse, MD, FAAAAI[2], Aleena Banerji, MD[3], Mustafa Shennak[4], William R. Lumry, MD, FAAAAI[5], H. James Wedner, MD, FAAAAI[6], Joshua S. Jacobs, MD[7], James W. Baker, MD, FAAAAI[8], Jonathan A. Bernstein, MD[9], Richard F. Lockey, MD[10], H. Henry Li, MD, PhD[11], Timothy J. Craig[12], Marco Cicardi[13], Marc A. Riedl, MD, MS[14], Ahmad Al-Ghazawi[4], Carolyn Soo[15], Ryan Iarrobino[15], Daniel Sexton[15], Christopher TenHoor[15], Ryan Faucette[15], Joseph C. Biedenkapp[15], Yung H. Chyung[15] and Burt Adelman[15], [1]Winthrop University Hospital, Mineola, NY, [2]Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY, [3]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [4]Triumpharma, Amman, Jordan, [5]AARA Research Center, Dallas, TX, [6]Washington University School of Medicine, St. Louis, MO, [7]Allergy and Asthma Clinical Research, Walnut Creek, CA, [8]James W. Baker, MD, LLC, Lake Oswego, OR, [9]University of Cincinnati College of Medicine, Cincinnati, OH, [10]University of South Florida Morsani College of Medicine, Tampa, FL, [11]Institute for Asthma and Allergy, Chevy Chase, MD, [12]Penn State University College of Medicine, Hershey, PA, [13]Department of Biomedical and Clinical Sciences "Luigi Sacco", University of Milan, Luigi Sacco Hospital, Milan, Italy, Milan, Italy, [14]University of California, San Diego, La Jolla, CA, [15]Dyax Corp., Burlington, MA

**822 Modeling and Analyses to Identify Potential Dosing Regimens of DX-2930 for the Long-Term Prophylaxis of Hereditary Angioedema**

**H. James Wedner, MD, FAAAAI**[1], Paula J. Busse, MD, FAAAAI[2], Aleena Banerji, MD[3], Mustafa Shennak[4], William R. Lumry, MD, FAAAAI[5], Mark A. Davis-Lorton, MD, FAAAAI[6], Joshua S. Jacobs, MD[7], James W. Baker, MD, FAAAAI[8], Jonathan A. Bernstein, MD[9], Richard F. Lockey, MD[10], H. Henry Li, MD, PhD[11], Timothy J. Craig[12], Marco Cicardi[13], Marc A. Riedl, MD, MS[14], Ahmad Al-Ghazawi[4], Carolyn Soo[15], Ryan Iarrobino[15], Daniel Sexton[15], Christopher TenHoor[15], Ryan Faucette[15], Joseph C. Biedenkapp[15],

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**823** **Gender Analysis of Icatibant-Treatment Outcomes of Acute Angioedema Attacks in Patients with Hereditary Angioedema Type I and II: Results from the Icatibant Outcome Survey**

**Teresa Caballero, MD, PhD**[1], Laurence Bouillet[2], Hilary J Longhurst[3], Werner Aberer[4], Marcus Maurer[5], Andrea Zanichelli[6], Amandine Perrin[7] and Irmgard Andresen[7], [1]Allergy Department, Hospital La Paz Institute for Health Research (IdiPaz), Biomedical Research Network on Rare Diseases (CIBERER, U754), Madrid, Spain, [2]National Reference Centre for Angioedema, Internal Medicine Department, Grenoble University Hospital, Grenoble, France, [3]Department of Immunology, Barts Health NHS Trust, London, United Kingdom, [4]Department of Dermatology and Venereology, Medical University of Graz, Graz, Austria, [5]Department of Dermatology and Allergy, Charité – Universitätsmedizin, Berlin, Germany, [6]Department of Biomedical and Clinical Sciences "Luigi Sacco", University of Milan, Luigi Sacco Hospital, Milan, Italy, [7]Shire, Zug, Switzerland

**824** **Radial Immunodiffusion Method for Evaluation of C1-Esterase Inhibitor Function**

**Emily Kay, MD**[1], Rebecca Pratt, MD[1], Susan Waserman, MD, FAAAAI[2], Waliul Khan, MD[1] and P. Hudecki[3], [1]McMaster University, [2]Department of Medicine, McMaster University, Hamilton, ON, Canada, [3]Hamilton Health Sciences Centre

**825** **Perioperative Management and Postoperative Outcomes in Patients with Hereditary Angioedema**

**Dale S. DiSalvo, BS**, Robert Saadi, BS and Timothy J. Craig, DO, FAAAAI, Professor, Penn State College of Medicine, Hershey, PA

**826** **Subcutaneous Use of the Plasma Derived C1 Inhibitor Berinert in a Complicated Hereditary Angioedema Case**

**Amin S. Kanani, MD**, University of British Columbia, Vancouver, BC, Canada

**827** **C1-INH Therapy in Acei/Arb Acquired Angioedema**

**Vipul Jain, MD**, University of Manitoba, Winnipeg, MB, Canada

**828** **Oral Intake of Anti-Hangover Substance Increases Metabolizing Capacity of Aldehyde Dehydrogenase 2 in Rat Model: New Therapeutic Potentials for Chronic Itch ?**

**Bossng Kang**[1], Chae-Young Bang[2,3], Se-Young Choung[2] and Kyungwoo Choi[4], [1]Department of Emergency Medicine, Hanyang University Guri Hospital, South Korea, [2]Department of Preventive Pharmacy and Toxicology, College of Pharmacy, Kyunghee University, South Korea, [3]Pico Entech, South Korea, [4]Managing Director, ChemBang, South Korea

**829** **Tamoxifen, a Trigger Factor of Hereditary Angioedema with Normal C1-INH with a Specific Mutation in the F12 Gene (HAE-FXII)**

**Stephan Rietz**[1], Konrad Bork[1], Karin Wulff[2], Guenther Witzke[1] and Jochen Hardt[3], [1]Department of Dermatology, Johannes Gutenberg University, Mainz, Germany, [2]University Medicine, Ernst Moritz Arndt University, Greifswald, Germany, [3]Department of Medical Psychology and Medical Sociology, Johannes Gutenberg University, Mainz, Germany

**830** **An Investigational RNAi Therapeutic Targeting Factor XII (ALN-F12) for the Treatment of Hereditary Angioedema**

**Akin Akinc**, Jingxuan Liu, June Qin, Adam Castoreno, Mark Schlegel, Martin Maier, Kevin Fitzgerald and Rachel Meyers, Alnylam Pharmaceuticals

**831** **Are Angiotensin Converting Enzyme Inhibitors the Main Elicitors of Tongue Angioedema?**

**Dasha Roa Medellin, MD**, Ana Rodriguez Fernandez, MD, Sarah Micozzi, MD, Mercedes Saenz de Santa Maria, MD., Marta Seoane, MD and María L. Baeza, MD, PhD, Hospital General Universitario Gregorio Marañón. Department of Allergy, Madrid, Spain

## New Approaches to Tracking Health Outcomes

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**832** **Skin Prick Testing Alone Is Not a Good Predictor of Allergy Symptom Severity in Grass Allergic Patients**

**Sameer Patel, M.D**, Victoria Nelson, M.Sc, Tara Sadoway, M.Sc., Peter Couroux, MD and Anne Marie Salapatek, PhD, Inflamax Research, Mississauga, ON, Canada

**833** **Quality of Life in Patients during Oral Immunotherapy for Food Allergy**

**Na'ama Epstein Rigbi**[1], Yitzhak Katz, MD, FAAAAI[1,2], Michael R Goldberg, MD, PhD[1], Michael B. Levy, MD, FAAAAI[1], Liat Nachshon, MD[1] and Arnon Elizur, MD[1,2], [1]Assaf Harofeh Medical Center, Zerifin, Israel, [2]Department of Pediatrics, Sackler School of Medicine, Tel Aviv, Israel

**834** **Impact of Parent-Reported Food Allergies on Children's Growth and Quality of Life of the Caregivers**

**Tanya Kajornrattana**, Department of Pediatrics, Faculty of Medicine, Prince of Songkla University, Songkhla, Thailand, Pasuree Sangsupawanich, MD, PhD, Prince of Songkla University, Hatyai, Thailand and Araya Yuenyongviwat, MD, Prince of Songkla University, Songkhla, Thailand

**835** **Food Allergy and Health-Related Quality of Life in a Racially Diverse Sample**

**Linda Herbert, PhD**[1], Elizabeth Flory, BS[1] and Hemant P. Sharma, MD, MHS FAAAAI[2], [1]Children's National Health System, Washington, DC, [2]Children's National Medical Center, Division of Allergy and Immunology, Washington, DC

**836** **Anxiety and Depression in Adults with Primary Immunodeficiencies (PID's)—How Much Do These Patients Experience and What Factors May Increase Patients' Risk?**

**Jacqueline L. Heath, MS**, Penn State University, College of Medicine, Hershey, PA, Erika FH Saunders, MD, Associate Professor, Penn State University, Department of Psychiatry, Hershey, PA, Erik Lehman, M.S., Penn State University, Department of Public Health Sciences, Hershey, PA and Timothy J. Craig, DO, FAAAAI, Professor, Penn State University, Department of Medicine and Pediatrics, Hershey, PA

## New Insights into Medication-Related Outcomes

## HEDQ

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Monday, March 7th, 2016, 9:45 AM - 10:45 AM

**837** **The Arietta Study: Exploring Severe Asthma Biomarkers in a Real-World Setting**

**Nicola A. Hanania, MD**[1], Stephanie Korn[2], Andrew Menzies-Gow[3], Michel Aubier[4], Kenneth R. Chapman[5], Giorgio Walter

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Canonica, MD[6], Cesar Picado, MD, PhD[7], Nicolas Martin[8], Ramón A Escobar[8], Stephan Korom[8] and Roland Buhl[2], [1]Pulmonary, Critical Care and Sleep Medicine, Baylor College of Medicine, Houston, TX, [2]Pulmonary Department, University Hospital, Johannes Gutenberg-University, Mainz, Germany, [3]Royal Brompton Hospital, London, United Kingdom, [4]Service de Pneumologie A, Hôpital Bichat, Paris, France, [5]Asthma & Airway Centre, Toronto, ON, Canada, [6]Allergy and Respiratory Diseases, Department of Internal Medicine, University of Genoa, Genoa, Italy, [7]Hospital Clínic de Barcelona, University of Barcelona, Barcelona, Spain, [8]F. Hoffmann-La Roche Ltd, Basel, Switzerland

**838** **Pharmacodynamic Model to Predict Ocular Itching Outcomes at 24 Hours Post-Treatment with Olopatadine (0.77% or 0.2%)**
**Matthew L Fidler, M. Stat., PhD**, Abhijit Narvekar, MS, MBBS, David Covert and Ramesh Sarangapani, PhD, Alcon, Fort Worth, TX

**839** **Three and a Half Years of Multi-Allergen Subcutaneous Immunotherapy Is Associated with a 50% Reduction in Asthma Symptom Scores**
**Efren L. Rael, MD, FAAAAI**, Stanford University, Sean N. Parker Center for Allergy and Asthma Research, Mountain View, CA and Faoud T. Ishmael, MD, PhD, FAAAAI, Penn State University, Hershey, PA

**840** **AGM– Antibiotic Allergies in General Medicine**
**Jason A. Trubiano, MD**[1], Rehka Pai Mangalore, MD, PhD[2], Yi-Wei Baey[3], Duy Le[2], Linda Graudins, BPharm[4], Patrick Charles, MD, PhD[5], Douglas F Johnson, MD, PhD[2] and Ar K Aung, MD[4], [1]Austin Health, Melbourne, Australia, [2]Austin Health, Australia, [3]Monash University, Australia, [4]Alfred Health, Australia, [5]Austin Health

**841** **Hemolysis Associated with IVIG Therapy**
**Tamar Rubin, MD**, Alfred I. Lee, MD, Eric Gehrie, MD and Florence Ida Hsu, MD, Yale University School of Medicine, New Haven, CT

**842** **Quality of Life Assessment in Patients with Chronic Urticaria**
**Kelly Yoshimi Kanamori**[1], Carolina Tavares Alcantara[2], Antonio Abílio Motta, MD, PhD[3], Jorge Kalil, MD, PhD[4] and Rosana C. Agondi, MD, PhD[4], [1]Clinical Immunology and Allergy Division , University of São Paulo, Brazil, [2]Clinical Immunology and Allergy Division, University of São Paulo, [3]Clinical Imunnology and Allergy Division, University of Sao Paulo, Sao Paulo, Brazil, [4]Clinical Immunology and Allergy Division, University of Sao Paulo, Sao Paulo, Brazil

## Rhinitis, Diagnosis and Therapy

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## IRSO

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**843** **Comparison of Skin Test Reactivity of Sublingual Immunotherapy Tablets to Commercial Extracts**
**Marc F. Goldstein, MD, FAAAAI**[1], Gregory J. Hilditch[2], Ina F. Frankel[1], Alex L. Goldstein, PhD, Donald J. Dvorin, MD, FAAAAI[1] and George A. Belecanech, MD[1], [1]Allergic Disease Associates, PC, [2]Drexel University College of Medicine

**844** **Changes of Feno and Nasal NO Levels after Treatment in Pediatric Allergic Rhinitis**
**Jin-A Jung, MD**, Dong-A University College of Medicine, Busan, South Korea, Woo Yong Bae, MD, Department of Otorhinolaryngology, College of Medicine, Dong-A University, Busan, South Korea and Ja Hyeong Kim, MD, University of Ulsan College of Medicine, Ulsan University Hospital, Ulsan

**845** **Role of Fibrocytes in Allergic Rhinitis**
**Marie-Eve Cote**[1], Marie-Eve Boulay, MSc[2], Sophie Plante[1], Jamila Chakir, PhD[1] and Louis-Philippe Boulet, MD[2], [1]Institut Universitaire de Cardiologie et de Pneumologie de Québec, Quebec City, QC, Canada, [2]Institut Universitaire de Cardiologie et de Pneumologie de Québec, Quebec, QC, Canada

**846** **Correlation of Symptom Scores, Nasal Airflow, and Nasal Resistance in Dust Mite Sensitized Allergic Rhinitis Children**
**Natchanun Klangkalya, MD**, Wiparat Manuyakorn, MD, PhD, Suwat Benjaponpitak, MD and Wasu Kamchaisatian, MD, Division of Pediatric Allergy and Immunology, Department of Pediatrics, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

**847** **An Exploratory Analysis of the Correlation Between Erythema Size and Total Nasal Symptom Scores in the Environmental Exposure Unit.**
**Lisa M. Steacy, BSc**[1], Terry J. Walker, BA[1], Barnaby Hobsbawn[1], Daniel Adams, BSc[1], Abhijeet Joshi, B.Pharm, MBA[2], Atul Raut, MD, PhD[2] and Anne K. Ellis, MD, MSc, FAAAAI[1,3], [1]Allergy Research Unit, Kingston General Hospital, Kingston, ON, Canada, [2]Sun Pharma Advanced Research Company Ltd., Mumbai, India, [3]Departments of Medicine and Biomedical & Molecular Science, Queen's University, Kingston, ON, Canada

**848** **Patient-Reported Symptoms Induced By Allergic and Non-Allergic Triggers in Randomized Controlled Trials of MP-Azeflu (Dymista) in Seasonal Allergic Rhinitis (SAR) Patients**
**Dominique Brandt, MA**, University Cincinnati Medical Center, Cincinnati, OH and Jonathan A. Bernstein, MD, University of Cincinnati College o fMedicine, Cincinnati, OH; University of Cincinnati College of Medicine, Cincinnati, OH

**849** **Relationship Between Nasal Symptom Scores, IgE Class and Skin Prick Test (SPT) Size in the Environmental Exposure Unit (EEU) – Relevance of IgE Class and Spt Diameter.**
**Dan Adams**[1], Mena Soliman, MBChB, MSc (candidate)[1,2], Lisa M. Steacy, BSc[1], Terry J Walker, BA[1], Barnaby Hobsbawn[1], Jenny Thiele, MSc[1,2] and Anne K. Ellis, MD, MSc, FAAAAI[1,2], [1]Allergy Research Unit, Kingston General Hospital, Kingston, ON, Canada, [2]Departments of Medicine and Biomedical & Molecular Science, Queen's University, Kingston, ON, Canada

**850** **Efficacy of MP-Azeflu in the Treatment of Postnasal Drip and Rhinorrhea in Patients with Seasonal Allergic Rhinitis (SAR)**
**Ellen R. Sher, MD, FAAAAI**, Atlantic Allergy, Asthma and Immunology Associates, Ocean, NJ; Drexel University Medical School Clinical Assist Professor, Philadelphia, PA, Sandra M. Gawchik, DO, FAAAAI, Asthma and Allergy Associates, Chester, PA, William E. Berger, MD, MBA, FAAAAI, Allergy & Asthma Associates of Southern California, Mission Viejo, CA and Eli O. Meltzer, MD, FAAAAI, Allergy and Asthma Medical Group & Research Center, San Diego, CA

**851** **Clinical Utility of Feno in Preschool Children with Allergic Rhinitis**
**Keum Hee Hwang**[1], Jisun Yoon[2], Yean Jung Choi[3], Eun Lee[4], Hyun-Ju Cho, MD[5], Song I Yang, MD[6], Young Ho Kim, MD[2], Young-Ho Ho Jung, MD[7], Ju-Hee Seo, MD[8], Ji-Won Kwon, MD[9], So Yeon Lee, MD, PhD[10], Bong-Seong Kim, MD[11] and Soo-Jong Hong, MD, PhD[12], [1]Department of Pediatrics, Childhood Asthma Atopy Center, Research Center for Standardization of Allergic Diseases, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea, Seoul, South Korea, [2]Department of Pediatrics, Childhood Asthma Atopy Center, Research Center for Standardization of Allergic Diseases, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea, [3]Department of Pediatrics, Childhood Asthma Atopy Center, Asan Medical Center, Ulsan University College of Medicine, Seoul, [4]Department of Pediatrics, Childhood Asthma Atopy Center, Research Center for

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**852 LOCAL Allergic Rhinitis: Entopy or Spontaneous Response?**
**Matteo Gelardi**[1], Antonio Guglielmi[1], Lucia Iannuzzi[1], Vitaliano Quaranta[2], Nicola Quaranta[1], Francesco Marcucci[3], Massimo Landi[4], Mario Correale[5], Annamaria Sonnante[5], Margherita Rossini[5], Maria Addolorata Mariggiò[5], Giorgio Walter Canonica, MD[6] and Giovanni Passalacqua, MD[7], [1]Section of Otolaryngology, Bari, Italy, [2]School of Medicine, Italy, [3]University of Perugia, Italy, [4]National Paediatrics Healthcare, Turin, Italy, [5]Clinical Pathology, Bari, Italy, [6]Allergy and Respiratory Diseases, Department of Internal Medicine, University of Genoa, Genoa, Italy, [7]Allergy and Respiratory Diseases, IRCCS San Martino Hospital-IST-University of Genoa, Italy

**853 Reduction of Substance-P Mediated Neuronal Hyper-Reactivity By Dymista™ (Azelastine & Fluticasone) Correlates with Decreased Cough-Frequency in Non-Allergic Rhinitis**
**Umesh Singh, MD, PhD**[1], Jonathan A Bernstein, MD[1], Holly Lorentz, PhD[2], Tara Sadoway, MSc[2], Victoria Nelson, MSc[2], Piyush Patel, MD, FRCP[2] and Anne Marie Salapatek, PhD[2], [1]University of Cincinnati, Cincinnati, OH, [2]Inflamax Research, Mississauga, ON, Canada

**854 Comparison of Commercial Cat and Dog Extracts in Skin Prick Testing and Protein Electrophoresis**
**Reese Bryan Lennarson**[1,2], Gregory M. Metz, MD[1,2], Shahan Stutes, MD[1,2] and Warren V. Filley, MD, FAAAAI[1,2], [1]Oklahoma Allergy and Asthma Clinic, Oklahoma City, OK, [2]University of Oklahoma Health Sciences Center, Oklahoma City, OK

**855 Cytokine Profiles in Monosensitized and Polysensitized Allergic Rhinitis Patients Treated with Sublingual Immunotherapy**
**L. Maslova**, Medical Academy of Postgraduate Education, Minsk, Belarus, Leonid P. Titov, MD, PhD, Republican Research and Practical Center for Epidemiology and Microbiology, Minsk, Belarus and Lawrence M. DuBuske, MD, FAAAAI, Immunology Research Institute of New England, Gardner, MA; George Washington University School of Medicine, Washington, DC

**856 Validation and Verification of Grass Allergen Challenge in the Allergen Biocube (ABC)**
**Endri Angjeli**[1], Keith Lane[2], Emily Schoemmell[3], Yesha Raval[3] and Paul Gomes[4], [1]Ora Inc, Andover, MA, [2]Ora Inc., MA, [3]Ora Inc, [4]Ora Inc.

## Immunotherapy, Rhinoconjunctivitis

## IRSO

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**857 Contrast Agent Reduces Allergic Rhinitis Symptoms**
**Erik Viirre, MD, PhD**[1], J. Ernest Villafranca, PhD[1], S. David Miller, MD[2], Paul Gomes[3] and Elliott Lasser, MD[1], [1]3E Therapeutics Corporation, La Jolla, CA, [2]North-East Medical Research Associates, [3]Ora Inc.

**858 Three Complementary Pathways Characterize the Suppressive Properties of Epit-Induced Tregs**
**Benjamin Pelletier, Master degree**[1], Lucie Mondoulet, PhD[1], Emilie Puteaux[1], Mélanie Ligouis[1], Véronique Dhelft[1], Camille Plaquet[1], Christophe Dupont, MD, PhD[2] and Pierre-Henri Benhamou, MD[1], [1]DBV Technologies, Bagneux, France, [2]Hopital Necker Enfants Malades, Paris, France

**859 SEMA4A Contributes Eosinopillic Phenotypes in Asthma and Chronic Rhinosinusitis with Nasal Polyps (CRSwNP)**
**Yohei Maeda**[1], Masaki Hayama[1], Kazuya Takeda[1], Atsushi Kumanogoh[2] and Hidenori Inohara[1], [1]Osaka university graduate school of medicine, Suita, Japan, [2]Osaka University, Suita, Osaka, Japan

**860 Treatment of Percistent Blepharitis and Keratoconjuctivitis with Intraocular and Topical Use of Tacrolimus 0.03% Ointment.**
**Konstantinos Syrigos**[1], Nikolaos K Syrigos[2], Maria Vasiliou[2], Maria Zande[2] and Ekaterini I. Syrigou, PhD[2], [1]Athens School of Medicine, Greece, [2]Department of Allergy, Sotiria General Hospital, Athens, Greece

**861 Demonstrating the Repeatability of the Nasal Allergen Challenge Protocol Utilized By the Allergic Rhinitis – Clinical Investigator Collaborative (AR-CIC)**
**Mena Soliman, MBChB, MSc (candidate)**[1], Jenny Thiele, MSc[1], Daniel Adams, BSc[2], Lisa M. Steacy, BSc[2] and Anne K. Ellis, MD, MSc, FAAAAI[1,2], [1]Departments of Medicine and Biomedical & Molecular Science, Queen's University, Kingston, ON, Canada, [2]Allergy Research Unit, Kingston General Hospital, Kingston, ON, Canada

**862 Patients' Knowledge and Attitude about Allergen Immunotherapy**
**Young-Hee Nam, MD**[1], Soo-Keol Lee, MD[2] and Dong-Sub Jeon[1], [1]Department of Internal Medicine, College of Medicine, Dong-A University, Busan, South Korea, [2]Dong-A University College of Medicine, Pusan, South Korea

**863 Characteristics of Systemic Reactions in the Setting of Modified Environmental Rush Immunotherapy Protocol (MERIT)**
**Stacy L. Rosenberg, MD**[1], Merritt L. Fajt, MD[2], Russell Traister, MD, PhD[1] and Andrej A. Petrov, MD[2], [1]University of Pittsburgh Medical Center, [2]University of Pittsburgh Medical Center, Division of Pulmonary, Allergy and Critical Care Medicine, Pittsburgh, PA

**864 Co-Seasonal Initiation of Allergen Immunotherapy: A Systematic Review**
**Peter S. Creticos, MD, FAAAAI**[1,2], David I. Bernstein, MD[3,4], Thomas B. Casale, MD, FAAAAI[5], Richard F. Lockey, MD[5] and Hendrik Nolte, MD, PhD[6], [1]Creticos Research Group, Baltimore, MD, [2]Division of Allergy & Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD, [3]Bernstein Allergy Group, Cincinnati, OH, [4]Division of Immunology, University of Cincinnati, Cincinnati, OH, [5]University of South Florida Morsani College of Medicine, Tampa, FL, [6]Merck & Co., Inc., Kenilworth, NJ

**865 Adherence to Topical Medications for Chronic Rhinosinusitis: Medication Posession Ratio and Description of Adherence Barriers**
**Brittany T Hines, MD**[1], Devyani Lal, MD[2], Matthew A. Rank, MD, FAAAAI[1], John C Lewis, MD[3] and Harry G. Teaford, MD[3], [1]Mayo Clinic, Scottsdale, AZ, [2]Mayo Clinic, Phoenix, AZ, [3]Mayo Clinic Arizona, Scottsdale, AZ

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# T Cells and Allergens

## MAAI

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**866 Prediction and Classification of Allergenicity within Protein Families**
**Surendra Negi, PhD**[1], Terumi Midoro-Horiuti, MD, PhD, FAAAAI[1], Chris Kearney, PhD[2], Randall M. Goldblum, MD[1] and Werner Braun, PhD[1], [1]University of Texas Medical Branch, Galveston, TX, [2]Baylor University, Waco, TX

**867 Characterising Unintended Effects of Genetic Modification on Expression of Gluten Proteins Involved in IgE-Mediated Allergies and Coeliac Disease Using Proteomics**
**Sophie NL Bromilow, BSc**, Institute of Inflammation and Repair, University of Manchester, Manchester, United Kingdom; Institute of Food Research, Norwich, United Kingdom, Lee Gethings, PhD, Waters Corporation, United Kingdom, Peter Shewry, Bsc PhD, Rothamsted Research, Harpenden, United Kingdom, Mike Bromley, PhD, Synergy Health, Derby, United Kingdom, Michael Buckley, University of Manchester, Manchester, United Kingdom and E.N.Clare Mills, Bsc PhD, Institute of Inflammation and Repair, Manchester, United Kingdom

**868 Association of Peripheral Blood Naïve and Memory T Cells Markers from Immigrants to Brooklyn Who Develop Asthma/ Allergies with Family History of Cancer.**
**Irina Katayeva, MD**, SUNY Downstate Medical Center, Brooklyn, NY; SUNY-HSC, Brooklyn, NY, Maria-Anna Vastardi, MD, Lutheran Medical Center, Brooklyn, NY and Rauno Joks, MD, Department of Medicine at SUNY Downstate Medical Center, Brooklyn, NY

**869 Clinical Characteristics of NSAID Drug Allergies and Predictive Value of the History for Oral Drug Challenge Outcomes**
**Rebecca Koransky, MD**, Department of Medicine, Montefiore Medical Center, Bronx, NY, Denisa Ferastraoaru, MD, MSc, Allergy - Immunology, Albert Einstein/Montefiore Medical Center, Bronx, NY and Elina Jerschow, MD, MSc, Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY

**870 TLR4 Agonist GLA Modifies Th1/Th2 Cytokine Profiles in PBMC from Patients with Pollen Allergy**
**Hailing Lu, MD, PhD**[1], Richard Roque[2], Jan ter Meulen, MD[1] and Christopher Clegg, PhD[2], [1]Immune Design, Seattle, WA, [2]Tria Bioscience, Seattle, WA

**871 Control of Steroid Responsiveness of Th Cells in Asthma**
**Akio Mori, MD, PhD**[1], Satoshi Kouyama, MSc[1], Miyako Yamaguchi[1], Yo Iijima[1], Akemi Ohtomo-Abe, PhD[1], Arisa Kinoshita[1], Yosuke Kamide[1], Hiroaki Hayashi, MD[2], Kentaro Watai, MD[2], Chihiro Mitsui, MD[2], Chiyako Oshikata, MD[1], Kiyoshi Sekiya, MD[1], Takahiro Tsuburai, MD, PhD[1], Mamoru Ohtomo, MD[1], Yuma Fukutomi, MD, PhD[2], Masami Taniguchi, MD, PhD[2], Takayuki Ohtomo, PhD[3] and Osamu Kaminuma, PhD[4], [1]National Hospital Organization, Sagamihara National Hospital, Sagamihara, Japan, [2]Clinical Research Center for Allergy and Rheumatology, Sagamihara National Hospital, Sagamihara, Japan, [3]Tokyo University of Pharmacy and Life Science, Tokyo, Japan, [4]Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan

**872 Termite Proteins Cross-React with Cockroach Allergens**
**Christopher P. Mattison, PhD**[1], Taruna Khurana, PhD[2], Matthew Tarver, PhD[3], Christopher Florane, MS[1], Casey C Grimm, PhD[1], Suman Pakala, PhD[4], Carrie Cottone, PhD[5], Claudia Riegel, PhD[5] and Jay E. Slater, MD[2], [1]USDA-ARS-SRRC, New Orleans, LA, [2]FDA/CBER/OVRR/DBPAP, Silver Spring, MD, [3]Bayer CropScience, West Sacramento, CA, [4]University of Georgia, Athens, GA, [5]New Orleans Mosquito, Termite and Rodent Control Board, New Orleans, LA

**873 Prediction and Identification of Korean Pine (Pinus koraiensis) Vicilin As a Food**
**Yuzhu Zhang, Ph.D**[1], Wen-Xian Du[1], Yuting Fan[1,2], Kari C. Nadeau, MD, PhD, FAAAAI[3] and Tara H McHugh[1], [1]USDA-ARS-PWA-WRRC, Albany, CA, [2]Jiangnan University, Wuxi, China, [3]Pediatric Allergy Immunology, Stanford University School Medicine, Stanford, CA

**874 Anti-Atherosclerotic Vaccination with T-Cell Peptides Is Most Effective in Reducing Plaque in the Thoracic Aorta**
**Kevin Tse, MD**[1], Takayuki Kimura, MD[2], Harley Tse, PhD[3], Alessandro Sette, Dr. Biol. Sci.[4], Klaus Ley, MD[4] and John Sidney[2], [1]Southern California Permanente Medical Group, San Diego, CA, [2]La Jolla Institute for Allergy and Immunology, [3]Wayne State University, [4]La Jolla Institute for Allergy and Immunology, La Jolla, CA

**875 The Sensitization Model and Correlation of Bermuda Grass and Timothy Grass Pollen Allergen in Respiratory Allergic Diseases Patients in Southern China**
**Luo Wenting**, National Clinical Research Center for Respiratory Disease, Guangzhou Institute of Respiratory Diseases, First Affiliated Hospital of Guangzhou Medical University, Guanghzou, China and Baoqing Sun, National Clinical Research Center for Respiratory Disease, Guangzhou Institute of Respiratory Diseases, First Affiliated Hospital of Guangzhou Medical University, Guangzhou, China

**876 Structural, Serological, and Genomic Analyses of the Major Mite Allergen Der p 23**
**Geoffrey Mueller, PhD**[1], Thomas A Randall[1], Jill Glesner, BS[2], Lars Pedersen[1], Lalith Perera[1], Lori L Edwards[1], Eugene DeRose[1], Martin D. Chapman, PhD, FAAAAI[2], Robert London[1] and Anna Pomés, PhD, FAAAAI[2], [1]National Institute of Environmental Health Sciences, NIH, Research Triangle Park, NC, [2]Indoor Biotechnologies, Inc., Charlottesville, VA

**877 A Role for Glycans in Bla g 2 Cockroach Allergen-Induced Allergic Responses**
**Danh Do, PhD**[1], Shuang Yang, PhD[2], Robert G. Hamilton, PhD D.ABMLI FAAAAI[3], John T. Schroeder, PhD[4] and Peisong Gao, MD, PhD[1], [1]Division of Allergy & Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD, [2]The Johns Hopkins University, Department of Pathology, Clinical Chemistry, Baltimore, MD, [3]Johns Hopkins University School of Medicine, Baltimore, MD, [4]Johns Hopkins University, Baltimore, MD

**878 Are Dust Mite Allergens More Abundant or More Stable Than Other Dermatophagoides Pteronyssinus Proteins?**
**Thomas A Randall**[1], Ryenne N Ogburn[2], Yingron Xu[2], Julia H Roberts[2], Marjorie S. Morgan, PhD[3], S Dean Rider[3], Robert London[1], Larry G. Arlian, PhD, FAAAAI[3], Michael C Fitzgerald[2], Geoffrey Mueller, PhD[1] and DiAnn L. Vyszenski-Moher, MS[3], [1]National Institute of Environmental Health Sciences, NIH, Research Triangle Park, NC, [2]Duke University, [3]Wright State University, Dayton, OH

**879 Ligand Binding Preferences of Pathogenesis-Related Class 10 (PR-10) Allergens**
**Barry K. Hurlburt, PhD**[1], Jane McBride[1], Swanandi Pote[2], Maksymilian Chruszcz, PhD[2] and Soheila J. Maleki, PhD, FAAAAI[1], [1]USDA-ARS-SRRC, New Orleans, LA, [2]University of South Carolina, Columbia, SC

**880 Molecular and Immunological Characterization of Gamma Gliadins As Major Allergens in Wheat Food Allergy**
**Sandra Wieser, PhD**[1], Alexandra Baar, PhD[1], Bharani Srinivasan, PhD[1], Nikolaos G. Papadopoulos, MD, FAAAAI[2], Stavroula Giavi, MD, PhD[3], Mika Makela, MD, PhD[4], Anna Pelkonen, MD, PhD[4], Christof Ebner, MD[5], Josef Thalhamer, PhD[6], Susanne Vrtala, PhD[7] and Rudolf Valenta, MD[1], [1]Division of Immunopathology, Department of Pathophysiology and Allergy Research, Center of Pathophysiology, Infectiology and Immunology, Medical

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University of Vienna, Vienna, Austria, [2]Allergy Research Center, Athens, Greece, [3]Allergy Department, 2nd Pediatric Clinic, University of Athen, Athens, Greece, [4]Skin and Allergy Hospital, Helsinki University Central Hospital, Helsinki, Finland, [5]Ambulatory for Allergy and Clinical Immunology Vienna, Vienna, Austria, [6]Department of Molecular Biology, Division of Allergy and Immunology, University of Salzburg, Salzburg, Austria, [7]Department of Pathophysiology and Allergy Research, Austria

**881 Assessing the Impact of Lipids on the Allergenic Potential of Peanuts Using a Germ-Free Murine Model of Food Allergy**

**Kwame Andoh-Kumi, MS**[1], Janina A Krumbeck, MS[1], Nathan L. Marsteller, PhD[2], Joe L. Baumert, PhD[2] and Richard E. Goodman, FAAAAI[2], [1]University of Nebraska-Lincoln, Lincoln, NE, [2]Food Allergy Research and Resource Program, University of Nebraska-Lincoln, Lincoln, NE

**882 Dynamics of Regulatory T Cell-Mediated Control of Antigen Responses and Autoimmune Neuroinflammation**

**Michael D. Cahalan, PhD**, Shivashankar Othy, DVM, PhD, Jonathan Skupsky, MD, PhD and Ian Parker, PhD, University of California, Irvine, Irvine, CA

**883 Prostaglindin I2 Receptor (IP) Signaling Increases Regulatory T (Treg) Cell Induction and Function and Renders T Effector (Teff) Cells More Susceptible to Treg-Mediated Suppression**

**Melissa H. Bloodworth, B.S.**[1], Kasia Goleniewska, M.S.[2] and R. Stokes Peebles Jr, MD, FAAAAI[2], [1]Vanderbilt University Medical Center, nashville, TN, [2]Vanderbilt University Medical Center, Nashville, TN

**884 T-Cell Epitope Optimization to Maximize Allergic Donor Responses**

**Luise Sternberg**[1], Pau Perez Escriva[2], Bjoern Peters, PhD[3] and Alessandro Sette, Dr. Biol. Sci.[3], [1]La Jolla Institute for Allergy & Immunology, La Jolla, CA, [2]La Jolla Institute for Allergy and Immunology, San Diego, CA, [3]La Jolla Institute for Allergy and Immunology, La Jolla, CA

**885 Regulatory T Cell Immunophenotype Is Influenced By Food Allergy Status**

**Ashley L Devonshire, MD, MPH**[1], Kristin A Erickson[2], Benjamin T Prince, MD[3,4], Dalia Fuleihan[5], Christine Szychlinski[3,4] and Anne Marie Singh[3,4], [1]Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern Feinberg School of Medicine, Chicago, IL, [2]Department of Medicine, Northwestern Feinberg School of Medicine, Chicago, IL, [3]Division of Allergy-Immunology, Department of Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL, [4]Division of Allergy-Immunology, Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [5]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL

**886 Recognition of Bla g T Cell Antigens Varies As a Function of Allergic Asthma Versus Rhinitis**

**Alessandro Sette, Dr. Biol. Sci.**[1], Myles B. Dillon, PhD[1], Véronique M. Schulten, PhD[1], Carla Oseroff[1], Laura Dullanty[1], April Frazier, PhD[1], Xavier Belles, PhD[2], Maria-Dolors Piulachs, PhD[2], Cynthia Visness, PhD, MPH[3], Leonard B. Bacharier, MD, FAAAAI[4], Gordon R. Bloomberg, MD, FAAAAI[5], Paula J. Busse, MD, FAAAAI[6], John Sidney[1] and Bjoern Peters, PhD[1], [1]La Jolla Institute for Allergy and Immunology, La Jolla, CA, [2]Institut de Biologia Evolutiva (CSIC-Universitat Pompeu Fabra), Barcelona, Spain, [3]Rho Federal Systems Division Inc., Chapel Hill, NC, [4]Division of Allergy, Immunology and Pulmonary Medicine, Department of Pediatrics, Washington University School of Medicine and St. Louis Children's Hospital, Saint Louis, MO, [5]Campus Box 8116, St. Louis Children's Hospital, Saint Louis, MO, [6]Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY

**887 Substance P (subP) Suppresses Induction of Specific Memory IgE Responses By PBMC of Ragweed Sensitized IgE+ Humans, but NOT CD4+IL4+ or CD8+CD60+IL-4+ T CELLS or IL-4.**

**Bryan McCarthy, MD**[1], Charles J. Kim, BS[2], Seto M Chice, MS[3], Isabella DeGregorio[4], Vahe Amassian, MD[5], Mark Stewart, MD, PhD[5], Maja Nowakowski, PhD[3], Yitzchok M. Norowitz, BS[6], Tamar A. Smith-Norowitz, PhD[7], Rauno Joks, MD[8] and Helen G. Durkin, PhD[9], [1]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, [2]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, [3]Department of Pathology, [4]Ridgewood High School, [5]Department of Physiology-Pharmacology/Neurology, [6]Center for Allergy and Asthma Research at SUNYDownstate Medical Center, [7]Department of Pediatrics, SUNY Downstate Medical Center, Brooklyn, NY, [8]Department of Medicine at SUNY Downstate Medical Center, Brooklyn, NY, [9]Department of Pathology/Medicine

**888 Non-Atopic Individuals Exhibit a Distinct Immune Reactivity Patterns in Response to Timothy Grass Pollen in and out-of-Season**

**Denise Hinz**[1], Gregory Seumois[2], Jason Greenbaum[2], Brandie White[2], Veronique M. Schulten[1], David H. Broide, MB ChB FAAAAI[3], John Sidney[1], Carla Oseroff[1], Erik R. Wambre, PhD, MBE[4], Eddie A. James, PhD[5], William W. Kwok, PhD[5], Pandurangan Vijayanand[2], Bjoern Peters, PhD[1] and Alessandro Sette, Dr. Biol. Sci.[1], [1]La Jolla Institute for Allergy and Immunology, La Jolla, CA, [2]La Jolla Institute of Allergy and Immunology, La Jolla, CA, [3]Department of Medicine, University of California, San Diego, San Diego, CA, [4]Benaroya Research Institute, Seattle, WA, [5]Benaroya Research Institute at Virginia Mason, Seattle, WA

## Microbiome, Immunogenetics, Molecular Biology

### MAAI

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**889 Pulmonary MicroRNA Expression Profiles Associated with Subchronic Aspergillus fumigatus Exposure**

**Tara L. Croston, PhD**[1], Ajay P. Nayak, PhD[1], Angela R. Lemons, MS[1], W.Travis Goldsmith, BSCpE[2], Michael L. Kashon, PhD[3], Dori M. Germolec, PhD[4], Donald H. Beezhold, PhD, FAAAAI[5] and Brett J. Green, PhD, FAAAAI[1], [1]Allergy and Clinical Immunology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, [2]Engineering and Control Technology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, [3]Biostatistics and Epidemiology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, [4]Toxicology Branch, Division of the National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC, [5]Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV

**890 Methylation Sites Associated with Alteration in Gene Expression in the ZPBP2/GSDMB/ORMDL3 Locus**

**Parul H. Kothari, MD, PhD**[1,2], Weiliang Qiu, PhD[2], Damien C. Croteau-Chonka, PhD[2], Vincent J. Carey, PhD[2] and Benjamin A. Raby, MD, MPH[2,3], [1]Division of Rheumatology, Immunology and Allergy, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, [2]Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, [3]Pulmonary

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Genetics Center, Division of Pulmonary and Critical Care Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

**891** **Diagnosis of Acute Respiratory Viral Infections By Targeted RNA Sequencing Provides Additional Critical Genetic Virulence and Epidemiological Information**

**Josh L. Kennedy, MD**[1,2], Walter Dehority, MD[3], Kimberly Paffett[3], Gary Schroth[4], Stephen Gross[4], Stephen Young[5] and Darrell Dinwiddie[3], [1]Arkansas Children's Research Institute, [2]University of Arkansas for Medical Sciences, Little Rock, AR, [3]University of New Mexico Health Sciences Center, [4]Illumina, [5]Tricore Reference Laboratory

**892** **Comparison of Different Protocols for the Induction of Experimental Allergic Rhinitis Mice**

**Alexander A. Babakhin, MD, PhD**[1], A. A. Laskin[1], O. Y. Kamishnikov[1], Musa Khaitov[1] and Lawrence M. DuBuske, MD, FAAAAI[2,3], [1]Institute of Immunology, Moscow, Russia, [2]George Washington University School of Medicine, Washington, DC, [3]Immunology Research Institute of New England, Gardner, MA

**893** **A Three Part Over the Counter Intervention Induces Remission or Improvement in Chronic Oropharyngeal Candidiasis**

**Cosby A Stone, MD, MPH**, Vanderbilt University, Nashville, TN and Jane J. Choi, MD, Vanderbilt University School of Medicine, Brentwood, TN

**894** **Unlocking the Functional Capacity of Sinonasal Microbiota Using Microbial DNA Enrichment Techniques**

**Brett Wagner Mackenzie, MSc**[1], Kristi Biswas, PhD[2], Michael W Taylor, PhD[2] and Richard G Douglas, MD, ChB, MD[2], [1]University of Auckland, Auckland Central, New Zealand, [2]University of Auckland, Auckland, New Zealand

**896** **Alterations in the Gut Microbiome of Patients with Food Allergy**

**Jamie H. Kiehm, MD**[1], Punita Ponda, MD[1], Sherry Farzan, MD[2], Jared Weiss[3], Cristina Sison, PhD[3] and Annette Lee, PhD[3], [1]Department of Pediatrics, Division of Allergy & Immunology, Hofstra-North Shore-LIJ School of Medicine, Great Neck, NY, [2]Departments of Internal Medicine & Pediatrics, Division of Allergy & Immunology, Hofstra-North Shore-LIJ School of Medicine, Great Neck, NY, [3]Feinstein Institute for Medical Research, North Shore-LIJ Health System, Manhasset, NY

## Asthma Immunology and Inflammation

### ADT

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Monday, March 7th, 2016, 2:00 PM - 3:15 PM

**897** **Th17/Treg Disregulation in Allergic Asthmatic Children Is Associated with Elevated Notch Expression**

**W. X. Zhang, MD, PhD**[1], Anqun Sheng, MD[1], Xueya Zhang, MD[1], Tingting Zhu, MD[1], Cuiye Weng, MD[1], Changchong Li, MD[1] and Wei Zhao, MD, PhD[2], [1]Yuying Children's Hospital, Wenzhou, China, [2]Division of Allergy and Immunology, Department of Pediatrics, Virginia Commonwealth University, Richmond, VA

**898** **The Effect of Age on Airway Inflammation in Older Versus Younger Patients with Asthma**

**Janette Birmingham, MS**[1], Joseph Manzini[1], Anna Goryachokovsky[1], Giselle Fontela[1], Juan P Wisnivesky, MD, DrPH[1] and Paula J. Busse, MD, FAAAAI[2], [1]Mount Sinai School of Medicine, [2]Mount Sinai School of Medicine, New York, NY

**899** **Eosinophilia-Associated Coronary Artery Vasospasm in Patients with Aspirin-Exacerbated Respiratory Disease**

**Neelam H. Shah, MD**[1,2], Thomas R. Schneider[1], Katherine N. Cahill, MD[3,4] and Tanya M. Laidlaw, MD, FAAAAI[3,4], [1]Brigham and Women's Hospital, Boston, MA, [2]Boston Children's Hospital, Boston, MA, [3]Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA, [4]Harvard Medical School, Boston, MA

**900** **Airway but Not Blood Type 2 Innate Lymphoid Cells (ILC2s) from Asthmatic Patients Are Steroid-Resistant, Which Is Induced By IL7R-Alpha Ligands**

**Rafeul Alam, MD, PhD, FAAAAI**, Sucai Liu, Verma Mukesh, Weimin Liu, Magdalena M Gorska, MD, PhD, James Good, MD and Donald Rollins, MD, National Jewish Health, Denver, CO

**901** **Mast Cell-Derived PAI-1 Promotes Airway Inflammation and Remodeling in a Murine Model of Asthma**

**Ara Jo**[1], Sun Hye Lee, PhD[2], Dong-Young Kim[2], Hyun Young Koo[2], Dae Woo Kim, MD[1], Mesut Eren[3], Douglas E Vaughan[3] and Seong Ho Cho, MD, FAAAAI[1,4], [1]Division of Allergy-Immunology, Department of Internal Medicine, Morsani College of Medicine, University of South Florida, Tampa, FL, [2]Division of Allergy and Immunology, Department of Medicine, Feinberg School of Medicine, Northwestern University, Chicago, IL, [3]Division of Cardiology, Department of Medicine, Feinberg School of Medicine, Northwestern University, Chicago, IL, [4]Division of Allergy and immunology, Department of Internal Medicine, Morsani Medicine College, University of South Florida, Tampa, FL

## Severe Combined Immunodeficiency (SCID)

### BCI

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Monday, March 7th, 2016, 2:00 PM - 3:15 PM

**902** **Using EMR Data Collections to Outline SCID Clinical Phenotypes**

**Shradha Agarwal, MD, FAAAAI**, Peter Sidi and Charlotte Cunningham-Rundles, MD, PhD, Icahn School of Medicine at Mount Sinai, New York, NY

**903** **Predicting Optimal Timing of Halting IVIG Therapy after HSCT for SCID**

**Sarah E. Henrickson, MD/PhD**[1], Nancy Bunin, MD[2], Alix E Seif, MD, MPH[2], Soma Jyonouchi, MD[2], Kathleen E. Sullivan, MD, PhD, FAAAAI[2] and Jennifer Heimall, MD[2], [1]Children's Hospital of Philadelphia, Philadelphia, PA, [2]The Children's Hospital of Philadelphia, Philadelphia, PA

**904** **Use of Rabies Virus Vaccine As a Neoantigen to Evaluate Humoral Immune Function in Patients with Primary Immunodeficiency Disorders Receiving Immunoglobulin Replacement Therapy**

**Suvanee Charoenlap, MD**[1], Pantipa Chatchatee, MD[1], Teerapong Tantawichien[2], Piyada Udomchaisakul[2], Pakamazt Khawplod[2], Nattiya Hirankarn[3], Pimpayao Sodsai[3], Jarungchit Ngamphaiboon, MD[1] and Narissara Suratannon, MD[1], [1]Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [2]Queen Savabha Memorial Institute (WHO Collaborating Center for, Research on Rabies Pathogenesis and Prevention), Thai Red Cross Society, Bangkok, Thailand, [3]Division of Immunology, Department of Microbiology, Faculty of Medicine, Chulalongkorn University, Thailand, Bangkok, Thailand

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**905** **Outcomes for Umbilical Cord Blood Transplantation in Severe Combined Immunodeficiency Disorders: Ten-Year Experience**
**Carrie N. Caruthers, MD**, Jonathan M. Rodrigues, MD, Alireza Shams, MD, Deepika Bhatla, MD and Alan P Knutsen, MD, FAAAAI, Saint Louis University School of Medicine, St. Louis, MO

**906** **Newborn Screening for Severe Combined Immune Deficiency with T Cell Receptor Excision Circle Assay in Mississippi 2012 – 2014**
**Anne B. Yates, MD, FAAAAI**, University of Mississippi Medical Center, Jackson, MS and Jessica B Perkins, MD, University of MS Medical Center, jackson, MS

## EORD Potpourri

## EORD

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Monday, March 7th, 2016, 2:00 PM - 3:15 PM

**907** **Eosinophil Mediators in Nasal Washes Obtained during Experimental Infections with Rhinovirus-16 in Subjects with and without Asthma**
**Evan Rajadhyaksha, BS**[1], Patricia P Jorge, MD[2], Holliday T. Carper, BS[1], Deborah D. Murphy, RN[1], Lisa J Workman, BA[3], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[3], Kate Donowitz[4] and Peter W. Heymann, MD[1], [1]University of Virginia Asthma and Allergic Diseases Center and the Department of Pediatrics Division of Respiratory Medicine, Charlottesville, VA, [2]Federal University of Sao Carlos, Brazil, [3]University of Virginia Asthma and Allergic Diseases Center, Charlottesville, VA, [4]University of Virginia Department of Pediatrics, Charlottesville, VA

**908** **Tracking and Characterizing Human B-Cell Responses in Rhinovirus Infection**
**Jacob D. Eccles**, Lyndsey M. Muehling, MS, Ronald Turner, MD and Judith A. Woodfolk, MBChB PhD, FAAAAI, University of Virginia, Charlottesville, VA

**909** **Induction of Airway BAFF during Upper Respiratory Infections in Patients with Asthma**
**Sergio E. Chiarella, MD**[1], Kathryn E. Hulse, PhD[2], Silvio Favoreto Jr., PhD[1], Assel Biyasheva, PhD[1], Junquing Shen, PhD[1], Homer A. Boushey Jr., MD[3], Atsushi Kato, PhD[1], Robert P. Schleimer, PhD[1] and Pedro C. Avila, MD[1], [1]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]University of California San Francisco, San Francisco, CA

**910** **Increasing Cupressaceae Pollen: A Growing Threat**
**Estelle Levetin, PhD, FAAAAI**, Michaela Flonard and Rashmi Prava Mohanty, University of Tulsa, Tulsa, OK

**911** **Rapid Quantification of Juniperus Pollen Proves Overlapping Pollen Seasons**
**Rashmi Prava Mohanty**[1], Mark A Buchheim, PhD[2] and Estelle Levetin, PhD, FAAAAI[1], [1]University of Tulsa, Tulsa, OK, [2]University of Tulsa

## Eosinophilic Esophagitis: Pathophysiology and Genetic Susceptibility

## FADDA

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Monday, March 7th, 2016, 2:00 PM - 3:15 PM

**912** **11q13 Is an Allergic Risk-Locus That Increases Eoe Risk and Increases LRRC32 Expression**
**Leah C Kottyan, PhD**[1,2], Rahul J. D'Mello, BS[1,3], Daniel Miller, BS[2], Avery Maddox[1,2], Emily Stucke, BA[1], Mark Rochman, PhD[1], Zubin Patel, BS[2], Joelle A. Rothenberg[1], Benjamin P. Davis, MD, PhD[1], Mirna Chehade, MD, MPH[4], Hugh A. Sampson, MD, FAAAAI[4], Robert A. Wood, MD, FAAAAI[5], Robbie D. Pesek, MD[6], Stacie M. Jones, MD[6], Brian P. Vickery, MD, FAAAAI[7], A. Wesley Burks, MD, FAAAAI[8], David M Fleischer, MD[9], Donald Y. Leung, MD, PhD, FAAAAI[9], Robert W. Lindblad, MD[10], Peter Dawson, PhD[10], Matthew T. Weirauch[2,11] and Marc E. Rothenberg, MD, PhD, FAAAAI[1], [1]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, [2]Center for Autoimmune Genomics and Etiology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, [3]Medical Scientist Training Program, University of Cincinnati College of Medicine, Cincinnati, OH, USA, [4]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, New York, USA, [5]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [6]Department of Pediatrics, University of Arkansas for Medical Sciences and Arkansas Children's Hospital, Little Rock, Arkansas, USA, [7]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, Chapel Hill, NC, [8]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, [9]Department of Pediatrics, National Jewish Health, Denver, Colorado, USA, [10]The EMMES Corporation, Rockville, Maryland, USA, [11]Divisions of Biomedical Informatics and Developmental Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA

**913** **Group 2 Innate Lymphoid Cells and IL-9 Receptor Are Increased in Active Eosinophilic Esophagitis**
**Ashmi Doshi, MD**[1,2], Rachel Baum, BS[3], Paulo Holanda[4], Kellen Cavagnero, BS[4], Braxton Bell[4], Lucas Dohil[4], Robert Newbury, MD[5,6], Melissa Aquino, BS[1], Richard Kurten, PhD[7], Taylor Doherty, MD, FAAAAI[3] and Seema Sharma Aceves, MD, PhD, FAAAAI[8], [1]Rady Childrens Hospital, San Diego, CA, [2]University of California, San Diego, La Jolla, CA, [3]University of California San Diego, La Jolla, CA, [4]University of California, San Diego, LA JOLLA, CA, [5]Rady Children's Specialists of San Diego, San Diego, CA, [6]Division of Pathology, [7]Arkansas Children's Hospital Research Institute, Little Rock, AR, [8]Pediatrics, University of California San Diego, La Jolla, CA

**914** **Eosinophil-Related Gene Expression in Children with Eosinophilic Gastrointestinal Disorders (EGIDs)**
**Tetsuo Shoda, MD, PhD**[1,2], Ichiro Nomura, MD, PhD[1,2], Katsuhiro Arai, MD, PhD[2], Hirotaka Shimizu, MD, PhD[2], Yoshiyuki Yamada, MD, PhD[3], Kanami Orihara, PhD[1,4], Hideaki Morita, MD, PhD[1], Akio Matsuda, PhD[1], Yukihiro Ohya, MD, PhD[2], Hirohisa Saito, MD, PhD[1] and Kenji Matsumoto, MD, PhD[1], [1]National Research Institute for Child Health and Development, [2]National Center for Child Health and Development, [3]Gunma Children's Medical Center, Shibukawa, Gunma, Japan, [4]Waseda Institute for Advanced Study, Waseda University, Tokyo, Japan

**915** **Loss of SPINK7 in Esophageal Epithelial Cells Unleashes a Pro-Inflammatory Response Characterized By Excessive Cytokine Production and Loss of Barrier Function**
**Nurit Pereg Azouz**[1], Demetria Michael[2], Laetitia Furio[3,4], Alain Hovnanian[3,4] and Marc E. Rothenberg, MD, PhD, FAAAAI[5], [1]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, [2]Cincinnati Children's Hospital Mediacl Center, [3]University Paris Descartes, [4]INSERM UMR 1163, [5]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA

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**916** **Eosinophilic Esophagitis Is a Trait of Netherton Syndrome**
**Nathalia Bellon, MD**[1], Colombe Paluel-Marmont, MD[2], Laetitia De Peufeilhoux, MD[1], Patrick Barbet, MD, PhD[3], Christine Bodemer, MD, PhD[1] and Christophe Dupont, MD, PhD[2], [1]Department of Dermatology and Referral Center for Genodermatoses and Rare Skin Diseases (MAGEC), Université Paris Descartes, Sorbonne Paris Cité, Hôpital Universitaire Necker-Enfants Malades, Paris, France, [2]Department of Digestive Functional Explorations and Food Allergy, Université Paris Descartes, Sorbonne Paris Cité, Hôpital Universitaire Necker-Enfants Malades, Paris, France, [3]Department of Pathology, Université Paris Descartes, Sorbonne Paris Cité, Hôpital Universitaire Necker-Enfants Malades, Paris, France

## Best of FADDA

## FADDA

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**917** **D-Dimer Levels May Identify Chronic Urticaria Patients Who Would More Likely Fail H2 Blockers or Omalizumab**
**Tho Q. Truong, MD**, National Jewish Health, Denver, CO

**918** **Sonographic Assessment of Optimal Needle Length for Epinephrine Autoinjectors in Infants and Toddlers**
**Harold L. Kim, MD**[1,2], Chitra Dinakar, MD, FAAAAI[3,4], Paul McInnis, BEng[5], Dan Rudin, MD[6], William Daley, MD, MPH[6] and Elke Platz, MD, MS[7,8], [1]Western University, London, ON, Canada, [2]McMaster University, [3]Children's Mercy Hospital, [4]University of Missouri-Kansas City, [5]University of Waterloo, [6]Sanofi US, [7]Brigham and Women's Hospital, [8]Harvard Medical School

**919** **Constitutive KIT Activity and IL-6 Production in Mast Cells Alters Levels of Reactive Oxygen Species (ROS) and the Scavenger Protein DJ-1 in Mastocytosis**
**Dokyun Kim, PhD**[1], Michael A Beaven, PhD[2], Joseph Kulinski, PhD[1], Avanti Desai, MS[1], Glenn Cruse, PhD[1], Calman Prussin, MD[1], Hirsh D. Komarow, MD[1], Melody C. Carter, MD[1], Dean D. Metcalfe, MD[1] and Ana Olivera, PhD[1], [1]Laboratory of Allergic Diseases, NIAID, NIH, Bethesda, MD, [2]Laboratory of Molecular Immunology, NHLBI, NIH, Bethesda, MD

**920** **IgE-Mediated Atopic Dermatitis-like Skin Inflammation Is Downregulated By the Application of Allergen-Specific Monoclonal Antibody IgG1 Fab Fragments to the Skin**
**Shin Yoshino**, Nobuaki Mizutani and Chutha Sae-Wong, Kobe Pharmaceutical University, Kobe, Japan

**921** **Ibuprofen and Other Arylpropionic Acid Derivatives Can be Responsible for Immediate Selective Responses to Nsaids**
**Diana Perez-Alzate, MD**[1], Natalia Blanca-López, MD, PhD[2], Inmaculada Doña, MD, PhD[3], Maria Luisa Somoza, MD[4], Maria J Torres, MD, PhD[3], Gador Bogas, MD[5], Jose A Cornejo-Garcia, PhD[6], Gabriela Canto, MD, PhD[4] and Miguel Blanca, MD, PhD[7], [1]Allergy Service, University Hospital Infanta Leonor, Madrid, Madrid, Spain, [2]Allergy Service, Infanta Leonor Hospital, Madrid, Spain, [3]Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain, [4]Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, [5]Allergy Unit, Regional University Hospital of Málaga-IBIMA, UMA, Málaga, Spain, [6]Research Laboratory, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain, [7]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain

## Creating Quality Health Care

## HEDQ

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Monday, March 7th, 2016, 2:00 PM - 3:15 PM

**922** **Anaphylaxis Preparedness Initiative for Allergen Immunotherapy – Implementation of a Policy for Carrying Autoinjectable Epinephrine**
**Ahila Subramanian, MD, MPH**[1], Lisanne P. Newton, MD[1], David M. Lang, MD, FAAAAI[1], Tanya Gobel, RN[1], Kathleen M. Caruso, RN, BSN[1], Katrina Zell[1] and Xiaofeng F Wang, PhD[2], [1]Cleveland Clinic, Cleveland, OH, [2]Quantitative Health Sciences, Cleveland Clinic, Cleveland, OH

**923** **Underutilization of Penicillin Skin Testing: A Call for Verifying Penicillin Allergy and Antibiotic Stewardship**
**Roxanne C. Oriel, MD**[1], Vincent R. Bonagura, MD, FAAAAI[1] and Olga Belostotsky, MD, PhD[2], [1]Division of Allergy and Immunology at North Shore Long Island Jewish Health System, Great Neck, NY, [2]Department of Allergy and Immunology at North Shore Long Island Jewish Health System-Lenox Hill Hospital, New York, NY

**924** **Health-Related Quality of Life Is Impaired in Families with Wheat Allergy Vs. Grass Allergy**
**Nora Borres, Med. Cand.**[1], Nora Nilsson[2], Isabel Drake, PhD[1], Sigrid Sjolander[3], Caroline Nilsson, MD, PhD[4], Bjoern Nordlund, PhD[5] and Gunilla Hedlin, MD, PhD[6], [1]Lund University, [2]Astrid Lindgrens Childrens Hospital, Stockholm, Sweden, [3]ImmunoDiagnostics, Thermo Fisher Scientific, Uppsala, Sweden, [4]Department of Clinical Science and Education, Södersjukhuset, Karolinska Institutet and Sachs' Children's Hospital, Södersjukhuset, Stockholm, Sweden, [5]Karolinska Institutet, Bromma, Sweden, [6]Karolinska Institutet, Stockholm, Sweden

**925** **Socioeconomic Disparities in the Economic Impact of Childhood Food Allergy**
**Lucy A. Bilaver, PhD**[1,2], Kristen Kester, MD, MPH[3], Bridget Smith, PhD[4,5] and Ruchi Gupta, MD, MPH[5,6], [1]Northern Illinois University, DeKalb, IL, [2]Chapin Hall at the University of Chicago, Chicago, IL, [3]bNew York-Presbyterian Hospital - Columbia University Medical Center, New York, NY, [4]Edward J. Hines Jr. VA Hospital, Chicago, IL, [5]Northwestern University Feinberg School of Medicine, Chicago, IL, [6]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL

**926** **Allergy Misconceptions Among Attending Physicians, Resident Physicians and Mid-Level Providers**
**Kaitlyn M. Jackson**[1,2], Desha Jordan, MD[1,2], Amy Perkins, MS[1,2] and Kelly M. Maples, MD[2,3], [1]Eastern Virginia Medical School, Norfolk, VA, [2]Children's Hospital of The King's Daughters, Norfolk, VA, [3]Pediatrics, Eastern Virginia Medical School, Norfolk, VA

## Rhinosinusitis, Local IgE

## IRSO

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Monday, March 7th, 2016, 2:00 PM - 3:15 PM

**927** **Unified Airway Theory: Association of Bronchiectasis and Chronic Rhinosinusitis**
**Sumit Bose, MD**[1], Whitney W. Stevens, MD, PhD[1], Newton Li, MD[1], Mariel G Rosati, MD[2], Leslie C. Grammer, MD[1], Kathryn E. Hulse, PhD[3], Atsushi Kato, PhD[1], Robert C. Kern, MD[4], Bruce

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K. Tan, MD[4], Stephanie S. Smith, MD[4], Kevin C. Welch, MD[4], David B. Conley, MD[4], Pedro C. Avila, MD[1], Robert P. Schleimer, PhD[1] and Anju T. Peters, MD[1], [1]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [4]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL

**928 A Novel Method of Measuring Nasal Specific IgE in Systemic and Local Allergic Rhinitis Patients**

**Paloma Campo, MD, PhD**[1], Carmen Rondon, MD, PhD[1], Ana Prieto del Prado, MD[1], Maria Salas, MD, PhD[1], Luisa Galindo, RN[1], Ana Aranda, PhD[2], Cristobalina Mayorga, PhD[3], Arturo Ruiz, MD[1], Gador Bogas, MD[1], Leticia Herrero, MD[1], Maria D Cañamero[1] and Miguel Blanca, MD, PhD[4], [1]Allergy Unit, Regional University Hospital of Malaga-IBIMA,UMA, [2]Research Laboratory, IBIMA-University Hospital of Málaga, Málaga, Spain, [3]Research Laboratory, Regional University Hospital of Málaga-IBIMA,UMA, [4]Allergy Unit, IBIMA-University Hospital of Malaga, Málaga, Spain

**929 Chronic Rhinosinusitis Patients with Gastroesophageal Reflux Disease Have Significantly Higher Prevalence of Atopic Conditions**

**Erica L. Palmisano, MD**[1], Mohamed Benhammuda[2], Arpita Mehta[2], Mary C. Tobin, MD[2], Christopher D. Codispoti, MD, PhD[2], Sindhura Bandi, MD[2], Pete Batra, MD[3], Phillip LoSavio, MD[3], Robert P. Schleimer, PhD[4] and Mahboobeh Mahdavinia, MD, PhD[2], [1]Allergy/Immunology section, Department of Immunology and Microbiology, Rush University Medical Center, Chicago, IL, [2]Department of Immunology and Microbiology, Allergy/Immunology Section, Rush University Medical Center, Chicago, IL, [3]Department of Otorhinolaryngology-Head and Neck Surgery, Rush University Medical Center, Chicago, IL, [4]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

**930 Proton Pump Inhibitors (PPIs) May Modulate More Than Just Reflux in Chronic Rhinosinusitis with Nasal Polyps**

**Jin Young Min, MD, PhD**[1], Robert C. Kern, MD[1], Christopher J. Ocampo, MD, PhD[2], Whitney W. Stevens, MD, PhD[2], Caroline P.E. Price[1], Christopher F. Thompson, MD[1], Tetsuya Homma, MD, PhD[2], David B. Conley, MD[1], Stephanie Shintani-Smith, MD[1], Julia H. Huang[1], Lydia Suh, BSc[2], James E. Norton, MS[2], Kathryn E. Hulse, PhD[2], Atsushi Kato, PhD[2], Robert P. Schleimer, PhD[2] and Bruce K. Tan, MD[1], [1]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL

**931 Heterogenous Inflammation in Chronic Rhinosinusitis without Nasal Polyps**

**Atsushi Kato, PhD**[1,2], Aiko I Klingler, PhD[3], Whitney W. Stevens, MD, PhD[1], Anju T. Peters, MD[1], Julie A Poposki, MS[1], Lydia Suh, BSc[1], James E. Norton, MS[1], Roderick G. Carter, BSc[1], Kathryn E. Hulse, PhD[3], Leslie C. Grammer, MD[1], Robert P. Schleimer, PhD[1,4], Stephanie S. Smith, MD[2], David B. Conley, MD[2], Robert C. Kern, MD[2] and Bruce K. Tan, MD[2], [1]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [4]Department of Otolaryngology, Northwestern University Feinberg School of Medicine

MONDAY

# *LATE-BREAKING ABSTRACTS PRESENTED AT SCIENTIFIC SESSIONS AAAAI ANNUAL MEETING MARCH 4-7, 2016*

The following abstracts were accepted for presentation after the deadline for the abstract supplement

## L1 Potential Role of Gut Microbial Metabolites in Allergy Prevention in Children

**Dr Caroline Roduit**[1], Dr Remo Frei[2], Dr Ruth Ferstl[2], Susanne Loeliger[1], Prof. Charlotte Braun-Fahrländer[3], Prof. Erika Von Mutius, MD, MSc[4], Prof. Juha Pekkanen, MD[5], Prof. Jean-Charles Dalphin[6], Prof. Josef Riedler[7], Prof. Roger Lauener, MD[8], Dr Liam O'Mahony, PhD[2]; [1]University children's hospital Zurich, Switzerland, [2]Swiss Institute of Allergy and Asthma Research, Davos, Switzerland, [3]Swiss Tropical and Public Health Institute and University of Basel, Basel, Switzerland, [4]University Children's Hospital, Munich, Germany, [5]National Public Health Institute, Kuopio, Finland, [6]University Hospital of Besançon, France, [7]Children's Hospital Schwarzach, Austria, [8]Children Hospital of Eastern Switzerland, St Gallen, Switzerland.

**RATIONALE:** Short-chain fatty acids (SCFAs) are metabolites produced by microbes in fermented foods or by microbes in the gut following fermentation of fibers. SCFAs have been shown to have anti-inflammatory properties in animal models. Our objective was to investigate the potential role of SCFAs in the prevention of allergic diseases among children and allergic airway-inflammation in mice.

**METHODS:** Measurement of SCFAs in fecal water were performed among a subset of 1 year old children (n=301) from a European birth cohort. Data on environmental factors and allergy were collected by questionnaires. We used ovalbumin (OVA) or house dust mite (HDM) sensitised mice to model allergic airway-inflammation.

**RESULTS:** In the birth cohort study, we observed a positive association between yogurt consumption in the first year of life and the fecal levels of butyrate. The children with the highest fecal butyrate levels had a significantly reduced risk of becoming sensitized to inhalant allergens, with a similar directional trend for asthma, atopic dermatitis and sensitization to food allergens. Oral administration of SCFAs to mice significantly reduced the severity of allergic airway-inflammation, both in the OVA and HDM models. All SCFAs tested reduced the total number of cells and eosinophils in bronchoalveolar lavages as well as reduced airway hyperresponsiveness. The single most effective SCFA was butyrate and oral administration of butyrate further reduced levels of Th2 cytokines in lung cells.

**CONCLUSIONS:** SCFAs, especially butyrate, protect against allergic airway inflammation and strategies designed to increase SCFA levels in children should be considered, both as a preventive and a therapeutic option.

## L2 Associations of Early Life Exposures and Environmental Factors with Asthma Among Children in Rural and Urban Areas of Guangdong, China

**Dr Jing Li, MD, MSc**[1], Dr Zhao Wei Yang, PhD[2], Mr. Mulin Feng[2], Dr Marjut Roponen[3], Dr Bianca Schaub[4], Prof. Gary Wing-kin Wong, MD, FRCPC[5]; [1]The First Affiliated Hospital of Guangzhou Medical College, State Key Laboratory of Respiratory Disease, Guangzhou Institute of Respiratory Disease, Guangzhou, China, [2]Department of Allergy and Clinical Immunology, State Key Laboratory of Respiratory Disease, The First Affiliated Hospital, Guangzhou Medical University, Guangzhou, China, [3]Department of Environmental Science, University of Eastern Finland, Kuopio, Finland, [4]University Children's Hospital Munich, Department of Pulmonary and Allergy, LMU Munich, Munich, Germany and Member of the German Center for Lung Research (DZL), [5]Department of Paediatrics, The Chinese University of Hong Kong, Hong Kong.

**RATIONALE:** Environmental factors may play important roles in asthma, but findings were inconsistent. The study was to determine the associations between early life exposures, environmental factors and asthma in urban and rural children in southeast China.

**METHODS:** A screening questionnaire survey was performed in 7164 children from urban Guangzhou and 6087 from rural Conghua. In the second stage, subsamples of 854 children (419 from Guangzhou, 435 from Conghua) were recruited for a case-control study including detailed questionnaire enquiring family history, early life environmental exposures, dietary habits, and testings including histamine airway provocation, skin prick test, and serum antibody analysis. House dust samples from 76 Guangzhou and 80 Conghua families were obtained to analyze levels of endotoxin, house dust mite and cockroach allergens.

**RESULTS:** The prevalence of doctor-diagnosed-asthma was lower in children from Conghua (3.4%) than Guangzhou (6.9%, $p<0.001$) in the screening survey. A lower percentage of asthma was found in rural compared to urban subjects (2.8% vs 29.4%, $p<0.001$) in case-control study. Atopy (odds ratio 1.91, 95% confidence interval 1.58-2.29), parental allergic diseases (2.49, 1.55-4.01), hospitalization before age 3 (2.54, 1.37-4.70), high milk product consumption (1.68, 1.03-2.73) and dust *Dermatophagoides farinae* 1 level (1.71, 1.34-2.19) were positively, while crop farming before age 1 (0.15, 0.08-0.32) and dust endotoxin level (0.69, 0.50-0.95) were negatively associated with asthma.

**CONCLUSIONS:** A variety of environmental factors were found to be associated with asthma. Parental allergic diseases, atopy, diet and early life exposures might explain the lower prevalence of asthma in the rural environment in southeast China.

## L3 Austri, a Large Randomized Study in Adolescents and Adults with Asthma, Assessing the Safety and Efficacy of Salmeterol in Combination with Fluticasone Propionate Compared to Fluticasone Propionate Alone

**Dr David A. Stempel, MD FAAAAI**[1], Dr Ibrahim Raphiou, PhD[1], Kenneth Kral[1], Dr Anne Yeakey[1], Kathy Buaron[1], Amanda Emmett[2], Dr Charlene M. Prazma, PhD[1], Dr Steve Pascoe, MD[1]; [1]GlaxoSmithKline, Research Triangle Park, NC, [2]Parexel International, Research Triangle Park, NC.

**RATIONALE:** Previous studies have shown an excess of serious asthma-related outcomes, including death, in subjects taking Long Acting Beta Agonists (LABAs). This study was designed to examine the risks and/or benefits of LABA therapy when added to an ICS in a combination inhaler in patients with asthma.

**METHODS:** A global, randomized, double-blind, parallel group study of asthmatic subjects ≥12 years; treated with salmeterol (SAL) and fluticasone propionate (FP) in combination (FSC) or FP alone for 26 weeks. The primary endpoint was time to first serious asthma-related event, the composite of death, intubation or hospitalization. To declare non-inferiority the hazard ratio of subjects with a serious asthma-related event with FSC compared to FP was <2.0 based on the upper bound of the 95% confidence interval (CI) on the estimate of the hazard ratio. The secondary endpoint was time to first asthma exacerbation requiring OCS.

**RESULTS:** Of 11,751 subjects randomized, 67 subjects experienced 74 serious asthma-related events with 34 and 33 subjects treated with FSC and FP, respectively. The FSC/FP hazard ratio was 1.029 (0.638-1.662) for time to first serious asthma-related event. Non-inferiority was achieved. There were no asthma-related deaths and 2 asthma-related intubations (both on FP). The FSC/FP hazard ratio for time to first asthma exacerbation was 0.787 (0.698-0.888).

**CONCLUSIONS:** There was no evidence of an increased risk of serious asthma-related events when SAL was used in a combination product with FP compared to FP. There was a significant reduction in risk of asthma exacerbations for FSC compared to FP alone.

## L4 The Diagnostic Testing Accuracy of Urinary Leukotriene E4 in Determining Aspirin Intolerance in Asthma: A Systematic Review and Meta-Analysis

**John B. Hagan, MD, FAAAAI**[1], Tanya M. Laidlaw, MD[2], Rohit D. Divekar, MBBS, PhD[1], Erin O'Brien, MD[1], Hirohita Kita, MD[1], Gerald W. Volcheck, MD, FAAAAI[3], Christina R. Hagan[4], Devyani Lal, MD[5], Harry G. Teaford, MD[6], Patricia J. Erwin[7], Matthew A. Rank, MD, FAAAAI[8]; [1]Mayo Clinic, Rochester, MN, [2]Brigham and Women's Hospital, Division of Rheumatology, Immunology, and Allergy, Boston, MA, [3]Mayo Clinic and Foundation, Rochester, MN, [4]Baylor University, Waco, TX, [5]Mayo Clinic, Phoenix, AZ, [6]Mayo Clinic Arizona, Scottsdale, AZ, [7]Mayo Clinic, Rochester, [8]Mayo Clinic, Scottsdale, AZ.

**RATIONALE:** Urinary leukotriene E4 (ULTE4) may be a biomarker that distinguishes aspirin-intolerant asthma from other asthma subtypes. Specific Aim: to estimate the diagnostic testing accuracy of ULTE4 as a marker of aspirin intolerance in patients with asthma using previously published studies.

**METHODS:** We identified relevant clinical studies from a systematic review of English and non-English articles using MEDLINE, EMBASE, and CENTRAL. Articles were screened at the abstract and full text level by two independent reviewers. We included previously published studies which analyzed ULTE4 in human subjects with asthma who had been characterized as having or not having aspirin intolerance on the basis of a specified definition. Receiver operator characteristic (ROC) curves were constructed and area under curve (AUC) calculated for each method used to measure ULTE4 by comparing against the gold standard of a positive aspirin challenge.

**RESULTS:** The search strategy identified 867 potential articles, of which 86 were reviewed at the full text level and 10 met criteria for inclusion. The sensitivity, specificity, positive predictive value and negative predictive values of ULTE4 to determine aspirin intolerance in asthmatic subjects were 0.55, 0.83, 0.77, 0.65 (Amersham-EIA); 0.76, 0.79, 0.73, 0.82 (Cayman-EIA); 0.73, 0.81, 0.76, 0.79 (mass spectrometry) and 0.81, 0.80, 0.65, 0.90 (radioimmunoassay) at optimal threshold of 192, 510, 165 and 69 pg/mg Cr respectively. The diagnostic odds ratio for each methodology was 6.11; 12.27; 11.70; and 17.33 respectively.

**CONCLUSIONS:** This study defines the diagnostic testing accuracy of ULTE4 in determining aspirin intolerance in asthma.

## L5 Factors Affecting Control and Adherence to One Year Treatment in Elderly Asthmatics in Turkey

**Prof. Bilun Gemicioglu, MD, PhD**[1], Prof. Hasan Bayram, MD, PhD[2], Prof. Arif Cimrin, MD[3], Prof. Oznur Abadoglu, MD[4], Prof. Aykut Cilli, MD[5], Prof. Esra Uzaslan, MD[6], Prof. Hakan Gunen, MD[7], Dr Levent Akyildiz, MD[8], Prof. Mecit Suerdem, MD[9], Prof. Tevfik Ozlu, MD[10], Prof. Zeynep Misirligil, MD[11]; [1]Istanbul Univ. Cerrahpasa Faculty of Medicine, Istanbul, Turkey, [2]University of Gaziantep, Gaziantep, Turkey, [3]Dokuz Eylul Univ. Faculty of Medicine, Izmir, Turkey, [4]Cumhuriyet Univ. Faculty of Medicine, Sivas, Turkey, [5]Akdeniz Univ. Faculty of Medicine, Antalya, Turkey, [6]Uludag Univ. Faculty of Medicine, Bursa, Turkey, [7]Sureyyapasa Pulmonary Diseases Hospital and Research Center, Istanbul, Turkey, [8]Mardin Medical Park Hospital, Mardin, Turkey, [9]Selcuk Univ. Faculty of Medicine, Konya, Turkey, [10]Karadeniz Teknik Univ. Faculty of Medicine, Trabzon, Turkey, [11]Ankara Univ. Faculty of Medicine, Ankara, Turkey.

**RATIONALE:** The objective of this study was to investigate the factors that affected the control and the adherence to one year treatment of newly diagnosed elderly asthmatics(EA) living in different areas of Turkey, and to compare these with young asthmatics(YA) regarding different parameters.

**METHODS:** A total of 1116 newly diagnosed adult asthmatic patients from 122 secondary or tertiary centers of different geographic locations took part in the study, and a standard web-based questionnaire was applied from July-2012 to March-2014. Patients were divided into two groups as YA (age: 18-59) and EA (age≥60). The differences in biometric parameters, pulmonary functions, allergic status, comorbidities, first given therapies, one year control, and adherence to treatment were analyzed.

**RESULTS:** The age of 12.2% of the new-onset asthma patients was ≥60 years. Body mass index was found as 27.8 kg/m$^2$ for YA and 29.8 kg/m$^2$ for EA ($p<0.001$). The presence of any comorbidity was 66.2% and 52.2% in EA and YA, respectively ($p=0.003$). Combined inhaled steroid plus long acting beta2 agonists were the most frequently administered treatment (83.0% vs. 93.4% in YA and EA, $p=0.002$).

The asthma control during one year was not significant between groups. But the number of visits were elevated in EA than YA (1.60 vs 1.22, $p=0.011$). The adherence to therapy was not significant between groups. The adherence to therapy in EA was significantly correlated with the presence of hypertension ($p< 0.025$).

**CONCLUSIONS:** Our findings demonstrated that EA presented more comorbidities and the presence of hypertension increased adherence to asthma treatment in elderly asthmatics.

## L6 Comparison of Omalizumab Therapy Effectiveness in Patients with Hypersensitivity to Non-Steroidal Anti-Inflammatory Drugs (NSAID) and Patients Who Tolerate NSAID (non-NSAID) – Polish Real Life Experience

**Dr Izabela R. Kuprys-Lipinska, MD, PhD**, Dr Pawel Majak, MD, PhD, Ms. Joanna Molinska, M. Sc., Mr. Mateusz JonakowskiStudent, Prof. Piotr Kuna, MD, PhD; Department of Internal Medicine, Asthma and Allergy, Barlicki University Hospital of Medical University of Lodz, Lodz, Poland.

**RATIONALE:** Hypersensitivity to non-steroidal anti-inflammatory drugs (NSAID) is a distinct phenomenon of severe asthma, but may coexists with allergy. The aim of the analysis was to compare the effectiveness of omalizumab (OMA) in the treatment of severe allergic asthma in patients with hypersensitivity NSAID to patients who tolerate NSAID (non-NSAID).

**METHODS:** 38 patients started OMA therapy in the Polish program for the treatment of severe allergic asthma in Barlicki Hospital between 2013 and 2015 year. We prospectively evaluated OMA effectiveness recording changes in oral corticosteroids daily dose (OCS), annual numbers of asthma exacerbations, the Asthma Control Questionnaire (ACQ) score, and the Asthma Quality of Life Questionnaire (AQLQ) score in 16$^{th}$ week and 52$^{nd}$ week of therapy. At the baseline the positive history of hypersensitivity to NSAID was reported by 14 patients, 24 patients tolerated NSAID.

**RESULTS:** The baseline characteristic of study groups in respect of demographic data, anthropologic data and severity of asthma did not significantly differed between NASID and non-NASID ($P>0.05$). 4 patients (2/2 from NASID/non-NASID) stopped themselves the therapy due to subjective lack of benefit. In both groups we observed significant improvement in ACQ, AQLQ scale as well the reduction of exacerbations and the OCS dose in 16$^{th}$ and 52$^{nd}$ week ($P<0.05$). The improvement in asthma control parameters between study groups did not differed in 16$^{th}$ and 52$^{nd}$ week ($P>0.05$).

**CONCLUSIONS:** The OMA seems to be equally effective in patients suffering from severe allergic asthma independently of NSAID hypersensitivity status, but larger population study is required to confirm this observation.

## L7 Role of Home Environmental Staphylococcus Aureus Bacterial Allergens in Childhood Asthma

**Dr Meghan F. Davis, DVM, MPH, PhD**[1], Dr. Shanna Ludwig, PhD[2], Dr Emily Brigham, MD[3], Dr Meredith C. McCormack, MD[4], Elizabeth Matsui, MD, MHS[5]; [1]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, [2]Johns Hopkins School of Public Health, Baltimore, MD, [3]The Johns Hopkins University School of Medicine, Baltimore, MD, [4]The Johns Hopkins Pulmonary, Baltimore, MD, [5]Division of Pediatric Allergy/Immunology, Johns Hopkins School of Medicine, Baltimore, MD.

**RATIONALE:** *Staphylococcus aureus* (SA) may induce allergic (Th2-biased) inflammatory responses through secreted staphylococcal enterotoxin (SE) A-D superantigens. SA is known to exacerbate eczema and increasingly is implicated in asthma exacerbations. We quantified putative staphylococcal allergens in home dust using a bacterial genetic method, then we associated SA/SE exposures with respiratory symptoms among children with asthma.

**METHODS:** We measured SA (*femB*) and SEA-D genes in home dust extracts from the randomization visit (before treatment) in the completed Asthma Control Evaluation cohort (NCT00114413) using real-time PCR. We tested cross-sectional associations between dust exposures and self-reported respiratory symptoms in 245 inner-city children with asthma (~50% of the cohort) using linear and binomial regression modeling.

**RESULTS:** We identified SA genes in 189 (77%) of 245 homes, with prevalence of any SE gene detection as follows: SEA (60%); SEB (52%); SEC (51%); SED (63%). Among children with asthma, mean ACT score was 20.7 and mean days of symptoms in the prior two weeks were: wheeze/cough: 2.2; interference with activities: 1.2; sleep disruption: 0.6. Strong dust SEA detection, *i.e.* threshold cycle (Ct)≤35, was associated with worse ACT score [β=-1.46, $p=0.01$] and increased odds of having a symptom day for each of the two-week outcomes, *e.g.* [wheeze/cough OR 1.55, $p<0.001$]. SA and SEB-SED were variably associated or were not associated with respiratory symptom outcomes.

**CONCLUSIONS:** Home staphylococcal dust exposures (SA/SE) were common among inner-city children with asthma. Dust SEA detection consistently was associated with increased respiratory symptoms in this cohort. Longitudinal studies are needed to confirm and explicate this novel finding.

## L8 Environmentally-Induced Epigenetic Changes Correlate with Race and Childhood Asthma Severity

**Dr. Marcia A. Chan, PhD**[1], Dr Christina E. Ciaccio, MD, MSc, FAAAAI[2], Nicole M. Gigliotti, BS[1], Mo Rezaiekhaligh, MS[1], Jacob A. Siedlik, MA[3], Kevin Kennedy, MPH, CIEC[1], Dr Charles S. Barnes, PhD[1]; [1]Children's Mercy Hospital, Kansas City, MO, [2]University of Chicago, [3]University of Kansas, Lawrence, KS.

**RATIONALE:** Socioeconomic status, genetic predisposition and environmental factors contribute to asthma incidence and severity. Children with asthma who are economically disadvantaged likely live in substandard housing with potential indoor environmental exposures that may manifest through epigenetic mechanisms. We examined the association of global DNA methylation with socioeconomic status, asthma severity and race/ethnicity.

**METHODS:** Global DNA methylation was measured in peripheral blood of children with asthma between the ages of 2 and 17 yrs enrolled in the Kansas City Safe and Healthy Homes Program. Inclusion criteria included residing in the same home for a minimum of 4 days per week and total family income of less than 80% of the Kansas City median family income (MFI). A three-way mixed factorial ANOVA was used to analyze global DNA methylation. When appropriate, follow-up analyses were performed using independent-samples *t*tests and ANOVA models with Bonferroni corrections.

**RESULTS:** Our results indicate that overall, African American children with asthma had significantly higher levels of global DNA methylation than children with asthma of other races/ethnicities ($p = 0.029$). This difference was more pronounced when socioeconomic status and asthma severity were considered ($p = 0.042$). In children with persistent asthma from the lowest income families (<50% Kansas City MFI), significantly higher levels of global DNA methylation were observed in African American children compared to children of other races/ethnicities ($p = 0.05$).

**CONCLUSION:** Our study demonstrates a significant interaction effect among global DNA methylation levels with asthma severity, race/ethnicity, and socioeconomic status.

## L9 Withdrawn

## L10 Mepolizumab in COPD with Eosinophilic Bronchitis: A Randomized Clinical Trial

**Prof. Parameswaran K. Nair, MD PhD FRCP FRCPC**[1], Dr Angira Dasgupta, MD[1], Mrs. Melanie Kjarsgaard, RRT[1], Mr. Dante Capaldi, BSc (Hon)[2], Mrs. Katherine Radford, MSc[1], Dr. Fernando P. Aleman, MD[1], Dr Grace Parraga, PhD[2], Prof. Paul M. O'Byrne, MB, FRCPC, FRSC[3]; [1]McMaster University, Hamilton, ON, Canada, [2]The University of Western Ontario, London, ON, Canada, [3]Department of Medicine, Cardio-Respiratory Research Group, McMaster University, Hamilton, ON, Canada.

**RATIONALE:** Chronic obstructive pulmonary disease (COPD) is associated with eosinophilic bronchitis in 10–20% of patients. Mepolizumab, an anti-interleukin-5 antibody, depletes blood eosinophils, sputum eosinophils and reduces exacerbations. We investigated if it had similar effects in COPD with airway eosinophilia.

**METHODS:** This was a double-blind, placebo-controlled, randomized single-centre study. Patients (40 – 80 years) with current moderate-to-severe COPD (post-bronchodilator $FEV_1/VC<70\%$; post-bronchodilator $FEV_1<60\%$ predicted) and current/ex-smokers (>10 pack-years) with sputum eosinophilia (≥3%) received monthly IV injections of mepolizumab 750 mg or placebo for 6 months.

**RESULTS:** A total of 18 patients were recruited (8 in active-arm; 10 in placebo).1 patient in the placebo group withdrew after randomization. Mepolizumab reduced sputum eosinophils (baseline 11% to 0.3% at 6 months in active arm vs 9.4% to 1.7% in placebo arm, $p<0.05$) and blood eosinophils (0.69 at baseline to 0.02 at 6 months in active-arm vs 0.36 to 0.28 in placebo-arm, $p<0.05$). There were no significant changes in the secondary outcome measures: lung function ($FEV_1$, FVC, SVC, $FEV_1$/SVC, $FEV_1$/FVC, TLC, RV, RV/TLC and DLCO), exacerbation rates and Quality of life scores; no significant treatment effects on airway-wall area %, lumen area, parametric response maps or relative areas of the CT density-histogram. However, the CRQ mean dyspnea domain score change was clinically meaningful (>0.5 units).

**CONCLUSIONS:** Mepolizumab does not improve lung function and exacerbation rates in COPD with eosinophilia. This suggests that although eosinophils are a predictor of response to treatment with corticosteroids, unlike in asthma, they may not directly contribute to luminal obstruction in COPD.

## L11 Role of R213G Polymorphism in Airway HYPER-Responsiveness

**Dr. Rohit Gaurav, MSc, PhD**, Ms. Brittany Hartman, BS, Mr. Jason Varasteh, BS, Dr. Hong-wei Chu, MD, Dr. Russell P. Bowler, MD, PhD; National Jewish Health, Denver, CO.

**RATIONALE:** The R213G polymorphism (rs1799895) in EC-SOD (Extracellular superoxide dismutase) protects smokers from developing COPD by releasing the EC-SOD from extracellular matrix into extracellular fluids such as plasma and epithelial lining fluid (ELF). The high levels of EC-SOD in ELF suggest a potential role for mitigating oxidative stress and airway hyperresponsiveness.

**METHODS:** C57BL/6 R213G knock-in mice were sensitized and challenged with ovalbumin (OVA) or saline. Airway hyperresponsiveness (AHR) was measured with flexiVent. Broncheoalveolar lavage fluid (BALF) was used for cell counts. Cytokines in supernatant from BALF were assayed using a V-plex assay from MSD.

**RESULTS:** Airway resistance (R) was significantly increased in wild-type (WT) OVA mice ($N=6$) compared to the saline mice ($N=9$, $p<0.0001$), but not in R213G heterozygotes (HETs) OVA mice ($N=7$). However, homozygotes (HMs) OVA mice ($N=4$) showed higher R at 25 ($p<0.05$) and 50mg/ml ($p<0.001$) methacholine than the saline mice. Total number of BALF cells increased in WT OVA compared to the saline group ($p=0.0017$). IL-4, IL-5, IL-6, TNF-α, and IFN-γ were increased in WT OVA ($p<0.01$) but not in HETs or HMs compared to the saline group. However, IL-1β and KC/GRO were higher in HMs and WT OVA compared to the saline group ($p<0.05$).

**CONCLUSIONS:** The R213G polymorphism appears to be protective in AHR and both Th1 and Th2 cytokines were suppressed. Maximal protection was observed in the heterozygotes, suggesting that both high ELF and tissue antioxidant activity may be important in the AHR.

## L12 Prostaglandin E2in Induced Sputum Following Oralaspirin Challenge in Asthma Patients with and without Aspirin Hypersensitivity

**Prof. Lucyna Mastalerz, MD, PhD**, Dr. Maria Ignacak, MD, Mr. Michal Buczek, MD, Ms. Aleksandra Cholewa, MD, Dr. Natalia Celejewska-Wojcik, MD, Dr. Krzysztof Wojcik, MD, PhD, Ms. Anna Gielicz, MSc, Dr. Krzysztof Oles, MD, PhD, Prof. Marek Sanak, MD, PhD; Jagiellonian University Medical College, Krakow, Poland.

**RATIONALE:** Induced sputum (IS) supernatant allows to measure lipid mediators of asthmatic inflammation in bronchial secretions. The specific role of endogenous bioactive prostaglandin E2(PGE2) in aspirin-induced asthma (AIA) is not well understood.

**METHODS:** To investigate theinfluence of aspirin on sputum supernatant concentration of PGE2 during aspirin challenge, using chromatography-mass spectrometry measurements in subjects with AIA ($n=26$) and aspirin-tolerant asthma (ATA, $n=17$), and healthy controls (HC, $n=21$).ISwas collected before and following oral aspirin challenge. Sputum differential cell count and sputum supernatant concentrations of $PGE_2$were assessed.

**RESULTS:** Aspirin precipitated bronchoconstriction in all AIA subjects, but in none of the ATAand HC. Phenotypes of asthma based on the sputum cytology differed between the groups. The IS specimens were mainly eosinophilic in AIA and paucigranulocitic in HC. In ATA group non phenotype based on the sputum cytology was dominant. At baseline, mean sputum supernatant concentrations of $PGE_2$was higher in asthma patients independent of aspirin hypersensitivity as compared to HC. Following the challenge, $PGE_2$decreased in all study groups (ANOVA, $p<0,001$).However, this decrease was statisticallysignificant only in AIA patients($p=0.01$) and HC.A cumulativedose of aspirin had no effect on the magnitude of the PGE2 alterations.

**CONCLUSIONS:** $PGE_2$decreases significantly in AIA during the oral challenge.The results support theory on the inhibition of PGE2 biosynthesis as a trigger for bronchoconstriction mediated by cysteinyl leukotrienes in AIA.

## L13 A New Pharmacological Approach for Asthma through Tissue-Specific Modulation of the GABA(A) Receptor

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**RATIONALE:** This study addresses the unmet need for an oral, safe, non-steroidal asthma treatment by targeting $GABA_A$ receptors ($GABA_AR$) in lung tissues. The hypothesis is that $GABA_ARs$ in inflammatory and airway smooth muscle (ASM) cell can be targeted by subtype-selective $GABA_AR$ agonists to tissue-selectively induce immunosuppression and ASM relaxation.

**METHODS:** A drug discovery approach identified $GABA_AR$ targets in lung cells by immunodetection, subtype selectivity by electrophysiology, preclinical characterization of active ligands using microsomes, S9, and blood plasma stability assays. Pharmacokinetic studies in mice are applied to identify *in vivo* stability and distribution. Murine pharmacodynamic models are used to quantify sensorimotor effects (rotarod), disease specific airway hyperresponsiveness, airway mucus production, and airway eosinophilia. Subtype-selective $GABA_AR$ ligands were evaluated for immune modulation using *in vitro* T-cell assays and ASM muscle relaxation with isolated ASM.

**RESULTS:** The α4 subtype-selective $GABA_AR$ ligand XHE-III-74EE showed high stability *in vitro* but a limited half-life *in vivo* due to rapid metabolism and clearance. Chronic administration of 20 mg/kg XHE-III-74EE successfully reduced airway hyperresponsiveness without inducing adverse CNS effects. Mucus hypersecretion was reduced for chronic and acute treatment. Similar results were observed for metabolite XHE-III-74A that exhibits α4 $GABA_AR$ subtype selectivity. XHE-III-74A significantly reduced eosinophilia, which is consistent with antiinflammatory suppressive effects in activated T-cells as measured by intracellular calcium release and IL-2 production. Both compounds were able to induce ASM muscle relaxation.

**CONCLUSIONS:** α4-Selective $GABA_AR$ agonists have a great potential as novel drug candidates for asthma to alleviate symptoms of airway hyperresponsiveness mediated by ASM constriction, hypereosinophilia, inflammation, and mucus overproduction.

## L14 Role of Circulating ICOS+ Follicular Helper T Cells in the Pathogenesis of Birch Pollen Allergy

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**RATIONALE:** Production of antigen-specific immunoglobulins in tissues is controlled by follicular helper T (Tfh) cells, which are recognized as memory Tfh cells in peripheral blood. Recent studies have revealed that inducible T-cell co-stimulator (ICOS) and programmed death 1 (PD-1) are activation molecules in blood Tfh cells. However, the role of blood Tfh cells expressing such molecules in the pathogenesis of birch pollen allergy remains unknown.

**METHODS:** Patients with birch pollen allergy (n = 34) and healthy controls (n = 21) were recruited in this study. Expression of ICOS and PD-1 in blood Tfh cells from subjects in pollen and pollen-free seasons (i.e. before and after the periods with pollens) was examined by flow cytometry. Correlations between results of flow cytometry and clinical parameters were also analyzed.

**RESULTS:** Levels of $ICOS^+$ and/or $PD\text{-}1^+$ in blood Tfh cells in the patients were similar to those in the controls throughout the pollen-free seasons, whereas the percentages of $ICOS^+$ blood Tfh cells during the pollen season were temporarily increased in the patients compared to those in the controls. We also found that total symptom scores were significantly correlated with percentage of $ICOS^+$ blood Tfh cells. Moreover, differential levels of $ICOS^+$ blood Tfh cells in pollen- and pollen-free seasons were significantly correlated with those of birch pollen-specific IgE.

**CONCLUSIONS:** Our findings suggest that increase in $ICOS^+$ blood Tfh cells in response to exposure to birch pollen may underlie the pathogenesis of birch pollen allergy.

## L15 Case Report of a Previously Unreported Type of DOCK8 Deficiency

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**RATIONALE:** Dedicator of cytokinesis 8 (DOCK8) deficiency is an autosomal recessive hyper-IgE syndrome characterized by recurrent bacterial, viral and/or fungal infections, atopic dermatitis and food allergies. Previous reports demonstrate either autosomal recessive or compound heterozygosity defects within the DOCK8 gene.

**METHODS:** Genetic sequencing evaluation of DOCK8, SPINK5, STAT3, and TYK2 were performed by GeneDx.

**RESULTS:** The patient presented with severe atopic dermatitis, eczema herpeticum, and severe food allergies. Immune evaluation showed decreased NK cell function, absent CD45+ total lymphocyte and CD3+ T cell responses to Tetanus toxoid and a serum IgE of 15,828 kU/L. Targeted comparative genomic hybridization revealed a heterozygous defect, c.624-12 T>A, a variant of unknown significance in the DOCK8 gene.

**CONCLUSIONS:** The c.624012 T>A variant is a previously unreported mutation that is likely responsible for the findings in this patient. This is the first reported case of this heterozygous mutation and may be clinically useful in the diagnosis and treatment of severe atopic dermatitis that does not fit the established criteria for previously reported hyper-IgE syndromes.

## L16 Immune Phenotype in Children with Mitochrondial Disease

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**RATIONALE:** Mitochondria contributes to metabolic processes important for cellular growth and function. Defects in mitochrondrial function might negatively impact immune development and responses. Interestingly, there have only been a few publications reporting on increased rate of infections in certain patients with mitochrondial disease. In this clinical retrospective study, we performed immune analysis on 70 pediatric patients diagnosed with mitochrondial disease defined by definitive Walker criteria. The majority of patients lack a history of life-threatening infections.

**METHODS:** From our mitochrondia cohort, we selected all patients diagnosed as definitive based on the Walker criteria. Seventy patients were identified, 16 with Leigh, 6 with depletion, 2 with SANDO, 1 with NARP, 1 with MELAS and the rest with unknown syndrome. We performed a laboratory retrospective review, documenting all commercial immune results.

**RESULTS:** Immunoglobulin and IgG subclass levels were within normal range for >90% of patients. Lymphocyte subset data was present for 44 patients. Although the CD45RO absolute count was within the age-specific normal range, the vast majority (65/71, 92%) of the values were in the lower third of the normal range. However, the %CD45RO was below the lower threshold for normal values (n=60, 85%). Conversely, the CD45RA values were on the upper threshold of normal. Most patients have protective titers to tetanus, diphtheria and pneumococcus.

**CONCLUSIONS:** Most patients with mitochondrial disease do not have perturbed immune development except for reduced CD45RO memory lymphocytes. The clinical significant of this result is unclear, but it suggests that mitochondrial function might be necessary for optimal immune memory development.

## L17 Evaluation of Serum Levels of Osteopontin and IgG Anti-Osteopontin Autoantibodies As Potential Biomarkers of Immune Activation in Patients with Allergic Diseases

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**RATIONALE:** Osteopontin (OPN) is a pleomorphic cytokine known to influence a wide range of immune cells; high OPN and IgG anti-OPN autoantibodies (AutoAbs) levels are associated with an increased risk of autoimmune lymphoproliferative syndrome, multiple sclerosis and systemic lupus erythematosus. We aimed to verify if serum levels of OPN and IgG anti-OPN AutoAbs may qualify as biomarkers of an activated immune response also in allergic patients.

**METHODS:** Serum OPN levels were measured by ELISA test (Human Osteopontin Duoset, R&D Systems, for OPN detection; "in-house" kit for anti-OPN AutoAbs). A series of 121 adult patients affected by asthma, allergic rhinitis (AR), Hymenoptera venom allergy (HVA), food allergy (FA), allergic contact dermatitis (ACD) and IgE-mediated hypersensitivity to beta-lactams (IEHB) was studied. 116 healthy subjects served as controls.

**RESULTS:** OPN serum levels were significantly higher in cases in comparison to controls (p=0.0010 by the Mann-Whitney test). Statistically higher levels were found in asthma (p=0.0269) and FA (p=0.046) groups in comparison to controls. Prevalence and titers of serum IgG anti-OPN AutoAbs were significantly lower in cases with respect to controls (p<0.0001). Lower levels of AutoAbs versus controls were found in patients with HVA (p<0.0001), AR (p=0.0009), ACD (p=0.0011) and asthma (p=0.0013), but not in FA group (p=0.0575). Patients with IEHB presented heterogeneous results for OPN and anti-OPN AutoAbs.

**CONCLUSIONS:** Serum OPN levels may represent a novel, potentially useful biomarker for allergic asthma and, interestingly, for food allergy.

## L18 Patient-Reported Outcomes (PROs) in Patients Receiving Omalizumab (OMB): A Systematic Literature Review

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**RATIONALE:** To summarize clinical trial and real-world evidence describing the magnitude and duration of impact of OMB as add-on therapy on PROs in patients with moderate to severe allergic asthma.

**METHODS:** Systematic literature review (MEDLINE/EMBASE) was conducted to identify studies of OMB in pediatric/adolescent/adult patients with moderate to severe allergic asthma. Outcomes of interest included measures of self-reported asthma control, asthma-specific and general quality of life assessments/questionnaires, and patient symptom reports.

**RESULTS:** 25 randomized controlled trials (RCTs) and 34 non-randomized studies (NRSs) were included. Among 8 RCTS reporting the Asthma Quality of Life Questionnaire (AQLQ) overall score, statistically significant improvements favoring OMB versus placebo/control, were documented in 5 studies; at 52 weeks, mean/median changes from baseline in domain and overall scores ranged from 1.01-1.33 for OMB and from 0.8-0.98 for placebo ($P<0.01$). At 20–52 weeks, proportions of patients with a minimally important difference (MID) in AQLQ improvement (≥0.5 points from baseline) ranged from 57.5%–78.8% with OMB and from 22.2%–69.8% with placebo/control. Statistically significant improvements in mean Asthma Control Test (ACT) scores from baseline to post study were found in 12 of 22 NRSs, ranging from 9.4-17.28 at baseline to 17.4-22.5 at 8 months to 6 years. Seventeen of 22 NRSs reported achievement of a MID in ACT (≥3 points from baseline) for patients treated with OMB.

**CONCLUSIONS:** Results from this systematic literature review confirm that OMB-treated patients with moderate to severe asthma achieve clinically meaningful improvements in PROs, which are observed across both RCTs and observational studies.

## L19 Epicutaneous Allergen Exposure Dose Determines Manifestation of Allergic Airway Disease in Mice

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**RATIONALE:** As cat allergies are associated with severe asthma in children, we sought to determine whether the application of cat dander to barrier-disrupted skin could play a role in the development of allergic asthma.

**METHODS:** In 4-6 week old female mice (BALB/c, C57Bl/6 and mice transgenic for the human HLA DRB1*0401), cat dander extract (CDE) was applied (1.5, 15 or 150 μg) to a shaved area on their back for 10 days after tape stripping. Mice were then administered intranasal challenges of CDE to localize the response to the lungs. Eosinophilia was determined by Wright-Giemsa staining of the bronchoalveolar lavage fluid (BALF) and hematoxylin and eosin staining of lung sections. Airway resistance was measured through a nebulized methacholine challenge.

**RESULTS:** Mice exposed to 15 μg CDE on the skin showed increased eosinophils in the BALF and peribronchial tissue (BALB/c: 2.3 ± 1.8 x $10^4$ eosinophils and 0.262 ± 0.257 eosinophils/$mm^2$ respectively) compared to naive mice (BALB/c: 0.02 ± 0.04 x $10^4$ eosinophils in BALF and 0 eosinophils/$mm^2$ in the peribronchial tissue; $p < 0.05$). Airway resistance was also increased. Intriguingly, eosinophilia and airway resistance were markedly reduced in mice that received 150 μg CDE on the skin (BALB/c: 0.5 ± 0.4 x $10^4$ eosinophils in BALF and 0.07 ± 0.05 eosinophils/$mm^2$ in the peribronchial tissue). These trends were observed in all three strains.

**CONCLUSIONS:** Although epicutaneous exposure to cat dander on barrier-disrupted skin can lead to allergic airway disease, at a high dose of cat dander on the skin these features of disease are attenuated.

## L20 Analysis of Home Dust for Allergens Related to *Staphylococcus Aureus*

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**RATIONALE:** The bacterium *Staphylococcus aureus* (SA) is known to induce allergic inflammatory responses, including through secreted staphylococcal enterotoxin (SE) A-D superantigens. SA is known to exacerbate eczema; a growing body of evidence suggests SA exposure may exacerbate a related disease, atopic asthma. While methods are established to quantify home environmental allergen exposure, corresponding methods for SA/SE assessment have not yet been validated. We adapted a method for home dust SA/SE detection and applied it in INHALE study homes of inner-city adults with asthma.

**METHODS:** We conducted laboratory experiments to optimize sample processing and real-time PCR methods for genetic assessment of SA (*femB*) and SEA-D, based on published primers. We applied this method to dust and dust extract from 21 homes. We compared results from bacterial gene assessment to culture-based results from the same homes.

**RESULTS:** The Biostic® Bacteremia DNA Isolation Kit (MoBio Laboratories) with 50mg raw dust and using 9μl isolated DNA for qPCR assessment performed equally or better than alternative methods. Application to INHALE homes demonstrated that while 10 (48%) of 21 homes were culture-positive for SA, all had detectable SA genes. Prevalence of SE detection in cultured SA isolates was 0% but in raw dust was: SEA 33%; SEB 76%; SEC 62%; SED 24%. Dust extract and raw dust demonstrated strong SA gene correlation (*femB*, Pearson's coefficient 0.80), but weaker correlations for SE genes.

**CONCLUSIONS:** Compared to culture-based assessment, bacterial gene-based testing of home dust was more sensitive for staphylococcal (SA/SE) exposures. Staphylococcal exposures may be common among inner-city adults with asthma.

## L21 Risk Factors for Childhood Peanut Allergy in a Large Birth Cohort Study: Growing up in New Zealand

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**RATIONALE:** The prevalence of IgE-mediated food allergy is increasing worldwide. However the prevalence of childhood food allergy and early life determinants remain unclear. We determined the prevalence of peanut allergy at age 2 years and both perinatal and postnatal factors associated with the risk of peanut allergy, within a contemporary New Zealand (NZ) birth cohort study.

**METHODS:** *Growing Up in New Zealand* is an ethnically and socio-economically diverse cohort made up of 6853 births from 2009-2010 (11% of all births in NZ over this period). Between late pregnancy and when the children were 2 years old information was collected on child characteristics and their environments. Prevalence of peanut allergy was determined by parental report of doctor diagnosis. Multivariable logistic regression was used to describe the early life factors associated with the presence of peanut allergy.

**RESULTS:** By age 2 years, 162 (2.6%, 95% CI 2.2-3.0%) cohort children were identified as peanut allergic. The odds of having peanut allergy were increased for boys (OR=1.59, 95% CI 1.13-2.26), children diagnosed with eczema since 9 months (OR=10.72, 95% CI 7.26-16.31), children whose mother had a history of atopic disease (OR=1.40, 95% CI 1.00-1.97), or whose mothers identified as being of Asian ethnicity (OR=2.27, 95% CI 1.48, 3.43).

**CONCLUSIONS:** This is the first study to determine prevalence in a diverse NZ cohort and identify key early determinants. In particular the increased likelihood of a peanut allergy in children born to mothers who identified as Asian may be related to discrete biological and environmental factors, further investigation is needed.

## L22 Increased Cis-to-Trans Urocanic Acid Ratio in the Skin of Chronic Urticaria Leads to the Enhancement of Mast Cell Degranulation

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**RATIONALE:** Increased filaggrin expression was positively correlated with urticaria severity in our previous study. However, the role of filaggrin breakdown products (FBP) in the pathogenesis of CU has not been studied.

**METHODS:** FBP, including pyrrolidone carboxylic acid (PCA) and urocanic acid (UCA) were quantitated in stratum corneum (SC) samples collected from volar forearm regions (6 consecutive tapes) employing UPLC-MS/MS from 10 CSU, 10 atopic dermatitis (AD) and 10 normal subjects. *In vitro* effects of *cis*- and *trans*-UCA on human mast cell degranulation were assessed by beta-hexosaminidase release assay using LAD2 cells.

**RESULTS:** With normalization by protein content, total amount of FBP and PCA content was significantly decreased in lesional (21.56±20.2 and 16.70±15.4 ng/mg protein, respectively, $P<0.01$) AD skins as compared to NC (63.86±21.6 and 49.14±16.3). However, those were not significantly different in CSU lesions (44.54±31.2 and 34.48±23.6) compared with NC. *Trans*-UCA, the primary isomer of the UCA in NC, was significantly decreased in CSU and AD. The proportion of *cis*-UCA was significantly higher in CSU skin (0.44±0.24, $P<0.01$) compared with AD (0.14±0.20) and NC (0.10±0.12). Both TEWL and pH were significantly increased in AD lesions compared with CSU lesions. *Cis*-UCA dose-dependently enhanced the IgE- and calcium-mediated degranulation of LAD2 cells ($P<0.001$), which was not observed with *trans*-UCA.

**CONCLUSIONS:** FBP deficiency in AD was confirmed in the association with a significant increase in TEWL and pH in AD. Increased ratio of *cis*-to-*trans*-UCA, and decreased epidermal pH in CU can be associated with CU pathogenesis. *Cis*-UCA could contribute to the pathogenesis of CU by enhancing mast cell degranulation.

## L23 Multicenter Study of Food Induced Anaphylaxis in Korean Infants

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**RATIONALE:** Food induced anaphylaxis in young age group is increasing. We aimed to analyze clinical characteristics of anaphylaxis in Korean infants.

**METHODS:** A retrospective medical record review was performed on infants (0~2 years old) diagnosed with anaphylaxis between 2009 and 2013 in 23 tertiary hospitals in South Korea

**RESULTS:** 363 anaphylaxis cases (66.9% male) were identified. Cutaneous symptoms (98.6%) were the most common symptoms followed by respiratory (83.2%), gastrointestinal (29.8%), and neurologic (11.6%). Cardiovascular symptoms were rare (7.7%). 338 cases (93.1%) of anaphylaxis was induced by foods. 185 cases (51.0%) of anaphylaxis occurred within 30 minutes after offending food exposure. The most common trigger food was milk (44.3%) followed by egg (22.0%), walnut (8.3%), wheat (7.7%), peanut (4.8%), other nuts (3.0%), and fish (2.1%). The median value of specific IgE (sIgE) by immunoCAP to milk was 6.80 (range 0.37 ~ 427.00) $kU_A/L$. 51.7% of infants under 12 months of age and 55.9% of infants aged 12 months and over had their symptoms even under the levels of milk-sIgE diagnostic decision points. The median value of egg-sIgE was 10.40 (range 1.03~100.00) $kU_A/L$. 93.2% of egg-induced anaphylaxis cases had egg-sIgE levels above diagnostic decision points.

**CONCLUSIONS:** Milk was the most common trigger food of anaphylaxis in Korean infants. Half of the cases of anaphylaxis occurred within 30 minutes after exposure. Even in very low level (0.37 $kU_A/L$) of milk-sIgE, anaphylaxis could occur and more than half of the infants with milk anaphylaxis showed milk-sIgE levels under the diagnostic decision point.

## L24 Proteomic Profiling of Atopic Dermatitis, Psoriasis, and Contact Dermatitis Patients

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**RATIONALE:** Atopic dermatitis (AD), psoriasis (PS), and contact dermatitis (CD) are common inflammatory skin diseases characterized by significant barrier disruption and systemic inflammation. Transcriptomic profiling has identified unique epidermal signatures as well as common inflammatory pathways. Given the systemic nature of the diseases, this study profiled the proteomic signatures in serum from subjects with AD, PS, and CD compared to healthy donor controls.

**METHODS:** Serum was collected from 20 subjects with moderate-to-severe AD, 20 subjects with CD, 12 subjects with moderate-to-severe PS, and 10 healthy controls with no history of skin disease. Protein expression was evaluated by SOMAscan™, Singulex®, and multiplex technology. Expression in AD, CD, and PS serum was compared to healthy controls for statistical significance (fold change ≥ 1.5 and false discovery rate < 0.05) and lists compared between diseases to identify unique proteomic signatures.

**RESULTS:** This study identified 7 proteins (Up Regulated: C5a, PARC, LBP, CRP, ILT-4; Down Regulated: CAMK2B, Carbonic anhydrase 6) that were similarly modulated in all inflammatory skin diseases compared to healthy controls. Additional comparisons with serum from healthy controls revealed significant modulations in a total of 25, 5, and 64 proteins in subjects with AD, PS, and CD, respectively. Protein signatures were further refined by comparing between inflammatory skin diseases. This resulted in a unique signature of increased IgE, CCL17/TARC, and CCL22/MDC in AD; which significantly correlated ($p<0.05$) with disease severity.

**CONCLUSIONS:** This study suggests unique proteomic signatures in the sera may potentially distinguish between inflammatory skin diseases despite similar epidermal barrier disruption and epithelial inflammation.

## L25 Efficacy and Safety of Crisaborole Topical Ointment, 2%, a Novel, Nonsteroidal, Topical, Anti-Inflammatory, Phosphodiesterase Inhibitor in 2 Phase 3 Studies in Children and Adults with Mild-to-Moderate Atopic Dermatitis

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**RATIONALE:** Phosphodiesterase 4 (PDE4) enzyme is overexpressed in inflammatory cells of patients with atopic dermatitis (AD); this leads to disease exacerbation. Here, we present safety and efficacy from 2 multicenter, double-blind, vehicle-controlled phase 3 studies of identical design in patients with mild-to-moderate AD (NCT02118766 and NCT02118792) treated with the novel, nonsteroidal, topical, anti-inflammatory investigational PDE4 inhibitor Crisaborole Topical Ointment, 2%.

**METHODS:** Patients ≥2 years old with mild-to-moderate AD were randomized 2:1 to receive crisaborole or vehicle twice daily with evaluation on Days 8, 15, 22, and 29. Primary and secondary efficacy endpoints analyzed AD disease severity with the Investigator's Static Global Assessment (ISGA). Supportive efficacy endpoints examined time to improvement in pruritus, severity of pruritus, and signs of AD.

**RESULTS:** Studies 1 and 2 enrolled 503:256 and 513:250 crisaborole/vehicle patients, respectively. At Day 29, more crisaborole-treated patients achieved ISGA success than those treated with vehicle (study 1: 32.8% vs 25.4%, $P=0.038$; study 2: 31.4% vs 18.0%, $P<0.001$) with a greater percentage of "almost clear/1" or "clear/0" ISGA scores (study 1: 51.7% vs 40.6%, $P=0.005$; study 2: 48.5% vs 29.7%, $P<0.001$). Success in ISGA and improvement in pruritus were achieved earlier with crisaborole than vehicle ($P<0.001$ vs vehicle). A greater proportion of crisaborole-treated patients achieved success for all clinical signs of AD by Day 29. Treatment-related adverse events were infrequent, transient, and mild/moderate in severity.

**CONCLUSIONS:** Two Phase 3 studies demonstrate that Crisaborole Topical Ointment, 2%, represents a novel, safe, and efficacious treatment for children and adults with mild-to-moderate AD.

## L26 The Negative Impact of Persistent Penicillin Allergy Labeling

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**RATIONALE:** Although 8-20% of patients have penicillin allergy labels (PAL), less than 1% of the population are truly allergic. The extent to which a PAL persists in the EMR despite documented penicillin tolerance is currently unknown.

**METHODS:** The synthetic derivative (de-identified version) of the electronic medical record (EMR) was mined for patients >18 years or older with >3 visits linked to Vanderbilt ambulatory care from January 2000 to August 2014. Key outcomes including antibiotic utilization and presence of C. difficile infection were compared between cases with (n=11,504) and controls (n=31,084) without PAL. Cases were examined for the persistence of the PAL despite documented tolerance. Categorical variables were analyzed by Pearson Chi-squared test and continuous data by Wilcoxon signed rank test.

**RESULTS:** Most PAL (67%) were already labeled upon entry into the EMR, and 96% remained persistently labeled. Cases were more likely to develop C. difficile infection (1.2% vs 0.9%, p=0.001). The proportion of prescription encounters for levofloxacin (15% vs 12%), vancomycin (5% vs 4%), clindamycin (8% vs 4%), and aztreonam (1% vs <0.1%) were overrepresented in PAL cases versus unlabeled controls (all p<0.001). Of 11216 PAL, 4321 (39%) had EMR documentation of having received and tolerated a penicillin, however despite this 4045/4321 (94%) retained the PAL.

**CONCLUSIONS:** In this largely ambulatory population, PALs persist within the EMR despite proven tolerance and are associated with higher risk antibiotic treatments and C. difficile infection. Major reform of the EMR to utilize systematic approaches of documenting, reconciling, and removing the PAL is urgently needed.

## L27 Skin Testing for the Diagnosis of Severe Perioperative Anaphylaxis to Clindamycin

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**RATIONALE:** Clindamycin hypersensitivity reactions (HSRs) are rare with an incidence of 0.4%. Mild cutaneous type I HSRs are most common, and severe HSRs are extremely rare with only three prior case reports of anaphylaxis. Clindamycin skin testing has low sensitivity in mild to moderate HSRs but has not been evaluated in severe HSRs.

**METHODS:** Skin prick and intradermal tests were performed with rocuronium, propofol, midazolam, ondansetron, and clindamycin.

**RESULTS:** A 60-year-old woman with leakage of bilateral breast implants presented for capsulectomy with removal and replacement of implants. Anesthesia was induced with midazolam, fentanyl, propofol, and rocuronium. She had an unknown childhood penicillin allergy and was given clindamycin in the operating room prior to induction and ondansetron at the time of induction for nausea. Immediately after induction, she became difficult to ventilate with no response to sevoflurane or albuterol nebulizer. Upon intubation, she was persistently hypoxemic and bradycardic. She developed linear urticaria on her bilateral extremities and went into PEA arrest. ACLS was administered for 8 minutes prior to ROSC. After resuscitation, serum tryptase and histamine were obtained and were 106 ng/mL and >9.99 ng/mL, respectively. She recovered and was evaluated in the Allergy Clinic two months later. Repeat serum tryptase was 3.5 ng/mL, and latex IgE was <0.35 kU/L. Skin testing was negative to rocuronium, propofol, midazolam, and ondansetron. Skin prick test was positive to clindamycin with a 10 mm wheal and 35 mm flare.

**CONCLUSIONS:** Clindamycin hypersensitivity can cause life-threatening anaphylaxis. Skin testing is useful for diagnosis in severe type I HSRs.

## L28 Antibiotic Allergy De-Labeling: Teaching an Old Dog New Tricks

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**RATIONALE:** Antibiotic allergy labels (AAL) significantly impact antibiotic prescribing and may lead to the inappropriate use of broad spectrum antibiotics which creates a public health concern. Infectious disease (ID) physicians from the Emerging Infections Network (EIN) of the Infectious Diseases Society of America (IDSA) were surveyed to determine their views, access and use of antibiotic allergy testing (AAT).

**METHODS:** A 10-item online survey was distributed by the EIN in September 2015 to 1172 members practicing adult ID, 323 pediatric and 24 both. Two reminders were sent to non-respondents.

**RESULTS:** Of 736/1,545 (48%), only 43% had skin prick/intradermal testing (SPT) available and 30% were either unaware of options or had none available. Although 78% overall suggested that a negative test would lead to AAL removal, those with > 15 years experience were significantly less likely to remove AAL (P<0.001). Most felt AAL removal would aid antibiotic selection (95%), appropriateness (92%), safety (74%) and antimicrobial-stewardship (AMS) (82%). Although 68% overall advocated incorporation of AAT into AMS, those with < 15 years experience were significantly more likely to support this (p=0.006). In settings of a remote reaction history, point-of-care testing (40%) was preferred to antibiotic desensitization (7%).

**CONCLUSIONS:** ID physicians perceive inadequate access to AAT services. Less experienced physicians were both more likely to view AAT as a means to remove AAL and advocate its incorporation into AMS. A generational shift appears to be occurring that should support AAT as a tool to improve antibiotic appropriateness.

## L29 The Use of Drug Desensitization Protocols at a Pediatric Institution

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**RATIONALE:** Protocols for adults to achieve immunologic IgE and non-IgE induction of temporary drug tolerance (drug desensitization) have been well described. Use of these protocols is recommended only when administration of the drug is essential and requires close collaboration between Allergists, nursing and pharmacy staff. Application of these protocols to pediatric patients is further challenging due to variations in patient weights, target doses and minimum volumes required to infuse drugs. We have established pediatric protocols based on adult guidelines at our pediatric tertiary care center to perform antibiotic desensitizations via a 12 step, 4 syringe method. We describe these protocols and their success.

**METHODS:** We conducted a retrospective chart review of all patients who had drug desensitization performed between 1/1/2013 and 7/15/2015 under the supervision of a Pediatric Allergist using standardized desensitization protocols and reviewed their outcomes.

**RESULTS:** In the given period, 5 patients underwent desensitization using the protocol involving 5 different antibiotics (ceftriaxone, ceftazidime, linezolid, ertapenem, oxacillin). Three of the 5 subjects were female and the mean age was 12 years (range of 3 -19 years). All 5 patients tolerated the desensitization procedure and subsequent dosing of the drug to complete the full therapeutic course.

**CONCLUSIONS:** Dose calculation for the various steps of drug desensitization is challenging in a pediatric population where there is a need for customized dosing. This procedure is cumbersome and prone to human error. The pediatric protocols established at our institution have been utilized with success and can potentially be applied to use for other agents

## L30 Early Introduction of Dietary Egg Reduces Egg Sensitization at 12 Months of Age in Infants at Risk of Allergic Disease

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**RATIONALE:** Epidemiological evidence suggests delayed introduction of dietary egg may promote rather than protect from egg allergy in infants at risk of allergic disease, as has been recently shown for peanut. We examined whether introduction of dietary egg between 4-6 months of age would reduce sensitisation to egg, in infants at risk of allergy.

**METHODS:** We conducted a randomised controlled trial in infants with at least one first degree relative with allergic disease. Infants were randomised at 4 months of age and included where egg-white (EW) skin prick test (SPT) was <2mm. Infants were randomised to receive pasteurised raw whole-egg powder or rice powder from introduction of solids until 8-months of age, with all other egg excluded. Diets were liberalised at 8-months. Primary outcome was EW-SPT ≥3mm at 12 months of age and analysed using Chi-Square test. IgG4/IgE were analysed by non-parametric tests.

**RESULTS:** 319 infants were randomised to egg (n=165) and rice (n=154). 14 infants reacted to egg within one-week of introduction despite egg-SPT <2mm at randomization. 254 infants were assessed at 12 months of age. Loss to follow up was similar between groups. Sensitisation to EW at 12 months was 20% and 11% in infants randomised to rice and egg powder, respectively, (OR=0.46, 95% CI 0.22 – 0.95, p=0.03). IgG4-EW, ovalbumin and ovomucoid and IgG4/IgE ratios were higher in patients randomized to egg (p<0.0001 for each) at 12 months.

**CONCLUSIONS:** Early introduction of whole-egg into the diet of high risk infants reduced sensitisation to EW at 12-months of age.

## L31 Correlation of Negative Tree Nut Skin-Prick Tests and Successful Tree Nut Food Challenges Among Peanut-Allergic Children

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**RATIONALE:** Children with peanut allergy are regularly instructed to avoid all tree nuts. However, children with peanut allergy are likely not allergic to all tree nuts. In our cohort of peanut anaphylaxis patients undergoing oral immunotherapy (OIT), we sought to determine the correlation of tree nut skin prick testing (SPT) results and likelihood of successfully passing a tree nut challenge.

**METHODS:** Skin-prick testing was performed to peanut and tree nuts (macadamia, pine nut, coconut, hazelnut, brazil nut, cashew, pecan, walnut, pistachio, almond) in 27 patients with known peanut allergy. The probability of negative SPT (wheal <3mm) for each nut was determined.

**RESULTS:** All patients demonstrated positive peanut allergy diagnostics in skin test, component testing or food challenge. Only 15.4% of patients were SPT positive to peanut alone. Macadamia, pine nut, and coconut SPT had a probability of negative SPT of 0.97, 0.97, and 0.91 respectively. The odds ratio for this group having a negative SPT (compared to a negative SPT) was 46.22. For hazelnut, brazil nut, and cashew the probability of a negative SPT was 0.81, 0.77, and 0.73, respectively. Pecan, walnut and pistachio had odds ratios of 0.68, 0.68, and 0.64, respectively. All patients with macadamia, pine nut and coconut negative SPT subsequently passed 9 gram food challenges without OIT.

**CONCLUSIONS:** Despite current recommendations to avoid all tree nuts for peanut allergic patients, the majority of patients with peanut allergy will have negative skin tests and food challenges to certain tree nuts, especially macadamia, pine nut, and coconut. This pattern was seen despite most patients having multiple nut sensitizations.

## L32 Withdrawn

## L33 Cor a 14 Specific Ig E Best Distinguishes Between Hazelnut Allergic and Tolerant Patients

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**RATIONALE:** Several hazelnut (HZNT) allergens have been identified to date including Cor a8 (LTP), Cor a9 (11S globulin) and Cor a14 (2S albumin). The aim of the study was to determine the importance of these allergens in component resolved diagnosis in HZNT allergic patients.

**METHODS:** Forty-four children suspected to have fruit, nut and/or legume allergy were selected. Patients were classified as allergic if they had presented at least 2 reactions unequivocally related to HZNT ingestion in the last 2 years. Patients were defined as tolerant if they consumed HZNT on a regular basis. Clinical questionnaire, skin prick test (SPT), serum total and specific IgE and MIA-ISAC IgE (Thermo Fisher Scientific, Uppsala, Sweden) were performed.

**RESULTS:** Sixteen patients (11 males) were defined as allergic and 28 (15 males) tolerant. HZNT-SPT wheal size (mm) (median 7.75;IQR:4-12 vs.2.5; IQR:0-9.5,p=0.000) and HZNT-sIgE (kU/L) (median 14.45;IQR:1.98-370 vs 0.82;IQR:0.02-14.3, p=0.000) were significantly greater in allergic than in tolerant children. Both positive Cor a9-sIgE and Cor a14-sIgE were significantly more frequent in allergic patients (75.00% vs. 14.28%,p=0.000 and 75.00% vs 10.71%,p=0.000, respectively). Cor a9-sIgE values were significantly higher in allergic children whether by means of ImmunoCAP (median 4.38 kU/L; IQR:0.26-16 vs. 0.02 kU/L; IQR:0-0,21, p=0.000) or MIA-ISAC (median 0.14 ISU;IQR:0-2.2 vs. 0 ISU;IQR:0-0, p=0.000), as were Cor a14-sIgE values (median 4.97 kU/L;IQR:0.39-20.4 vs. 0.02 kU/L;IQR:0.01-0.09, p=0.000). This was not found for Cor a8. ROC curves were constructed for the three allergens showing Cor a14 the best diagnostic performance (AUC:0.925,95% CI:0.847-1,p=0.000).

**CONCLUSIONS:** Cor a14 is the best discriminating allergen in the diagnosis of HZNT allergic patients.

## L34 Resolution of Severe Near Fatal Food Allergy Following Hematopoietic Stem Cell Transplantation

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**RATIONALE:** Previously in the literature, it has been described that patients who underwent hematopoietic stem cell transplantation (HSCT) have acquired asthma, allergic rhinitis and even food allergy from their donors. To date, no papers have reported complete resolution of severe food allergy subsequent to HSCT. Here we present a 6 year old female with HyperIgE syndrome, severe persistent asthma and multiple severe near-fatal food allergies who underwent HSCT due to acute mixed myeloid and T-cell leukemia (AML) with subsequent complete resolution of her food allergies.

**METHODS:** Skin prick testing (SPT) (Greer), Total IgE and ImmunoCAP testing by Seattle Children's laboratory,

**RESULTS:** Patient's total IgE prior to her diagnosis of AML was 22,500IU/mL. Subsequent to AML chemotherapy treatment, patient's IgE had reduced to 883. Food ImmunoCAP immediately prior to transplant revealed numerous positives including wheat(80), peanut(23.7) and milk(65.3). Patient underwent non-myeloablative chemotherapy with fludarabine, cyclophosphamide and total body irradiation with a mismatch cord transplant. At day +80, patient had 100% donor chimerisms but food ImmunoCAP testing while decreased remained positive. At one year post-transplant, ImmunoCAP testing revealed negatives(<0.35) to all tested foods, which was confirmed with SPT.

**CONCLUSIONS:** We believe that this is the first reported case to prospectively examine an individual with multiple severe food allergies through their post-HSCT course. The steady decrease in food specific IgE over the year post transplant likely indicates the gradual destruction of peripheral IgE memory B-cells through graft versus host disease. Subsequent oral food challenges confirmed clinical tolerance to each of the foods that had previously provoked anaphylaxis.

## L35 Population-Based Study Suggests Strong Genetic Association Between Eosinophilic Esophagitis and Asthma

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**RATIONALE:** Significant similarities exist between the pathogenesis of eosinophilic esophagitis (EoE) and atopic diseases. Studies have shown an increase in allergic disorders in those with EoE and in their first-degree relatives (FDR) but not distant relatives. Excess familial clustering of a disease in distant relatives would suggest a genetic contribution.

**METHODS:** Utilizing the Utah Population Database (UPDB), we compared EoE patients (n=4009), their FDR, second-degree relatives (SDR), and third-degree relatives (TDR), and their spouses against matched controls (n>100,000) to evaluate possible links between EoE and atopic diseases. The UPDB links genealogy information for the state of Utah to inpatient and outpatient electronic health records. Atopic disease was identified using ICD-9 coding and defined as presence of anaphylaxis, atopic dermatitis (AD), asthma, allergic conjunctivitis (AC), and/or allergic rhinitis (AR). Cox logistic regression was used for analysis.

**RESULTS:** EoE probands, as well as their FDR, SDR and TDR had increased risk of asthma (OR 3.95 95% CI (3.62-4.31); p<2e-16, OR 1.49 95% CI (1.42-1.57); p<2e-16, OR 1.13 95% CI (1.09-1.18); p = 3.28e-09, OR 1.08 95% CI (1.04-1.12); p =0.00026, respectively). In addition, other select atopic diseases, specifically anaphylaxis, AC, AR and AD were also increased. Spouses and sibling-spouses of EoE probands did not show an association.

**CONCLUSIONS:** In this novel Utah population-based study, we observed evidence of significant familial clustering of asthma and atopic diseases in distant relatives of EoE probands, suggesting a strong genetic component. Studies of high-risk families with an excess of asthma and atopic diseases in EoE probands may facilitate identification of disease-causing genes.

## L36 Molecular Sensitization Pattern Profile in Proton Pump Inhibitor-Responsive Esophageal Eosinophilia Vs Proton Pump Inhibitor-Nonresponsive Eosinophilic Esophagitis (EoE) in Adult Patients

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**RATIONALE:** Recent studies showed that proton pump inhibitor-responsive esophageal eosinophilia (PPI-REE) may be an EoE variant. Component resolved diagnosis (CRD) allows to distinguish primary sensitization from sensitization due to cross-reactivity. The aim of this study was to describe the allergen sensitization profile in PPI-REE and PPI non responsive EoE (PPI-nREE) by means of CRD.

**METHODS:** Eighty two patients with confirmed EoE and CRD diagnosis were included. Specific IgE antibodies against 103 and 112 different allergen components were measured by ImmunoCAP MIA-ISAC (Thermofischer Diagnostics, Uppsala, Sweden) in 36 and 46 patients, respectively.

**RESULTS:** Most patients were male (78%) and the mean age was 34.9 ± 12.3 years. Twenty-six patients had PPI-REE, 35 PPI-nREE and response to PPI was not confirmed in 23. No significant differences were found between groups regarding sex (p=0.142) and age (p=0.876). Peripheral eosinophilia was statistically significantly higher in PPI-nREE than in PPI-REE (median: 420 vs 235 cel/mm$^3$; p=0.025)(range: 40-970 vs 50-710 cel/mm$^3$), whereas there were no significant differences regarding serum total IgE, eosinophilic cationic protein or tryptase. Besides, no significant differences in allergen sensitization were found between PPI-REE and PPI-nREE, except regarding to *Can f 5* sensitization (p=0.018), which showed higher IgE levels in the PPI-REE group.

**CONCLUSIONS:** We found no statistically significant differences regarding to serum total IgE, tryptase, eosinophilic cationic protein and allergen sensitization between PPI-REE and PPI-nREE, except the higher levels of *Can f 5* in the PPI-REE group. Peripheral eosinophilia was higher in PPI-nREE.

## L37 A Trial of an Oral CRTH2 Antagonist in Antihistamine-Refractory Chronic Spontaneous Urticaria

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**RATIONALE:** Chronic spontaneous urticaria (CSU) skin lesions show degranulated mast cells and infiltration by CRTh2-bearing leukocytes. Our prior work demonstrated altered blood basophil and eosinophil surface CRTh2 expression in CSU. We sought to evaluate the safety and efficacy of the oral CRTh2 antagonist AZD1981 in CSU.

**METHODS:** Antihistamine-refractory adult CSU subjects were recruited for a Phase II study involving 4 weeks of double-blind, placebo-controlled treatment with AZD1981. Subjects completed daily hive and itch scoring and disease activity surveys. We examined $PGD_2$-induced eosinophil shape change, blood total leukocyte histamine content, CBC differentials, and CRTh2 expression on blood basophils, eosinophils, and ILC2s at baseline and after treatment.

**RESULTS:** Thirty-six subjects were screened and 22 subjects completed the study. Weekly itch scores were significantly lower 1 week following active treatment with AZD1981 (9.5 to 7.2, n=12, p=.0264). $PGD_2$-induced eosinophil shape change ($10^{-7}$ M $PGD_2$) was significantly reduced at the end of treatment (26.9 to 5.1 net MFI, n=12, p=.0005) but was similar in the placebo group (10.44 to 7.81 MFI, n=8, p=.8438). CBC eosinophil percent significantly increased with active therapy (3.17% to 4.43%, n=12, p=.0396). No SAE's were reported.

**CONCLUSIONS:** This is the first study of an oral CRTh2 antagonist patients with antihistamine-refractory CSU. AZD1981 treatment led to reductions in patient reported itch, reduced $PGD_2$-induced eosinophil shape change, increased basophil CRTh2 expression, and increased blood eosinophils in CSU subjects. These results provide evidence supporting the role for this pathway in CSU.

## L38 BCX7353, a Potent Inhibitor of Plasma Kallikrein, Shows Sustained Maximal Enzyme Inhibition When Dosed Orally Once Daily: Results from a Phase I Trial in Healthy Subjects

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**RATIONALE:** Plasma kallikrein is a proven target in the treatment of hereditary angioedema (HAE). A first-in-human study evaluated the pharmacokinetics, pharmacodynamics and safety of plasma kallikrein inhibitor BCX7353.

**METHODS:** Healthy subjects (n= 94 enrolled, n = 92 completed) received single (10, 30, 100, 250, 500 or 1000mg) or multiple (125, 250, 500mg x7 days or 350mg x14 days), once-daily (QD) oral doses of BCX7353 or placebo. Drug levels were measured in serial post-dose samples and plasma kallikrein enzyme activity was measured in a specific bioassay. Safety was evaluated by clinical and laboratory monitoring.

**RESULTS:** BCX7353 exposure increased slightly greater than proportionally with increasing dose. The half-life of BCX7353 was 50-60 hours, and accumulation in $AUC_{tau}$ was approximately 4-fold after dosing to Day 7 or 14. Kallikrein inhibition was highly correlated to plasma concentrations, r=0.916. On Day 7, at doses ≥250mg QD, plasma concentrations were within or above the target therapeutic range and inhibition of plasma kallikrein was maximal and sustained throughout the dosing interval. Two subjects discontinued the study for gastrointestinal adverse events (AEs). One subject had a diffuse maculopapular rash that resolved with oral steroids. There were no serious AEs, and the maximum tolerated dose was not reached.

**CONCLUSIONS:** Once daily BCX7353 has a generally well tolerated safety profile and provides sustained potent and maximal plasma kallikrein inhibition. Plasma concentrations met or exceeded the predicted therapeutic range over a 24 hour dosing interval. Clinical studies with HAE patients are planned to assess the efficacy of BCX7353 in reducing the occurrence of attacks.

## L39 House Dust Mite Major Allergens Contributes Significantly to Specific IgG4 Response during Allergen Immunotherapy

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**RATIONALE:** Allergen-specific IgG4 increases during allergen specific immunotherapy (AIT). In this study, specific IgG4 against the individual major allergens of dust mites during AIT was investigated.

**METHODS:** Patients of allergic rhinitis (n=52) sensitized to dust mite were treated with subcutaneous immunotherapy using standardized *D. pteronyssinus* (Dp) extract. Patients with allergic rhinitis (n=14) sensitized to dust mites who received medications alone were controls. Specific IgE and IgG4 against Dp, *D.farina*(Df) and corresponding major allergens of group 1 (Dp1 and Df1) and group 2 (Dp2 and Df2) were measured before AIT, 6 months and 12 months later.

**RESULTS:** Combined symptom and medication scores significantly decreased in immunotherapy group. Specific IgG4 against Dp1, Df1, Dp2 and Df2 allergens increased significantly during AIT (Dp: 0.3, 0.99, 2.72; Dp1: 0.16, 0.67, 2.04; Dp2: 0.10, 0.49, 1.49; Df: 0.38, 1.04, 2.62; Df1: 0.12, 0.37, 1.01; Df2: 0.1, 0.44, 1.27. before AIT, 6 months and 12months later respectively, mgA/L). Of the correlations between dust mite extract IgG4 and the individual subgroup allergen IgG4, it was shown that there were strong correlations in terms of both concentrations (after 12 months: Dp-Dp1: r=0.99; Dp-Dp2: r=0.93; Df-Df1: r=0.93; Df-Df2: r=0.95) and levels of increase (after 12 months: Dp-Dp1: r=0.69; Dp-Dp2: r=0.59; Df-Df1: r=0.90; Df-Df2: r=0.77) (P<0.0001 for all). With the same testing instrument (UniCAP system), Df1 and Df2 IgG4 contributed 87% to Df specific IgG4 response, whereas Dp1 and Dp2 contributed 130% to Dp IgG4 response at the 12 months of AIT.

**CONCLUSIONS:** Our findings underscores the importance of major allergens in AIT standardization and design.

## L40 Altered TGF-ĺ² Signalling in Inflammatory Nasal Polyps Drive Remodelling in Crswnp

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**RATIONALE:** Dysregulation of TGF-b and activin signalling play fundamental roles in lower airways remodelling. This study focuses on characterising remodelling changes seen in CRSwNP and accompanying alteration in TGF-b signalling.

**METHODS:** Immunohistochemical staining was performed on inferior turbinate and nasal polyp biopsy specimens measuring TGF-beta$_1$, activin-A and its receptor ALK-4, and phosphorylated SMAD$_2$in subjects with CRSwNP (n=10) and healthy controls (n=19). Staining for D2-40 and CD34 were used to define lymphatic and vascular remodelling; smooth muscle actin and HSP-47 to study collagen synthesis and myofibroblast transformation. Matrix metalloprotease7/9 with their inhibitor TIMP-1 were enumerated. Basement membrane thickness was defined using Siris red stain.

**RESULTS:** Basement membrane zone was markedly thinned in both polyp and turbinates of CRSwNP ($p<0.01$ versus controls). Turbinates show increased lymphatic and vascular remodelling with polyps nearly devoid of glands and possessing very little blood vessels as demonstrated by differences in total CD31/ D2-40 cell counts ($p<0.01$, $p=0.01$), blood vessels ($p<0.01$, $p=0.02$), vessel size ($p<0.01$, $p=0.04$), or vascularity ($p=0.02$, $p=0.25$). HSP-47 expression is elevated in polyps ($p=0.09$) whilst SMA is increased in turbinates ($p=0.03$). MMP7/9: TIMP-1 ratios are elevated in turbinates. TGF-b expression is increased in polyps ($p<0.01$) with ALK-4 elevated in polyps and turbinates ($p=0.02$ and $p=0.03$). Activin levels tend to be higher in polyps CRSwNP ($p=0.08$).

**CONCLUSIONS:** This data demonstrates remodelling alterations in both polyps and turbinates of CRSwNP. It is possible that dysregulated TGF-b signalling in inflammatory polyps drives chronic changes in turbinate architecture thereby resulting in characteristic remodelling in this nasal disease.

## L41 Real-Life Study on the Effect of Micronized Cellulose Powder As Add-on to Intranasal As-Needed Treatment of Subjects with Pollen Allergic Rhinitis

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**RATIONALE:** The use of symptom relievers on demand is the most common approach in real life for treating exacerbations of allergic rhinitis. We have demonstrated previously that commercially available micronized hydroxyl-propyl-methyl-cellulose powder (HPMC) applied after local decongestant significantly enhances its action in subjects with persistent allergic rhinitis. This study investigated whether this beneficial effect of HPMC translates into clinical benefits in a real life setting.

**METHODS:** Thirty-six symptomatic seasonal allergic rhinitis patients (25 male, median age 31 years) were instructed to treat their bothersome symptoms locally with intra-nasal xylometazoline and/or azelastine and/or mometasone, or, if symptoms persevered, with oral bilastine or prednisone. Patients were randomized to "seal" the effect of each local application with one puff of either HPMC or placebo (lactose powder). They completed diaries with symptom scores (0-3), and medications (1 score for any drug application). Objective measurements of Peak Nasal Inspiratory Flow (PNIF), measure of the level of nasal congestion, and Exhaled Breath Temperature (EBT), surrogate marker of airway inflammation, were made before and after treatment.

**RESULTS:** Combined Symptom and Medication Scores (CSMS) were significantly ($P=0.03$) lower in the HPMC group, $90\pm9$ vs. $122\pm12$, (mean $\pm$ SEM). Following treatment PNIF increased in the HPMC arm by 60% vs. 31% in the placebo one. The before vs. after treatment differences were in favor of the HPMC for both PNIF ($P=0.01$) and EBT ($P=0.007$).

**CONCLUSIONS:** In real life intra-nasal HPMC applied following local rescue medications decreased symptoms and reduced nasal congestion/ inflammation in subjects with symptomatic allergic rhinitis.

## L42 Distinct and Common Gene Expression Profiles of Nasal Polyp Tissues in Eosinophilic and Non-Eosinophilic Chronic Rhinosinusitis

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**RATIONALE:** Chronic rhinosinusitis (CRS) can be classified into two groups: CRS with (CRSwNP) and without (CRSsNP) nasal polyps. CRSwNP is reportedly characterized by massive eosinophil infiltration and type 2 inflammation. However, some CRSwNP patients, especially Asians, show much less eosinophil infiltration. To clarify the molecular characteristics of these nasal polyps, we investigated the comprehensive gene expression profiles of CRSwNP in Japanese patients.

**METHODS:** Nasal polyp tissues from adult patients with CRS with eosinophilic polyps (ECRS; n=13, tissue eosinophil count >70 HPF) and CRS with non-eosinophilic polyps (NECRS; n=10, tissue eosinophil count <70 HPF) were diagnosed on the basis of the JESREC Study (Allergy. 2015 Aug; 70(8):995-1003.). Those and nasal mucosa biopsy specimens from age-matched control subjects (n=7) were analyzed by a microarray system to determine their comprehensive gene expression profiles.

**RESULTS:** Expression of type 2- and eosinophil-related genes (IL13, IL5, IL1RL1, CLC, CCL26 and CCL23) was increased in ECRS compared with the controls, and the results were comparable to those for CRSwNP in Western countries. In contrast, expression of type 1- and neutrophil-related genes (CSF3, CXCL10, IL8, IFNG and IL1B) was increased in NECRS. A primary component analysis revealed three distinct clusters, reflecting ECRS, NECRS and controls. However, expression of monocyte/macrophage- and lymphocyte-related genes (CCL18, MARCO, F13A1, CD209 and IL2RA) was increased in both ECRS and NECRS.

**CONCLUSIONS:** The characteristic gene expression profiles indicated the existence of at least two separate CRSwNP endotypes in Japanese patients. Their shared gene expression profiles may help understand the pathogenesis of nasal polyps.

## L43 IgG4 Drives M2 Macrophages to Cortisol, Lcn-2 and IL-10 Release: Implications in Maintenance of Tolerance and Allergen Immunotherapy

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**RATIONALE:** M2 macrophages play a role in resolving inflammatory responses: macrophages are a prominent source of i) cortisol, and ii) of human lipocalin-2 (LCN-2) having a glucocorticoid-responsive element in its promoter. We addressed whether macrophages are a source of IL-10 and whether IgG antibodies have an impact in regulating them, for understanding allergen immunotherapy (AIT).

**METHODS:** Primary macrophages from healthy PBMCs or monocytic cell line THP-1 were differentiated into M2 macrophages by M-CSF and LPS, and for further sub-differentiation with IL-4/IL-13 (M2a), or with IgG immunoglobulins (M2b). The supernatants were analyzed in radioimmunoassay for cortisol, or by ELISA for LCN-2 and IL-10. Alternatively, Bos d 5 was co-incubated with these supernatants, either loaded or emptied from its ligand by dialysis against deferoxamine, as controlled by Prussian Blue staining.

**RESULTS:** Prussian Blue staining detected iron in M2b > and M2a, but not in M2c macrophages. Only IgG4, but not IgG1 immune complexes rendered M2b macrophages capable of secreting significant levels of cortisol, LCN-2 and IL-10. When ligand-emptied Bos d 5 was incubated to the M2b supernatants, it decreased the free levels of cortisol and LCN2.

**CONCLUSIONS:** Alternatively activated macrophages, are differentially regulated by IgG classes: Only IgG4 is leading to cortisol, LCN-2 and IL-10 secretion. Moreover, exogenous unloaded lipocalin allergens may lower the levels of bioavailable cortisol, and LCN-2 and IL-10 release. Our data unravel a novel mechanism of how IgG4, being a hallmark in AIT, is able to regulate M2 macrophages towards a tolerogenic phenotype.

## L44 Facilitated Allergen Binding (FAB) Is a Meaningful Immunological Biomarker for Monitoring Immediate Clinical Efficacy in Short-Term Peptide Allergen Immunotherapy

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**RATIONALE:** Short-term peptide-allergen-immunotherapy is a novel approach for treating allergic rhinoconjunctivitis. We investigated whether changes in mucosal reactivity to allergen exposure after this short-term therapy are detectable in the immunological parameters of sIgG4 and the functional blocking antibody response measured by facilitated allergen binding (FAB).

**METHODS:** Data was collected from a DBPC dose-finding study in 198 patients who received placebo or a peptidase-hydrolysate of grass-pollen peptides at 5 visits over 4 weeks at cumulative doses of up to 370µg (EudraCT-No:2013-005445-37). Conjunctival allergen challenge was used as a surrogate marker of efficacy before and after immunotherapy. We have shown that this parameter has a predictive value for patients' symptoms and medication needs during the pollen season. Serum samples were taken to determine sIgG4 and FAB.

**RESULTS:** Patients exhibiting diminished reactivity and tolerating an at least 10-fold higher concentration of the conjunctival challenge solution showed a significantly greater increase in FAB (20.01% ± 16.706) than patients who did not improve ($p = 0.01$); The immediate change in sIgG4 observed in the improved patients was not significant ($p = 0.233$). Also, patients showing no reaction to the highest conjunctival allergen concentration had significantly higher FAB values ($p = 0.034$) than patients who still reacted to one of the allergen challenge dilutions; the immediate induction of sIgG4 found in the non-reacting patients was not significant ($p = 0.797$).

**CONCLUSIONS:** After 4 weeks of peptide allergen immunotherapy, the immediate appearance of FAB can be correlated with a meaningful clinical parameter of therapeutic efficacy.

## L45 Safety of STG320 Sublingual Tablets of House Dust Mite Allergen Extracts in Subjects with HDM-Associated Allergic Rhinitis: Results of a Pooled Analysis

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**RATIONALE:** Safety of house dust mite (HDM) sublingual tablets (STG320) for the treatment of HDM-associated allergic rhinitis (AR) with or without intermittent asthma has been assessed in seven DBPC clinical trials. The pooled safety data are presented here.

**METHODS:** Subjects (5-64 years) with medically confirmed HDM-associated AR were randomized to receive placebo or STG320 at doses from 100IR to 1,500IR. Adverse events were monitored and analyzed descriptively.

**RESULTS:** 2,407 subjects (1,718 adults, 443 adolescents, 246 children) comprised the Safety Set including 627 (26%) with intermittent asthma at enrollment. 1,571 participants received at least one dose of active treatment and 836 received placebo. 64% of actively-treated subjects and 20% of placebo-recipients reported treatment-emergent adverse events (TEAEs) suspected to be drug-related. These were mostly consistent with mild or moderate application-site reactions [e.g., throat irritation (23%), oral pruritus (17%), mouth edema (14%), ear pruritus (12%)] and mainly reported over the initial 4 weeks. Percentages of subjects with drug-related TEAEs were similar in those with and without asthma in active (59% and 66%) and placebo (19% and 20%) groups. Four subjects reported serious drug-related TEAEs (3 active: eczema, pharyngeal edema and dyspnea, and one placebo: urticaria). 123 (8%) and 24 (3%) subjects in active and placebo groups, respectively, discontinued mainly as a result of application-site reactions (e.g., mouth or lip edema). There were no reports of anaphylaxis and no epinephrine use.

**CONCLUSIONS:** Pooled safety data from the rhinitis program demonstrate the favorable safety profile of HDM sublingual tablets in subjects receiving any dose of active treatment.

## L46 Immunological Effects of Treatment with STG320 Sublingual Tablets of House Dust Mite Allergen Extracts in Subjects with HDM-Associated Allergic Asthma

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**RATIONALE:** A clinical development program investigating the efficacy and safety of house dust mite (HDM) sublingual tablets (STG320) in adults with HDM-associated allergic asthma is ongoing. Here we present immunological data from a phase II study evaluating the effect of three doses of STG320 compared to placebo.

**METHODS:** This DBPC, dose-ranging study enrolled subjects (18-50 years) whose asthma was partly controlled [Asthma Control Test™ (ACT) 16-19] while receiving asthma therapies consistent with GINA treatment Steps 2 to 4. Eligible subjects were to have a positive skin prick test to HDM and HDM-specific serum IgE ≥0.7 kU/L. Participants were randomized to receive 100IR, 500IR or 1000IR of STG320 or placebo, daily for about 13 months. The primary endpoint was the ACT score after the treatment period. HDM-specific IgE and $IgG_4$assessed before and after treatment and fold-changes were analyzed descriptively in each group. Safety data were analyzed descriptively.

**RESULTS:** Of 386 randomized subjects, 344 were included in the analysis (100IR: 88, 500IR: 87, 1000IR: 81, placebo: 88). The primary endpoint was not met. At baseline, HDM-specific IgE and $IgG_4$ were similar in the four treatment groups. After treatment, HDM-specific IgE increased by 1.5- to 2-fold in the active groups, and was unchanged in the placebo group. Changes in $IgG_4$ increased with the dose, from 3-fold (100IR) to 6-fold (1000IR), and were unchanged for placebo. No unexpected adverse events were observed.

**CONCLUSIONS:** In this study, the HDM sublingual tablet showed a dose-dependent effect based on its immunological activity.

## L47 Clinical Development Strategy for Unmet Need in Grass Subcutaneous Immunotherapy

**Prof. Tim Higenbottam;** Allergy Therapeutics.

**RATIONALE:** Grass MATA MPL is an immunotherapy treatment currently in late stage development that addresses the unmet need in the USA of a standardised immunotherapy for seasonal grass allergic rhinitis. This immunotherapy is a modified extract of sweet grasses adsorbed to a depot adjuvant complex containing MCT (micro crystalline tyrosine) and MPL (Monophosphoryl lipid A®) that requires fewer injections than traditional SCIT. To address the challenges in optimal dose evaluation with attention to safety and efficacy, a clinical development model is presented.

**METHODS:** A complimentary battery of phase I to III studies has been conducted to evaluate the relationship of allergen, MCT and MPL combinations in field and EEC (Environmental Exposure Chamber) studies. The effectiveness of allergen immunotherapy is thought to correlate to cumulative dose and the benefit of MCT + MPL has been previously demonstrated with the latter improving efficacy by ~25%. Optimal allergen dose finding was assessed in a combination of field and EEC studies.

**RESULTS:** A comparative assessment of up dosing of grass MATA MPL in different clinical arms has been completed. The relationship of cumulative dose is presented with consideration of monotonous and non-monotonous dose response including the relevance of dose response plateau and translation to TSS reduction. Ultra-short course treatment (4-6 injections) is compared with prolonged treatment therapy showing increased patient adherence with shorter courses.

**CONCLUSIONS:** The product and clinical development strategy for Grass MATA MPL is presented describing a process to address many of the variables contributing to optimal product efficacy for treatment of grass allergic US patients.

## L48 Eassi Survey: European Multicentre Prospective Study to Collect Systemic Adverse Reactions Due to Allergen Immunotherapy: Pediatric Population Results

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**RATIONALE:** Systemic adverse reactions (SAR) due to Allergen Immunotherapy (AIT) still represent one of its major drawbacks preventing a more extensive use of this etiologic treatment. The objective of this EAACI-supported survey was to collect SAR due to aeroallergen AIT in real life practice.

**METHODS:** Data was centrally collected with an online database, and gathered through three different questionnaires: DQ: doctor questionnaire (filled in only once by each participant doctor), PQ: patient questionnaire (one per patient-treatment) and RQ: reaction questionnaire (one per reaction). Harmonized MedDRA terminology for SAR due to AIT was used.

**RESULTS:** Three countries (France, Germany and Spain), 95 doctors and 1578 pediatric patient-treatment were recruited, mean age 11.7 years(+/-SD 3.9), 59.1% (932) males. Allergic asthma and rhinitis/rhinoconjunctivitis was the AIT indication in 56.1% (886) patients, allergic rhinitis/rhinoconjunctivitis without asthma in 38.3% (604), asthma alone in 5.2% (82) and conjunctivitis alone in 0.4% (6) patients. Monoallergen AIT composition was 49% mites, 25.8% grass, 8.7% tree, 4.6% *Alternaria*, 0.8% epithelia, 0.6% weeds and 10.5% were mixtures. Subcutaneous AIT (SCIT) was used in 71.4% (n=1127). A total estimation of 19.669 and 131.550 doses of SCIT and sublingual AIT (SLIT) were given, and 29 SAR (79.3% SCIT) were recorded in 24 patient-treatments, 3 were anaphylaxis and only 1 was severe. SAR were more frequent in up-dosing (79.3%) but milder (82.6% mild) than in maintenance (33.3% mild) (p= 0.023). The use of natural extracts compared to allergoids was associated with higher risk of suffering SAR (OR=8.4, 95%CI: 1.9-36.5).

**CONCLUSIONS:** AIT showed to be a safe treatment with a low rate of SAR and even lower ratio of severe SAR.

## L49 Molecular Fingerprinting of Complex Allergoids

**Dr Matthew Heath**, Mr. Andrew Bell, Dr. Murray Skinner, Mr. Alan D. Bullimore; Allergy Therapeutics.

**RATIONALE:** Targeted reduction in IgE reactivity of native allergen extracts to produce allergoids via covalent cross-linking is beneficial in producing safe and efficacious immunotherapies. We present techniques to demonstrate the presence of the relevant allergens in allergoid preparations by tandem mass spectrometry and the molecular fingerprint of those allergoids by high performance-size exclusion chromatography (HPLC-SEC).

**METHODS:** The polymerization profile of sweet grass allergoids was determined by HPLC-SEC, from which separate size fractions of allergoids were collected. Proteomic analysis of each corresponding fraction was purified, subject to tryptic digest and analysed via tandem mass spectrometry. Once the peptide had been identified, it was compared to protein databases such as NCBI or SwissProt, from which the sequence identity was assessed.

**RESULTS:** HPLC-SEC highlighted the spread of allergens/allergoids pre- and post-modification. The HPLC profiles of the allergoids showed a decrease in retention time (increase in molecular weight) after modification (i.e. polymerization). A greater number of allergens are identified from tandem mass spectrometry (proteomic) analysis as the predicted molecular weight range of each fraction decreases.

**CONCLUSIONS:** Native and modified extracts are not two discrete preparations but are instead a formula of native and modified allergens, within which IgG reactive epitopes are present. Proteomic analysis confirmed the presence of allergens from multiple grass species. This work demonstrates that IgG epitopes remain in an allergoid formulation while IgE epitopes are attenuated, allowing safe administration of a higher strength product in fewer doses.

## L50 Patterns of Interferon Regulatory Factor 1 (IRF1) Expression By Respiratory Epithelial Cells Reveal Non-Redundancy of Type I Versus Type III Interferons

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**RATIONALE:** Types I and III interferon (IFN) are co-expressed by respiratory epithelial cells (REC) in response to viral infection, and stimulate neighboring REC to express a set of interferon stimulated genes (ISG) through shared signaling pathways. Whether types I and III IFN have non-redundant functions in anti-viral defense is unknown. Because transcription factors dictate cellular phenotype and function, we hypothesized that ISG that are transcription factors (TF-ISG) mediate non-redundant functions of types I or III IFN.

**METHODS:** We treated BEAS-2B human REC with increasing doses of IFN-beta or IFN-lambda1 alone or together, and measured expression of TF-ISG and a set of "canonical" ISG by qRT-PCR and western blot.

**RESULTS:** Alone, IFN-beta and IFN-lambda each induced expression of the canonical ISG and a subset of TF-ISG. By contrast, while IFN-beta alone induced *IRF1* expression, it was poorly induced by IFN-lambda1 alone. Saturating doses of the two IFNs together did not enhance peak ISG transcript expression greater than either alone. Western blots revealed that while IFN-beta alone induced early and transient IRF1 expression, it was lower but sustained (through 24h) after IFN-lambda1 alone. In contrast to transcripts, saturating doses of the two IFNs together enhanced expression of IRF1 protein at 2h, 4h, and 24h greater than either of them alone.

**CONCLUSIONS:** In REC, IRF1 is expressed early and relatively selectively in response to IFN-beta alone, and protein expression was enhanced after treatment with both IFNs together. IRF1 may mediate non-redundant qualitative functional responses of REC to types I and III IFN.

## L51 IgE Cross-Linking Directly Modulates Degranulation and Tslpr Induction upon Food Allergen Challenge

**Mrs. Michelle T. Graham, PhD**; Stanford University.

**RATIONALE:** Recent data reveals that IgE-cross-linking upregulates thymic stromal lymphopoietin receptor (TSLPR) expression on isolated basophils in a small cohort of allergic asthma patients. Both IgE and non-IgE signaling pathways facilitate basophil activation, yet it is unclear whether food allergens leads to basophil activation and TSLPR expression solely through IgE:FceRI signaling complexes. We hypothesize IgE-mediated signal transduction pathways are necessary for degranulation, type 2 cytokine IL-4 secretion, and TSLPR induction.

**METHODS:** Heparin-treated whole blood from 12 double-blind placebo-controlled food challenged (DBPCFC) confirmed food allergic patients were treated with IgE-stripping designed ankyrin-repeat protein (DARPin) molecules, E2_79 (monovalent) and bi53_79 (bivalent), and assessed for basophils activation by degranulation markers CD63 and CD203c upon allergen challenge. The basophils were further assessed for TSLPR induction upon nut allergen challenge.

**RESULTS:** Treatment with DARPin molecules perturbs IgE binding to high affinity FceRI on primary basophils with minimal disruption of FceRI expression on the plasma membrane. Treatment with DARPins significantly reduced CD63 percentages by >70% and CD203c levels by 58% after IgE cross-linking and food allergen challenge. Furthermore, DARPins abrogate TSLPR induction in primary basophils.

**CONCLUSIONS:** We demonstrated that IgE cross-linking upon food allergen challenge is essential for degranulation as determined by CD63+ and CD203c kinetics. DARPin treatment further impairs TSLPR induction upon IgE cross-linking and allergen challenge. Our data delineates IgE-mediated functions in basophils and a novel pathway for TSLPR induction upon food allergen challenge.

## L52 Novel Noninvasive Biomarker for Eosinophilic Esophagitis (EoE)

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**RATIONALE:** The field of EoE research has expanded greatly in the understanding of disease pathogenesis including esophageal fibrosis; however, there has been a significant delay in identifying reliable predictive EoE specific non-invasive biomarkers. Herein, we propose a panel of noninvasive biomarkers for disease progression and diagnosis.

**METHODS:** A flowcytometer analysis to detect $CD274^+$ and $CD274^-$ eosinophil subsets and qPCR analysis to detect mRNA levels of IL-18Rα, CD274 (PDL1), VIP, CD101 in normal and EoE patients blood and biopsies.

**RESULTS:** We recently discovered two eosinophil subtypes in the blood of normal and EoE patients that will be identified by $CD274^+$ and $CD274^-$. The $CD274^+$ eosinophil increases in EoE patients as disease progresses and most eosinophil accumulated in esophageal biopsies of EoE patients are $CD274^+$. In addition, we found that mRNA levels of IL-18Rα, CD274 (PDL1), VIP (eosinophil chemoattractant), CD101 (T regulatory cells suppressor) significantly increases in blood and esophageal biopsies of EoE patients compare to normal and GERD patients. Additionally, the mRNA levels of IL-18Rα, CD274, VIP, CD101 correlates well with blood eosinophilia that significantly reduces in improved EoE patients.

**CONCLUSIONS:** We first time show eosinophil two subset and only $CD274^+$ eosinophil increases in the blood of EoE patients. Furthermore, blood and tissue mRNA levels of IL-18Rα, CD274, VIP, CD101 increases and correlates with the eosinophils of blood and biopsies, respectively. Taken together, induced $CD274^+$ eosinophils and indicated panel of molecules will be the novel noninvasive biomarkers for EoE, which even differentiate EoE from GERD.

## L53 IL-33 Induces Eicosanoid Formation in Mast Cells By a Novel COX-1-Dependent Mechanism

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**RATIONALE:** Mast cells (MCs) are involved in allergic and inflammatory reactions; they release potent mediators such as prostaglandin $(PG)D_2$, thromboxane $(TX)B_2$ and cysteinyl leukotrienes (cysLTs) after activation. Interleukin (IL)-33 is an effector molecule of Th2 responses, and an agonist for mast cell activation, though the roles of mast cells and their eicosanoids in IL-33-dependent immune responses are not known.

**METHODS:** Murine Bone Marrow-derived MCs (BMMCs) were stimulated with IL-33 and analyzed for eicosanoid production and level of cyclooxygenase (COX)1 and COX2 transcription over time. Wild type (Wt) mice were challenged intranasally with 4 doses of IL-33 (1 μg/day) and assessed for total (TCC) / differential cell count and lipid content in the bronchoalveolar lavage (BALs).

**RESULTS:** In BMMCs, IL-33 induces a robust release of $PGD_2$, $TXB_2$ and cysLTs. The response peaks within 3 h of stimulation and is accompanied by ERK phosphorylation and a sustained upregulation of COX2 transcript. Interestingly, both COX2 upregulation and eicosanoid production are completely suppressed by the selective COX1 inhibitor SC560. Intranasal IL-33 induces robust generation of $PGD_2$ and $TXB_2$, along with increases in eosinophils.

**CONCLUSIONS:** IL-33-dependent BMMC activation requires both COX1 and COX2. In this system, COX1 acts upstream of COX2 to mediate COX2 transcription, eicosanoids production and MAP Kinase activation. IL-33 is a robust inducer of mast cell-associated eicosanoids *in vivo*, which may participate in the recruitment of eosinophils.

## L54 Development of a Germ-Free Murine Model for Prediction of Food Allergen Potency: Preliminary Studies Using Peanut Ara h1 and Ara h2 As Model Food Allergens

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**RATIONALE:** Novel food or protein sources are becoming increasingly common in our diets but have potential to sensitize consumers. A germ-free C3H/HeN mouse model for food allergy has shown promise for differentiating sensitization and elicitation profiles of known allergenic food proteins. The aim of this study was to determine if this mouse model can predict the potential potency of allergenic food proteins. Known peanut allergens, Ara h1 and h2, were used as model allergenic proteins with varying potency as reported by in vitro sera or basophil analysis from peanut-allergic individuals.

**METHODS:** Germ-free C3H/HeN mice were sensitized with 60μg Ara h1 (n=20) or h2 (n=18) by three weekly intraperitoneal injections (IP) with alum adjuvant, followed by IP challenge of 500μg of indicated protein. Thirty minutes post-challenge clinical scores were graded (0=no symptoms to 5=death) and body temperatures recorded. ELISA was used to measure presence of protein-specific IgE and mast cell protease in sera.

**RESULTS:** Germ-free mice sensitized with Ara h1 exhibited significantly less-severe clinical scores (mean=2) compared to mice sensitized with Ara h2 (mean=4) ($p<0.05$). Hypothermic responses post-challenge [average -2.5(SD=1.6) and -8.8(SD=0.9)°C, respectively ($p<0.05$)] correlated well with clinical scores.

**CONCLUSIONS:** Preliminary results based on clinical scores and hypothermia confirm that the germ-free C3H/HeN mouse model can differentiate between the potency of Ara h1 and h2 as reported in previous *in vitro* and *in vivo* analyses of human subjects. While further analysis of additional known allergens is needed, this model shows promise as a risk assessment tool for prediction of allergenicity of novel food proteins.

## L55 Development of Multiple Features of Antigen-Induced Asthma Pathology in a New Strain of Mast Cell Deficient BALB/c-$Kit^{W\text{-}Sh/W\text{-}Sh}$ Mice

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**RATIONALE:** Genetically mast cell (MC)-deficient mice are used to identify and quantify the contributions of MCs to various biological responses *in vivo*, such as defense against venoms, parasite immunity and allergic inflammation. However, despite the fact that scores of genes have been identified as modifiers of allergic inflammation, most MC-deficient models have been available only on a single genetic background.

**METHODS:** We transferred the $Kit^{W\text{-}sh}$ allele onto the BALB/c background to generate BALB/c MC-deficient mice (BALB/c-$Kit^{W\text{-}sh/W\text{-}sh}$). We examined in BALB/c-$Kit^{W\text{-}sh/W\text{-}sh}$ mice models of allergic inflammation to which MCs substantially contribute in C57BL6-$Kit^{W\text{-}sh/W\text{-}sh}$mice.

**RESULTS:** BALB/c-$Kit^{W\text{-}sh/W\text{-}sh}$ mice have dramatically reduced numbers of MCs (0-2% of wild type) in all tissues examined. In addition, BALB/c-$Kit^{W\text{-}sh/W\text{-}sh}$ mice exhibited subtle hematologic differences compared to wild type mice, including splenomegaly with evidence of increased splenic hematopoiesis. In a model of acute allergic inflammation, IgE-dependent passive cutaneous anaphylaxis, both ear swelling and leukocyte infiltration were largely or entirely MC-dependent in BALB/c-$Kit^{W\text{-}sh/W\text{-}sh}$ mice. In contrast, in two different models of chronic allergic airway inflammation to ovalbumin or house dust mite, airway hyperresponsiveness, lung inflammation, and airway remodeling developed robustly in MC-deficient BALB/c-$Kit^{W\text{-}sh/W\text{-}sh}$mice.

**CONCLUSIONS:** These results support the conclusion that the importance of MC contributions in various models of allergic inflammation may be at least partially determined by genetic background.

## L56 In Vitro Induction of Peanut-Specific Tr1 Cells

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**RATIONALE:** IL-10 producing type 1 regulatory T cells (Tr1) express the surface markers LAG3 and CD49b, can be induced *in vitro* and used as cell therapy to control undesired immune responses. Peanut allergy is a life-threatening condition with no curative treatment. Our aim is to induce peanut-specific Tr1s *in vitro*.

**METHODS:** Healthy controls (HC) and allergic patients undergoing peanut oral immunotherapy were included in this study. Mature (mDC) or tolerogenic (DC10) dendritic cells were differentiated as previously described (Pacciani et al., 2010) in the presence of the main peanut allergens Arah1 and Arah2. Autologous $CD4^+$T cells were co-incubated for 14 days with DC10 ('T10') or with mDC ('Tm') in the presence of absence of IL-10, respectively. We assessed by flow cytometry the expression of the Tr1 markers LAG3 and CD49b, of the gut-homing receptor GPR15, and the anergy of the T10 compared to the Tm upon restimulation with Arah1/2.

**RESULTS:** The percentages of $LAG3^+CD49b^+$ Tr1 cells were comparable in T10 cultures from patients (10.5%) and HC (9.4%). In both T10 cultures, the percentage of Tr1 was higher than in the control Tm culture. The $GPR15^+$ cells were enriched in the $CD45RA^-LAG3^+CD49b^+$ population compared to the $CD45RA^-$ population (19.3 vs 9.2% p=0.03). T10 from HC were anergic compared to Tm.

**CONCLUSIONS:** We successfully induced antigen specific $LAG3^+CD49b^+$ Tr1 cells from peanut-allergic patients and HC; those from HC were anergic. $GPR15^+$ cells were enriched in this population, suggesting their gut-homing capacity. Further studies are ongoing to assess the functional properties of Tr1 cells established from peanut allergic patients.

## L57 Binding of the Active Vitamin A Metabolite Retinoic Acid to the Major Cows Milk Allergen Bos d 5 Down-Regulates T-Cell Responses

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**RATIONALE:** Recent research of our group has shown that the major cows milk allergen Bos d 5, a member of the lipocalin family, acts immunomodulatory depending on its load with siderophore-iron complexes. The aim of this study was to investigate whether Bos d 5 could influence Th1/Th2 immune reponses when complexed with the active Vitamin A metabolite retinoic acid (RA).

**METHODS:** Binding of RA to Bos d 5 was determined by autofluorescence quenching and ANS displacement assay. Activated PBMCs from 12 healthy donors were incubated with the milk allergen being "emptied" (apo-Bos d 5) or being loaded with RA (holo-Bos d 5). T-cell subsets (CD3+, CD4+, CD8+) were analyzed by FACS, cytokines (IFN-γ, IL-10, IL-13) measured by ELISA.

**RESULTS:** We calculated a dissociation constant of 1.7 μM and *in vitro* RA was able to dose-dependently displace ANS from Bos d 5. Incubation of PBMCs with apo-Bos d 5 for 48 hours significantly induced high IFN-γ, IL-13 and IL-10 levels whereas T-cell subsets remained unaltered. In contrast, stimulations with holo-Bos d 5 led to a significant decrease in CD4+ positive cells and to a pronounced decrease in all three cytokines. This phenomenon was dependent on the allergen-RA complex, as treatment with RA alone did not influence T-cell subsets or cytokine levels.

**CONCLUSIONS:** Our data suggest that holo-Bos d 5, with RA in its molecular pocket, has a pronounced immunosuppressive effect. We thus propose that proper loading of this major cows milk allergen may prevent subsequent allergic immune responses to it.

## L58 The Skin Microbiome Differs with Age in Atopic Dermatitis

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**RATIONALE:** Pediatric and adult atopic dermatitis (AD) have different disease manifestations. The skin microbiome is thought to be critical in driving disease development. Whether the skin microbiome in young AD children is different from adults is unknown.

**METHODS:** We collected swabs from lesional and non-lesional skin of the volar forearm of 128 AD patients and 68 healthy subjects. We compared the skin microbiome of AD patients with healthy individuals in different age groups (2-12 and 13-62) using 16S rRNA gene sequencing. We analyzed correlations between the microbiome and age and investigated gene functions encoded in microbial genomes.

**RESULTS:** We found that the healthy skin microbiome was significantly different between young children and adults in microbial diversity and in relative abundance of prevalent bacterial genera. Compared to the diverse microbial community on healthy skin, AD skin microbiome was dominated by *Staphylococcus* species at all ages. Importantly however, shifts in the AD microbiome compared to the healthy microbiome were different between young children and adults. We identified distinct clusters of childhood-associated (represented by *Streptococcus*), adult-associated (*Propionibacterium* and *Corynebacterium*), and AD-associated skin bacteria. By analyzing 46 genomes representing major species in the clusters, we further identified specific functional profiles among these clusters.

**CONCLUSIONS:** Childhood-associated skin bacteria *Streptococcus* are replaced by adult-associated lipophilic commensals that associate with sebum production at puberty. Pathways unique to *Propionibacterium* and *Corynebacterium*, including porphyrin and chlorophyll metabolism, may provide additional protection for skin health in adults. Our findings suggest that pediatric and adult AD are driven by different microbial influences.

## L59 Enhanced Efficacy and Confirmed Safety of a Two-Year Epicutaneous Immunotherapy (EPIT) Treatment of Peanut Allergy with Viaskin® Peanut: The Continuation of the Vipes Phase IIb Randomized Controlled Trial (RCT)

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**RATIONALE:** The 12-month VIPES RCT of EPIT using Viaskin® Peanut (VP) was continued as an open-label trial for an additional 24 months. We report results of the 12-month interim analysis.

**METHODS:** From 207 subjects completing the VIPES RCT (6–55 years), 171 (82.6%) entered the open-label extension. For this second year, 64.9% subjects initially treated with 50μg, 100μg, 250μg peanut protein (pp) i.e. VP50, VP100, VP250, or placebo were treated for 12 months with VP250. The remainder received VP50 or VP100 for 6 months before switching to VP250. Endpoint response was based on the proportion of successes, i.e. eliciting dose ≥10-fold above baseline or ≥1,000mg pp, at the 24-month DBPCFC.

**RESULTS:** The response rates after 24 months EPIT with VP250 were 69.7% (23/33) overall and 80.0% (16/20) in children 6-11 years, compared to 50% overall and 53.6% in children after 12 months VP250 EPIT. Adolescents/adults remained stable. In children, the peanut cumulative reactive dose after 24-months increased significantly compared to VIPES entry [mean(±SD)]: +1817.0(1853.9) mg pp; +983.3(1279.9) mg pp after 12-months. Children's median peanut-IgE decrease from baseline was -9% and -38% after 18 and 24 months; median peanut-IgG4 increase was +793.5% at 24 months. Mean(±SD) compliance was 94.8(±11.0)%; there were no serious AEs related to VP. Interestingly, the 12-month VP250 treatment of the ex-placebo group exactly reproduced the significant response rate in VIPES study with 50.0% (23/46) overall, 53.6% (15/28) in children.

**CONCLUSIONS:** The 24-month EPIT with VP250 is well accepted, safe and clearly enhances the 12-month therapeutic benefit overall and in children.

## L60 The Efficacy of AR101, a Peanut-Derived Pharmaceutical for Oral Immunotherapy (OIT), Is Maintained and Tolerability Is Increased with Low-Dose Maintenance Therapy

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**RATIONALE:** AR101, a pharmaceutical for OIT, demonstrated robust efficacy in ARC001, a Phase 2, double-blind, placebo-controlled trial in 4-21 year olds. We now report results from the open-label continuation trial, ARC002.

**METHODS:** In ARC002, former ARC001 placebo subjects up-dosed to 300 mg/d of peanut protein as AR101, then underwent double-blind placebo-controlled food challenge (DBPCFC) after 2 more weeks of therapy. Those passing DBPCFC at 443 mg cumulative of peanut protein, were eligible to continue maintenance therapy for 12 additional weeks. Former AR101 subjects who up-dosed successfully in ARC001 entered ARC002's 12-week maintenance period directly. As all former ARC001 subjects underwent 12 weeks of open-label maintenance therapy with 300 mg/d AR101 in ARC002, the post-maintenance DBPCFC results from both groups were pooled.

**RESULTS:** All 26 ARC001 placebo subjects entered ARC002 and up-dosed over an average of approximately 22 weeks. Of these, 21 reached 300 mg/d AR101 (4 discontinuing from gastrointestinal AEs; 1 for scheduling issues), and 20 passed DBPCFC at 443 mg. Of 29 ARC001 subjects treated with AR101, 23 completed the study and 21 entered ARC002. Of the 40 subjects undergoing post-maintenance DBPCFC, 100%, 90%, and 60% tolerated a cumulative 443, 1043, 2043 mg of peanut protein, respectively. Only 2 subjects required single doses of epinephrine during the DBPCFC. AR101 showed improved tolerability during maintenance versus up-dosing, with reduced AE rates and no treatment-related discontinuations.

**CONCLUSIONS:** In ARC002, twelve weeks of AR101 maintenance at 300 mg/d resulted in 90% desensitization to ≥1043 mg of peanut protein, equivalent to ~4 peanuts, with improved tolerability.

## L61 Efficacy and Safety of the SQ-House Dust Mite Sublingual Immunotherapy Tablet in North American Children and Adults: Findings from a Large Randomized, Placebo-Controlled Clinical Trial

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**RATIONALE:** SQ®–house dust mite (HDM) sublingual immunotherapy tablet (SLIT-tablet; MK-8237; Merck/ALK) has been demonstrated to have beneficial effects on allergic rhinitis and asthma outcomes, but previous trials were conducted in European subjects. This is the largest trial to assess the efficacy/safety of HDM SLIT-tablets in North American subjects with HDM allergic rhinitis with/without conjunctivitis (AR/C).

**METHODS:** In this double-blinded, multicenter trial (NCT01700192), 1,482 subjects (aged ≥12 years) with HDM AR/C with or without asthma were randomized to daily 12 SQ-HDM SLIT-tablet or placebo for up to 52 weeks. Subjects had a rhinitis daily-symptom score (DSS, 4 nasal symptoms, maximum=12) of ≥6, or ≥5 with 1 severe symptom, on 5 of 7 consecutive days before randomization. The primary endpoint was average total combined rhinitis score (TCRS), defined as rhinitis DSS plus rhinitis daily-medication score (DMS), during the last 8 weeks of treatment.

**RESULTS:** Treatment with 12 SQ-HDM SLIT-tablet improved TCRS 17% vs placebo (95% CI: −25%, −10%). Improvements vs placebo in the secondary endpoints average rhinitis DSS, rhinitis DMS, total combined rhinoconjunctivitis score, and ARC symptoms assessed by visual analogue scale were 16%, 18%, 17%, and 16%, respectively. All nominal P-values were <0.001 vs placebo except rhinitis DMS. No treatment-related AEs meeting the ICH definition of serious were reported; 1 treatment-related systemic allergic reaction occurred (assessed as moderate) at first administration under medical supervision and was treated with epinephrine.

**CONCLUSIONS:** 12 SQ-HDM SLIT-tablet was well-tolerated and improved HDM ARC symptoms in adults and children. This was the first successful North American trial of a HDM SLIT-tablet.

## L62 Pathogenic Autoantibodies in Patients with Severe Asthma and Sputum Eosinophils

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**RATIONALE:** An asthmatic airway with frequent degranulation accumulates immunogenic entities like peroxidases and autologous cellular materials, which can lead to breach of immune tolerance and generation of autoantibodies.

**METHODS:** Immunoprecipitated sputum immunoglobulins (IP-Igs) from moderate and severe asthmatics with eosinophilic, neutrophilic, and pleiotropic bronchitis were analysed for antibodies against eosinophil peroxidase (EPX) and anti-nuclear antibodies (ANAs). Eosinophils were labeled with IP-Igs and monoclonal anti-EPX antibodies, and examined by confocal and deconvolution microscopy. IP-Igs were assessed for inducing degranulation *ex vivo*. IL-5/eotaxin-2 (IL-5/hE2) double transgenic mice, IL-5 transgenic and wild type mice (n=3) were analysed for markers of eosinophil degranulation and autoantibodies.

**RESULTS:** Severe asthmatics with eosinophilic ($n=20$) and pleiotropic bronchitis ($n=18$) had detectable anti-EPX IgGs and ANAs in sputum samples, compared to neutrophilic ($n=13$), moderate-eosinophilic asthmatics ($n=13$) and healthy volunteers ($n=15$) ($p<0.001$). Significant binding of sputum IgGs to fixed and permeabilized eosinophils, along with co-localization with EPX immunostaining, confirmed the occurrence of autoantibodies to autologous eosinophilic cellular components. IP-Igs pooled from severe asthmatics ($n=5$) compared to healthy volunteers ($n=5$) induced eosinophil degranulation *ex vivo* (measured by lactose dehydrogenase and EPX release). Both anti-EPX IgGs and ANAs charted significant correlations with daily prednisone dose, free eosinophil granules and EPX content ($r>0.3$, $p<0.001$). Finally, IL-5/hE2 mice characterized by extensive eosinophil degranulation showed detectable airway anti-EPX IgGs (29±8 ng/μg protein) compared to IL5-transgenic (1.92±0.08), and wild-type (0.53± 0.09) mice.

**CONCLUSIONS:** We hereby report a sub-set of severe asthmatics with increased airway eosinophil 'activity' presenting with pathogenic autoantibodies against autologous eosinophilic cellular components.

## L63 The Leukotriene E4 Receptor, GPR99 Mediates Mast Cell-Dependent Mucosal Responses to the Mold Allergen, Alternaria alternata

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**RATIONALE:** The mold aeroallergen *Alternaria alternata* triggers mast cell (MC) degranulation and the generation of cysteinyl leukotrienes (cysLTs). CysLTs act at three receptors, $CysLT_1R$, $CysLT_2R$, and GPR99, the recently identified receptor for the stable cysLT metabolite, $LTE_4$. GPR99 distribution and function in the respiratory mucosa is unknown.

**METHODS:** Wild-type (WT), MC-deficient (Mcpt5/DTA), FcRγ-chain-deficient (*Fcer1γ*$^{-/-}$), $LTC_4$-synthase-deficient (*Ltc4s*$^{-/-}$), *Cysltr1*$^{-/-}$, *Cysltr2*$^{-/-}$, and *Gpr99*$^{-/-}$ mice received a single intranasal (i.n.) dose of 0 or 30 μg *A.alternata*, and nasal goblet cell (GC) mucin content was assessed by Periodic acid-Schiff ($PAS^+$) staining after 1 hour. GPR99 expression in the nasal mucosa was assessed by RT-PCR in WT mice and by X-gal staining of tissue sections in *Gpr99*$^{-/-}$ mice.

**RESULTS:** *A.alternata* elicited GC mucin release in WT mice, as detected by a reduction in $PAS^+$ GCs. There was no detectable mucin release in *A.alternata*-treated Mcpt5/DTA, *Ltc4s*$^{-/-}$, *Gpr99*$^{-/-}$ mice and a reduction in *Cysltr1*$^{-/-}$ mice. By contrast, mucin release was intact in *Fcer1γ*$^{-/-}$ and *Cysltr2*$^{-/-}$ mice. GPR99 transcript was detected in the nasal mucosa of WT mice and transcript for *E.coli* β-galactosidase, inserted in the targeted deletion of *Gpr99*, was detected in *Gpr99*$^{-/-}$ mice. X-gal staining confirmed GPR99 expression in nasal epithelial cells. Finally, i.n. $LTE_4$ elicited GC mucin release in WT mice that was absent in *Gpr99*$^{-/-}$ mice.

**CONCLUSIONS:** These results demonstrate that GPR99 is expressed on murine respiratory epithelial cells and controls their secretory function. Moreover our results suggest that the innate immune response of respiratory epithelial cells to *A.alternata* is controlled, in part, through a MC-cysLT-GPR99 axis.

## L64 Human Airway Epithelial Cells Express Functional IL-5 Receptors

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**RATIONALE:** Interleukin-5 (IL-5) is linked to asthma pathogenesis and exacerbations, presumably by promoting eosinophil production and function. We detected by microarray the IL-5 receptor alpha subunit (*IL5RA*) mRNA in differentiated airway epithelial cells and hypothesized that this receptor is functional in these cells.

**METHODS:** Airway epithelial cells obtained from 4 donor lungs were differentiated at air-liquid interface (ALI) and then incubated with recombinant IL-5 for 15 minutes, 1 hour, 6 hours, and 24 hours. Expression of the IL-5R α- and β-subunits was tested using qPCR and Western blot. Following incubation with IL-5 (10 ng/mL), cell lysates were analyzed for phosphorylation of downstream signaling molecules by Western blot.

**RESULTS:** Expression of the α-subunit of IL-5R was increased 18-fold in differentiated airway epithelial cells compared to undifferentiated monolayers. mRNA expression of the β-subunit was low in unstimulated ALI cells, but increased following incubation for 6 hours with IL-5. Protein expression of the α-subunit was confirmed in both treated and untreated differentiated airway epithelial cells. β-subunit protein expression was low but rapidly inducible by IL-5, suggesting re-localization within the cells. IL-5 stimulation (15-60 min) of ALI cells significantly increased phospho-ERK (mean fold increase=2.7, p=0.003, n=4) and phospho-AKT (mean fold increase=5.2, p=0.029, n=4), but not phospho-STAT5A.

**CONCLUSIONS:** Differentiated human airway epithelial cells express functional IL-5 receptors. The signaling molecules affected suggest that IL-5 may promote epithelial cell growth and proliferation. Collectively, these findings suggest that IL-5 affects airway physiology in asthma in part through effects on airway epithelial cells.

## L65 Impairment of Autophagy in Pulmonary CD11c+ Cells Induces Corticosteroid-Unresponsive Airway Hyperreactivity

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**RATIONALE:** A significant proportion of asthmatic patients do not respond to steroid therapy and suffer from neutrophilic asthma with incompletely understood pathogenesis. Autophagy is an important intracellular organelle recycling pathway that has been implicated in asthma. We evaluated the role of autophagy in the pathogenesis of steroid-resistant neutrophilic asthma.

**METHODS:** We assessed the airway hyperreactivity (AHR) and inflammation, T cell response and DC profile in several autophagy impaired mouse models. We also generated a novel mouse model in which Atg5, a key gene in autophagy pathway, is specifically knocked out in $CD11c^+$ cells.

**RESULTS:** Our results show that induction of severe asthma impairs autophagy pathway in lung $CD11c^+$ cell. We found for the first time that house dust mite (HDM)-mediated induction of AHR and lung inflammation in $Atg5^{-/-}$ mice leads to neutrophilic steroid resistance asthma while in WT mice causes eosinophilic steroid-responsive asthma. Adoptive transfer of bone-marrow derived $CD11c^+$ cells from $ATG5^{-/-}$ but not WT mice is sufficient to mediate Th17-dependent neutrophilic asthma in WT recipients. Most importantly, we found that CD11c-specific $Atg5^{-/-}$ mice develop spontaneous AHR and neutrophilic lung inflammation. Lack of autophagy in $CD11c^+$ cells induces significantly higher level of key cytokines such as IL-1a, IL-1b and IL-23.

**CONCLUSIONS:** Our results provide novel insights into an important and previously unrecognized role of autophagy in asthma and suggest that inducing autophagy may affect pulmonary $CD11c^+$ cells function and therefore, may be considered as an attractive clinical target for future strategies of treatment and prevention of asthma.

## L66 Ara h 1 Peptide Immunotherapy Protects Against Peanut-Induced Anaphylaxis in a Dose-Dependent Manner

**Elizabeth Simms, MSc**[1], Ms. Jennifer Wattie[1,2], Dr. Susan Waserman, MD FAAAAI[3], Dr. Manel Jordana, MD, PhD[4], Dr Mark Larché, PhD[2,5]; [1]McMaster University, Hamilton, ON, Canada, [2]Firestone Institute for Respiratory Health, Hamilton, ON, Canada, [3]Department of Medicine, McMaster University, Hamilton, ON, Canada, [4]McMaster Immunology Research Centre (MIRC), McMaster University, Hamilton, ON, Canada, [5]Division of Clinical Immunology & Allergy, Department of Medicine, McMaster University, Hamilton, ON, Canada.

**RATIONALE:** Peptide immunotherapy, a disease-modifying treatment that uses short peptides representing major allergen T cell epitopes, has been shown to reduce symptoms of allergic rhinoconjunctivitis. This study evaluated the ability of peptide immunotherapy to protect against anaphylaxis in a murine model of peanut allergy.

**METHODS:** We identified a novel peptide from the major peanut allergen Ara h 1 that is recognized by C57Bl/6 mice. Mice were sensitized to peanut epicutaneously and treated 1 week later with 2 intraperitoneal injections of peptide, 1 week apart. We included 6 doses, ranging from 0.01 ug to 300 ug of peptide. Mice were subsequently challenged with whole peanut extract and evaluated for signs of anaphylaxis. They were monitored over a period of 40 minutes for clinical signs of allergic reaction, changes in rectal temperature, and vascular leakage.

**RESULTS:** Peptide immunotherapy provided significant protection against anaphylaxis in a dose-dependent manner. Mice that received 100 ug of Ara h 1 peptide exhibited the highest level of protection. Control mice treated with saline experienced a mean maximum temperature drop of 7.4°C, while mice receiving 100 ug of peptide experienced a drop of 2.0°C (p=0.01 vs control). Maximum mean clinical score was 4.0 in control mice, and 1.8 in treated mice (p=0.002). Mean hematocrit for control mice was 56.4%, and 48.9% for treated mice (p=0.16).

**CONCLUSIONS:** One T cell epitope-containing peptide from a single major peanut allergen can protect against anaphylaxis elicited by whole peanut extract challenge. Studies of peptide immunotherapy in clinical peanut allergy are warranted.

## L67 Identification of Tr1 Cells and Other CD4+ T Cell Subsets in Humans Using Mass Cytometry: A Tool for Understanding Asthma

**Mary Prunicki, PhD, MD**[1], Xiaoying Zhou, PhD[1], Mariangels de Planell Saguer, PhD[2], Rachel Miller, MD[3], Kari C. Nadeau, MD, PhD, FAAAAI[4,5]; [1]Stanford University, [2]Columbia University, [3]Division of Pulmonary, Allergy and Critical Care Medicine, Department of Medicine, Columbia University, New York, NY, [4]Stanford University, Medicine, Division of Pulmonary and Critical Care, Stanford, CA, [5]Sean N. Parker Center for Allergy Research at Stanford University, CA.

**RATIONALE:** T cell subsets contribute to immune functioning and are critical for controlling allergic disease. We studied asthmatic and non-asthmatic children to investigate the contributions of various T cell subsets.

**METHODS:** Peripheral blood mononuclear cells (PBMCs) from healthy (n=10) and current asthmatic children (n=10) (based on Global Initiative for Asthma guidelines) were stained with 30 metal-conjugated antibodies for surface and intracellular targets. Plasma total IgE levels were measured. Pyrosequencing of the FoxP3 gene at 10 different CpG sites was also performed.

**RESULTS:** T cell subsets (Tr1, Treg, Th1, Th2, Th17, TCRgd) were identified using both Flow-Jo and 2 dimensional display using viSNE. Methylation at 4 CpG sites in the promoter region was negatively correlated with the percentage of Tr1 cells (CpG -146, p<.01; CpG-133, p<.01; CpG -127, p<.03; CpG -83, p<.02). IgE level negatively correlated with percentage of Treg cells (p<.05). In addition, there was a trend for asthmatics to have fewer Tr1 cells than healthy controls (p<.08).

**CONCLUSIONS:** This study is the first to our knowledge to identify of all of these T cell subsets using mass cytometry. Analysis at a single-cell levelmay be superior to flow cytometry, and elucidate more subtle findings, as reported here even with a limited sample size. These preliminary data indicate that asthmatics may have a reduced amount of Tr1 cells in comparison to non-asthmatics. Tr1 cells also correlate with FoxP3 methylation levels in the promoter region. Finally, IgE levels are inversely related to the number of Treg cells.

# ACGME Competency Index


To contribute to the development of our members as lifelong learners and to enhance the effectiveness of the CME activities it provides, the AAAAI uses the six competencies defined by the Accreditation Council for Graduate Medical Education (ACGME) to guide its educational programming decisions. The six competencies are:

- Patient Care
- Medical Knowledge
- Practice-Based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-Based Practice

All sessions at the Annual Meeting address the competencies of Patient Care and Medical Knowledge. Below is a list of sessions that address the other competencies:

## Interpersonal and Communication Skills

1009, 1151, 1201, 1210, 1502, 1504, 1510, 1806, 1810, 2006, 2008, 2012, 2022, 2251, 2312, 2503, 2511, 2512, 2611, 2802, 2804, 2814, 2822, 3003, 3004, 3007, 3009, 3010, 3021, 3022, 3311, 3312, 3501, 3507, 3511, 3512, 3521, 3522, 3554, 3703, 4003, 4004, 4009, 4010, 4150, 4301, 4705, 4752, 4815

## Practice-Based Learning and Improvement

0001, 0101, 1001, 1002, 1003, 1004, 1006, 1007, 1008, 1012, 1102, 1201, 1202, 1203, 1204, 1205, 1206, 1209, 1210, 1501, 1503, 1504, 1505, 1506, 1512, 1513, 1514, 1551, 1601, 1801, 1802, 1804, 1805, 1806, 1808, 1810, 2001, 2003, 2004, 2006, 2007, 2008, 2009, 2011, 2012, 2013, 2021, 2022, 2101, 2151, 2301, 2302, 2303, 2304, 2305, 2307, 2311, 2312, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2551, 2552, 2553, 2554, 2612, 2701, 2801, 2802, 2803, 2805, 2806, 2807, 2808, 2809, 2812, 2813, 2814, 2821, 2822, 3001, 3002, 3003, 3004, 3006, 3008, 3009, 3010, 3011, 3012, 3013, 3022, 3101, 3301, 3302, 3303, 3304, 3305, 3306, 3307, 3311, 3312, 3501, 3502, 3504, 3505, 3506, 3507, 3508, 3509, 3511, 3512, 3521, 3522, 3551, 3552, 3553, 3554, 3701, 3702, 3703, 3704, 3705, 3706, 3707, 4001, 4002, 4004, 4005, 4006, 4007, 4008, 4009, 4101, 4302, 4303, 4304, 4305, 4306, 4307, 4308, 4702, 4704, 4705, 4706, 4707, 4708, 4710, 4752, 4801, 4803, 4804, 4806, 4807, 4808, 4809, 4810, 4811, 4814, 4815, 4816

## Professionalism

1007, 1050, 1101, 1151, 1204, 1208, 1210, 1301, 1401, 1810, 2006, 2010, 2022, 2051, 2151, 2251, 2503, 2555, 2611, 2806, 2811, 2813, 3003, 3004, 3009, 3010, 3021, 3301, 3312, 3501, 3507, 3511, 3512, 3521, 3554, 3706, 4004, 4009, 4150, 4705, 4802, 4809, 4813

## System-Based Practice

0101, 1006, 1007, 1010, 1012, 1050, 1101, 1102, 1201, 1204, 1206, 1207, 1210, 1211, 1301, 1401, 1504, 1505, 1506, 1511, 1513, 1514, 1551, 1802, 1803, 1806, 1807, 1810, 2002, 2004, 2007, 2008, 2009, 2012, 2021, 2051, 2151, 2251, 2301, 2308, 2311, 2312, 2503, 2504, 2505, 2508, 2511, 2512, 2551, 2553, 2554, 2612, 2802, 2806, 2812, 2814, 2815, 2821, 3003, 3004, 3005, 3013, 3022, 3101, 3301, 3305, 3306, 3307, 3311, 3312, 3501, 3503, 3504, 3509, 3511, 3512, 3521, 3552, 3703, 3706, 4001, 4005, 4011, 4101, 4150, 4306, 4308, 4705, 4752, 4804, 4805, 4808, 4809, 4815, 4816

For more information about the ACGME's physician competencies, visit http://www.acgme.org.

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## Allergy & Asthma Network
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www.aanma.org
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# Exhibits



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1620 Satellite Boulevard
Duluth, GA 30097
Phone: (800) 255-3749
www.allergycontrol.com

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At Allergy Control Products, our ongoing mission is to offer effective quality products to our customers and support them with the best and latest education and information so they can live better and feel better every day.

## Allergy Guardian

9525 Monroe Road
Charlotte, NC 28270
Phone: (770) 910-8075
www.allergyguardian.com

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Educational literature for allergy patients along with a full range of effective products for relief from allergies, asthma, dermatitis and more.

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www.allergylabs.com

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www.allergypartners.com

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Phone: (903) 844-796
www.allergytherapeutics.com

**Booth #921**

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Eastman, WI 54626
Phone: (608) 874-4044
www.latexallergyresources.org

**Booth #432**

Latex allergy education resources and support patient advocacy.

## Antera Therapeutics

125 Western Avenue
Boston, MA 2134
Phone: (513) 673-3615
www.anteratherapeutics.com

**Booth #1102**

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Atlanta, GA 30359
Phone: (713) 493-7749
www.apfed.org

**Booth #234**

APFED is a non-profit advocacy organization for those living with eosinophilic esophagitis, eosinophilic gastroenteritis, eosinophilic colitis, hypereosinophilic syndrome, and other eosinophilic disorders. We are a source for patients, their families, physicians and the medical community.

## Asthma and Allergy Foundation of America

8201 Corporate Drive
Suite 1000
Landover, MD 20785
Phone: (800) 727-8462
www.aafa.org

**Booth #137**

The Asthma and Allergy Foundation of America is dedicated to improving quality of life for people with asthma/allergies by educating families, advocating on behalf of patients and supporting medical research. Kids with food allergies, a division of AAFA, offers educational resources, recipes and webinars. Visit www.aafa.org or www.kidswithfoodallergies.org for more information.

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Wilmington, DE 19803
Phone: (800) 236-9933
www.astrazeneca.com

**Booth #801**

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Newport Beach, CA 92660
Phone: (949) 719-2487
www.babyhealthcare.us/

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www.statkit.com

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Bannonckburn, IL 60045
Phone: (224) 940-5832
www.baxalta.com

**Booth #1101**

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Phone: (224) 940-5832
www.baxalta.com

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Phone: (919) 354-8386
www.bpl-us.com

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www.us.boehringer-ingelheim.com

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www.crcsciences.com

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www.clinimmsoc.org

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Phone: +33 0 1 55 42 7878
www.dbv-technologies.com

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http://www.diplomat.is

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Phone: (617) 225-2500
www.dyax.com

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Zurich, Switzerland 8050
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www.eaaci.org

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EAACI is a non-profit organization active in the field of allergic and immunologic disease such as asthma, rhinitis, eczema, occupational allergy, food and drug allergy and anaphylaxis. EAACI was founded in 1956 in Florence and has become the largest medical association in Europe in the field of allergy and clinical immunology.

## Food Allergy Research & Education (FARE)

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McLean, VA 22102
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www.foodallergy.org

**Booth #235**

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Phone: (973) 889-4469
www.gsk.com
**Booth #914**
GSK is a science led global healthcare company with a mission to help people do more, feel better and live longer. We research, manufacture and make available a broad range of medicines, vaccines and consumer healthcare products. Visit our exhibit for information about our products and resources.

## Healix Infusion Therapy, Inc.
14140 Southwest Freeway
Sugar Land, TX 77478
Phone: (281) 295-4000
www.healix.net/
**Booth #1104**
As the national leader in managing Office Infusion Centers, Healix offers customizable infusion therapy solutions for medications administered in the physician's office or self-administered at home. The Healix immunology program is a convenient suite of clinical and business services to in-source patient care currently outsourced to third party providers. www.healix.net/immunology

## Helen of Troy/Kaz USA, Inc.
400 Donald Lynch Blvd
Marlboro, MA 01752
Phone: (508) 490-7214
www.kaz.com
**Booth #104**
Honeywell is the market leader in portable air purification products, offering True Hepa permanent filtration providing your patients with superior air cleaning products for over 25 years!

## HollisterStier Allergy
3525 N Regal Street
Spokane, WA 99207
Phone: (509) 482-4974
www.hsallergy.com
**Booth #709**
HollisterStier Allergy manufactured a full line of products for allergy practices. Our line includes allergenic extracts, skin testing systems, vials & diluents and other ancillary supplies.

## Horizon Pharma
520 Lake Cook Road, Suite 520
Deerfield, IL 60015
Phone: (224) 383-3000
www.horizonpharma.com
**Booth #1109**
A biologically manufactured protein that is similar to a protein your body makes naturally.

## Immune Deficiency Foundation
110 West Road Suite 300
Towson, MD 21204
Phone: (410) 321-6647
www.primaryimmune.org
**Booth #132**
The Immune Deficiency Foundation is the national patient organization dedicated to improving the diagnosis, treatment and quality of life of persons with primary immunodeficiency disease through advocacy, education and research.

## Immune Epitope Database and Analysis Resources (IEDB)

942 Athen Circle
La Jolla, CA 92037
Phone: (858) 752-6978
www.iedb.org

**Booth #232**

The IEDB is an NIH-supported, freely available resource that provides access to published data related to antibody and T cell epitopes, as well as online tools for prediction and further analysis of immune epitopes. The IEDB has data for infectious and autoimmune disease, allergens, and alloantigens. Stand-alone tools also available upon request.

## ImprimisRx

12264 El Camino Real
Suite 350
San Diego, CA 92130
Phone: (858) 704-4040
http://www.imprimisrx.com

**Booth #439**

## Indoor Biotechnologies, Inc.

700 Harris Street
Charlottesville, VA 22903
Phone: (434) 984-2304
www.inbio.com

**Booth #114**

Indoor Biotechnologies specializes in products and services for indoor air quality, environmental sciences, allergy and asthma, configured for research or for consumer use.

## Infinite Trading Inc.

1810 E Sahara Ave, Suite 1482
Las Vegas, NV 89104
Phone: (888) 415-9964

**Booth #335**

Digital Massager.

## Inflamax Research Inc.

1310 Fewster Drive
Mississauga, ON Canada L4W 1A4
Phone: (905) 282-1808
http://www.inflamaxresearch.com

**Booth #923**

A global full-service respiratory-focused CRO with 2 clinics in North America, offering clinic, field and EEC/mobile EEC Services. We support pharma, biotech, generic & medical device products. Inflamax offers high-capacity, single-center capabilities. We conduct from proof-of-concept to large multi-center/national trials with a successful track record of > 800 studies completed.

## Inspirotec

3307 Meadow Lane
Glenview, IL 60025
Phone: (312) 636-6906
www.inspirotec.com/

**Booth #731**

In home aeroallergen and air quality testing device and laboratory service.

## International Eosinophil Society, Inc.

555 E Wells Street, Suite 1100
Milwaukee, WI 53202
Phone: (414) 276-6445
www.eosinophil-society.org

**Booth #135**

An organization of scientists and clinicians interested in the Eosinophil a blood cell strongly associated with disease.

## International FPIES Association

319 Richmond Ave.
Point Pleasant Beach, NJ 08742
Phone: (908) 910-4419
www.fpies.org

**Booth # 334**

## Kaba Fusion

17777 Center Court Drive North, Suite 550
Cerritos, CA 90703
Phone: (800) 435-3020
www.kabafusion.com

**Booth #1110**

Kaba Fusion is a pharmacist owned, patient focused team of professionals with extensive experience in home infusion and specialty infusion therapy. Services are provided from our pharmacies in CA, MA, NJ, PA, TX and IL. Our pharmacists, nurses, and reimbursement staff work as a team to provide patients with compassion, efficient and reliable care.

## Karger Publishers

26 West Avon Rd
Unionville, CT 06085
Phone: (860) 675-7834
www.karger.com

**Booth #416**

Publications include the book series Chemical Immunology and Allergy and Progress in Respiratory Research; and the journals Dermatology, International Archives of Allergy and Immunology, Journal of Innate Immunity, Neuroimmunomodulation, and Respiration.

## Lincoln Diagnostics, Inc.

240 E. Hickory Pt. Road
Decatur, IL 62526
Phone: (800) 537-1336
www.lincolndiagnostics.com

**Booth #915**

Lincoln Diagnostics is displaying state-of-the-art, safety-engineered skin testing devices that meet all current OSHA requirements- Multi-Test® PC (Pain Control), UniTest® PC, Multi-Test® II, Multi-Test®, Duotip-Test® II, and Duotip-Test®. Please visit us.

## Lupin Pharmaceuticals, Inc.

111 S. Calvert Street, 24th Fl.
Baltimore, MD 21202
Phone: (410) 576-2350
www.lupinpharmaceuticals.com/

**Booth #523**

InspiraChamber® Anti-Static Valved Holding Chamber with SootherMask™ and InspiraMask™ is a hand-held anti-static device designed to enhance and simplify aerosol delivery to patients suffering respiratory conditions. It is available by prescription only for patients who may have difficulty in the coordination and control of using Metered Dose Inhalers effectively.

## Mayo Clinic

200 First Street SW
Rochester, MN 55905
Phone: (507) 284-4873
www.mayoclinic.org

**Booth #1017**

Mayo Clinic is ranked number one in more specialties than any other hospital in the nation for 2015-2016 by U.S. News and World Report. We have approximately 3,800 physicians and scientists across all locations working in a unique environment that brings together the best in patient care, groundbreaking research and innovative medical education.

## McNeil Consumer Healthcare

7050 Camp Hill Rd
Ft. Washington, PA 19034
Phone: (800) 962-5357
www.zyrtecprofessional.com

**Booth #721**

McNeil Consumer Healthcare Division of Johnson & Johnson Consumer Inc. markets a broad range of well-known and trusted over-the-counter (OTC) products. McNeil Consumer Healthcare brands include TYLENOL® and MOTRIN® pain relievers and fever reducers; BENADRYL®, RHINOCORT®, ZYRTEC® and ZYRTEC®-D allergy medicines; IMODIUM® anti-diarrheal products; and SUDAFED® and SUDAFED PE® nasal decongestants.

## Meda Pharmaceuticals

265 Davidson Avenue
Somerset, NJ 08873
Phone: (732) 564-2200
www.medpointepharma.com

**Booth #501**

Meda is a leading international specialty pharma company with a broad product portfolio and its own sales organizations in almost 60 countries. Meda's product portfolio is divided into three main areas: specialty products, OTCs (nonprescription products and dietary supplements) and branded generics. In the United States, Meda has a strong history in respiratory innovation, with a focus in allergy and asthma.

## Meditab Software, Inc.

333 Hegenberger Rd.
Oakland, CA 94621
Phone: (510) 632-8021
www.meditab.com

**Booth #411**

Meditab's AllergyEHR is the nation's leading, double-certified, multi-award winning, fully integrated Allergy/Immunology-exclusive, clinic automation solution.

## Meditab Software, Inc.

333 Hegenberger Rd.
Oakland, CA 94621
Phone: (510) 913-3969
www.meditab.com

**Booth #413**

Meditab's AllergyEHR is the nation's leading, double-certified, multi-award winning, fully integrated Allergy/Immunology-exclusive, clinic automation solution.

## Merck & Co Inc.

2000 Galloping Hill Road
Kenilworth, NJ 07033
Phone: (908) 423-1000
www.merck.com

**Booth #431**

Today's Merck is working to help the world be well. Through our medicines, vaccines, biological therapies, and consumer and animal products, we work with customers and operate in more than 140 countries to deliver innovative health solutions.

## Methapharm

81 Sinclair Boulevard
Brantford, ON Canada N3S 7X6
Phone: (519) 751-3602
www.methapharm.com

**Booth #110**

The Provocholine® (methacholine chloride) Challenge is a direct challenge test that provides a generally accurate diagnosis of bronchial hyperreactivity as well as determining the severity of asthma. The Methacholine challenge is the gold standard for ruling out a diagnosis of asthma and can also be used to confirm occupational asthma. Visit our booth or www.provocholine.com/ssm

## Micro Direct, Inc.

803 Webster Street
Lewiston, ME 04240
Phone: (207) 786-7808
www.micro-direct.com

**Booth #725**

Micro Direct is pleased to offer Spirometry Solutions with four models priced from $650 to $2,295, all designed to meet your needs; each with your choice of inexpensive cardboard mouthpieces, one-way mouth pieces or full protection pulmonary filters. Micro Direct offers an inexpensive peak flow meter for home and office use.

## MIR-Medical International Research Inc.

1900 Pewaukee Road, Suite D
Pewaukee, WI 53188
Phone: (262) 565-6797
www.spirometry.com

**Booth #317**

MIR leader in portable diagnostic devices for a completely respiratory function analysis, combining oximetry to spirometry testing.

## Mission: Allergy

28 Hawleyville Road
Hawleyville, CT 06440
Phone: (203) 364-1570 x 2000
www.missionallergy.com

**Booth #510**

Leading allergists and allergy divisions recommend Mission: Allergy for its scientific accuracy and highest quality products for allergen avoidance, including Mission: Allergy Premium Microfiber pillow and mattress encasings and comforters, high-CADR Blueair air cleaners, and innovative AD RescueWear garments for wet-wrap therapy of atopic dermatitis.

## ModuleMD

8359 Office Park Drive
Grand Blanc, MI 48439
Phone: (248) 434-0444
www.modulemd.com

**Booth #516**

ModuleMD has been a leader in EHR solutions for Allergists for over 15 years. ModuleMD's integrated EHR, Practice Management, and Allergy Module delivers peak clinical, operational and financial performance to Allergy Practices. At ModuleMD, we are about solutions, not just software. Each solution can be as unique as you are.

## MotherToBaby Pregnancy Studies conducted by OTIS

9500 Gilman Drive
Mailcode 0828
La Jolla, CA 92093
Phone: (877) 311-8972

**Booth #233**

MotherToBaby, a non-profit service of the Organization of Teratology Information Specialists (OTIS), provides evidence-based information to health professionals, and the general public about medications and other exposures during pregnancy and breastfeeding. MotherToBaby is conducting observational research studies to evaluate the safety of asthma, asthma medication and vaccinations in pregnancy.

## Mylan Inc.

1000 Mylan Boulevard
Canonsburg, PA 15317
Phone: (724) 514-1800
www.mylan.com

**Booth #1123**

Mylan is a global pharmaceutical company committed to setting new standards in healthcare. We offer a growing of ~1,400 generic pharmaceuticals and several brand medications. Our specialty business focuses on the development, manufacturing and marketing of prescription drug products for respiratory diseases, life-threatening allergic reactions, general anesthesia and psychiatric disorders.

## National Allergy Supply

1620-D Satellite Blvd
Duluth, GA 30097
Phone: (800) 522-1448

**Booth #1216**

www.NationalAllergy.com

National Allergy is one of the nation's largest asthma, sinus and allergy products suppliers. Our goal is to help make your environment allergen free. The allergy products we carry are for personal and home use, and are offered at a competitive price!

## National Jewish Health

1400 Jackson Street
Denver, CO 80206
Phone: (303) 398-1669
www.njlabs.org

**Booth #631**

National Jewish Health Advanced Diagnostic Laboratories is a CAP, CLIA and CAP15189SM laboratory with decades of experience developing immunology, complement, infectious disease and molecular diagnostic tests. We provide unparalleled clinical expertise and diagnostic testing in immune deficiency, respiratory disease, allergy and autoimmunity.

## ndd Medical Technologies

300 Brickstone Square
Andover, MA 01810
Phone: (978) 470-0923
www.nddmed.com

**Booth #538**

The EasyOne Pro® is the first lung function instrument to allow Single Breath DLCO measurement outside of the lung function laboratory. The EasyOne® Plus and Easy on-PC series of spirometers are based on the best technology, packed with features and easy to use.

## NeilMed Pharmaceuticals

601 Aviation Blvd.
Santa Rosa, CA 95403
Phone: (707) 525-3784
www.neilmed.com

**Booth #509**

Nasal/Sinus, Ear, First Aid care for Adults and Children

## Novartis Pharmaceutical Corporation

1 Health Plaza
East Hanover, NJ 07936
Phone: (888) 669-6682
www.us.novartis.com

**Booth #715**

Novartis Pharmaceuticals is dedicated to discovering, developing, manufacturing and marketing prescription drugs that help meet our customers' medical needs and improve their quality of life.

## nSpire Health

1830 Lefthand Circle
Longmont, CO 80501
Phone: (800) 574-7374
www.nspirehealth.com

**Booth #1100**

nSpire Health™ is a global respiratory information systems software developer and medical device manufacturing company. We are the exclusive provider and developer of Iris™ the world's first Integrated Respiratory Information System; and KoKo® pulmonary function testing, diagnostic spirometry, and respiratory home monitoring devices.

## Nutricia North America

PO Box 117
Garthersberg, MD 20884
Phone: (301) 795-2300
www.nutricia-na.com

**Booth #312**

Nutricia is a global leader in advanced medical nutrition for specialized care. Neocate, brought to you by Nutricia, is an age specific range of amino-acid based nutrition proven effective in nutritional management of multiple GI disorders and food-allergy related conditions, such as SBS, CMA, MFPI, EoE and GERD.

## Option Care

2050 South Finley Road
Suite 20
Lombard, IL 60148
Phone: (877) 974-4844
www.optioncare.com

**Booth #930**

Option Care Immune Globulin Program is designed on a high-touch clinical centralization model of care. Our program's mission is to provide clinically appropriate, cost-effective IG therapy resulting in optimal outcomes, improved quality of life, and effective, safe treatment in the home.

## Otto Trading Inc.

1921 Carnegie Ave, Suite C
Santa Ana, CA 92705
Phone: (714) 540-5595
www.irestmassager.com/

**Booth #630**

Portable, digital Muscle stimulators.

## Panatrex

1648 Sierra Madre Cir.
Placentia, CA 82870
Phone: (714) 630-3382

**Booth #831**

Panatrex Inc. provides Quanti-Test System - depth control ensures reproducible result more accurate; the design of cap prevents allergen from contamination; the wells wipes out excessive allergens.

## Pectolite GmbH

Spiesheimer Weg 28-30
Woerrstadt, Germany 53286
Phone: +49 67 32 279 9000
www.pectolite.de

**Booth #437**

Pectolite is helping clinicians to manage environmental health issues by providing devices to enhance clinical research in allergy, asthma and immunology.

## Perrigo Company

490 Easton Ave
Allegan, MI 49010
Phone: (269) 673-8451
www.perrigo.com

**Booth #821**

OTC and nutritional products.

## Pulm One Advanced Medical Devices

14 HaCharoshet St
RAANANA, 4365707 Israel
Phone: (512) 569-9127
http://www.pulm-one.com

**Booth # 733**

Lung Funtion Testing.

## Quintiles

4820 Emperor Blvd
Durham, NC 27703
Phone: (919) 760-9583
www.Quintiles.com

**Booth #931**

Quintiles (NYSE: Q) helps biopharma and other healthcare companies improve their probability of success by connecting insights from our deep scientific, therapeutic and analytics expertise with superior delivery for better outcomes.

## Rabbit Air

125 N. Raymond Ave.
Pasadena, CA 90241
Phone: (888) 866-8862
www.RabbitAir.com

**Booth #924**

Our Los Angeles-based company is dedicated to improving quality of life through clean air. Rabbit Air's purifiers have a HEPA filter so advanced that it not only traps but also reduces buildup of common allergens for optimum efficiency and performance.

## Reckitt Benckiser (RB)

399 Interpace Parkway
Parsippany, NJ 07054-0225
Phone: (973) 404-5966
https://www.rb.com

**Booth #1019**

RB (Reckitt Benckiser) is a global leader in Health, Hygiene and Home. With Brands such as Mucinex, Delsym and Lysol our vision is a world where people are healthier and live better; our purpose is to make a difference by giving people innovative solutions for healthier lives and happier homes.

## Red Maple Trials

2935 Conroy Road
Ottawa, ON Canada K1G 6C6
Phone: (613) 368-4320
www.redmapletrials.com/

**Booth #316**

Red Maple Trials provides specialty services in allergy, asthma and immunology clinical research, highlighted by our next generation Allergen Challenge Theatre (environmental exposure chamber). Our clinical trial facilities are capable of executing on Phase I through IV studies, and our experienced team provides site management services for our biopharmaceutical partners.

## Red River Commodities/SunButter LLC

501 42nd St. NW
Fargo, ND 58102
Phone: (877) 873-4501
www.sunbutter.com

**Booth #112**

SunButter Sunflower Seed Spread

## Regeneron/Sanofi

777 Old Saw Mill River Road
Tarrytown, NY 10591
Phone: (914) 847-7600
www.regeneron.com

**Booth #420**

Regeneron is a leading science-based biopharmaceutical company that discovers, invents, develops, manufactures, and commercializes medicines for the treatment of serious medical conditions. www.regeneron.com. Sanofi is a global healthcare leader focused on patient's needs engaged in the research, development, manufacturing and marketing of innovative therapeutic solutions. www.sanofi.com

## Rosch Visionary Systems, Inc.

501 Howard Avenue
Altoona, PA 16601
Phone: (800) 307-3320
www.roschvisionary.com

**Booth #820**

Rosch Immunotherapy is designed to manage the entire process of immunotherapy. Rosch Skin Testing electronically records results to build the patient's prescription, which integrates with Rosch Immunotherapy. Visionary Allergy Tracker reminds patients of their next injection via electronic notifications as well as tracking their immunotherapy history via our phone app.

## Shire Pharmaceuticals

300 Shire Way
Lexington, MA 2421
Phone: (617) 349-0200
www.shire.com

**Booth #400**

As one of the world's leading specialty biopharmaceutical companies, Shire has emerged as a company fully focused on a single purpose: to enable people with life-altering conditions to lead better lives. Through our Rare Disease Business Unit, we pursue opportunities to develop therapies on behalf of patients and families living with orphan diseases.

## Siemens Healthcare

511 Benedict Ave.
Tarrytown, NY 10591
Phone: (914) 524-5171
www.healthcare.siemens.com

**Booth #1117**

Siemens Healthcare develops innovations that support better patient outcomes with greater efficiencies giving providers the confidence they need to meet the clinical, operational and financial challenges of changing healthcare landscape.

## SmartPractice
3400 E. McDowell Road
Phoenix, AZ 85008
Phone: (800) 878-3837
www.smartpractice.com/derm
**Booth #108**
SmartPractice is the manufacturer and exclusive North American distributor of T.R.U.E. TEST®, Finn Chambers®, allergEAZE®, patchMap™, patchTransport™, patchProtect™ and Reveal & Conceal™. Through our investments in technology, clinical science, and world-class service, SmartPractice is committed to "all things contact dermatitis"™ for physicians and patients. www.smartpractice.com/dermatology

## Sol Millennium Medical Inc.
1735 N Brown Rd
Lawrenceville, GA 30043
Phone: (770) 331-0617
www.sol-millenniumna.com
**Booth #311**
Sol Millennium Medical offers safety and non-safety allergy syringes as well as mixing trays.

## Solutionreach
2912 Executive Pkwy
Lehi, UT 84043
Phone: (866) 605-6867
www.solutionreach.com
**Booth #1018**
Solutionreach provides a suite of patient-centered tools that allow healthcare providers to connect more personally with their patients with customized automated appointment reminders.

## Teva Pharmaceuticals
41 Moores Rd
Frazer, PA 19355
Phone: (816) 718-1624
www.tevausa.com
**Booth #101**
Stop by our booth to learn more about Qvar® (beclomethasone dipropionate HFA) & ProAir HFA® (albuterol sulfate). Information, educational materials, and resources to benefit your practice will be available.

## The American Board of Allergy and Immunology
1825 Market Street, Suite 1210
Philadelphia, PA 19103-2968
Phone: (215) 592-9466
www.Abai.org
**Booth #130**
The ABAI was established in 1971 as conjoint board of the ABIM and ABP. The internal medicine subspecialty existed from 1936-1971 and the pediatric subspecialty from 1944-1971. The ABAI is committed to working closely with its parent boards to maintain the highest educational and clinical standards in the specialty of allergy/immunology.

## The Mastocytosis Society
PO Box 129
Hastings, NE 68902
Phone: (952) 905-6778
www.tmsforacure.org
**Booth #138**
Physician education on mast cell disease.

## Thermo Fisher Scientific
4169 Commercial Avenue
Portage, MI 49002
Phone: (800) 346-4364
www.thermoscientific.com
**Booth #330**
Specific IgE Blood Testing

## U.S. Hereditary Angioedema Association
500 Ala Moana Blvd.
Honolulu, HI 96813
Phone: (866) 798-5598
www.haea.org
**Booth #136**
HAEA provides a wide range of patient services, patient advocacy programs, and suggests clinical research for rare genetic blood disease. We display information on HAE diagnosis, treatment and our scientific registry. We also display ingredient information on the US HAEA Angioedema center of UCSD.

## Ursatec-Verpackung GmbH
Schillerstr. 4
St. Wendel, 66606
Germany
Phone: +49 6851 80 26 0
www.ursatec.de
**Booth #1015**
URSATEC stands for innovative developments in preservative free pharmaceutical, medical and cosmetic products such as oral-, nasal- and inhalation sprays. Safe protection against contamination by microorganisms, even after the opening of a package, is guaranteed by the dual microbiological protection of the patented dosing systems 3K®, COMFORT ® and OptiLung®.

## US Bioservices
3101 Gaylord Parkway
Frisco, TX 75034
Phone: (888) 518-7246
www.usbioservices.com
**Booth #124**
US Bioservice's proven, integrated approach combines specialty pharmacy services with the clinical support and insights necessary for patients, manufacturers, payers and physicians to manage healthcare complexities. From the extensive resources of AmerisourceBergen, to the personal relationships developed in each healthcare scenario, we are uniquely positioned to help you optimize therapy.

## USIDNET

110 West Road, Suite 300
Towson, MD 21204
Phone: (410) 321-6647
www.primaryimmune.org

**Booth #134**

USIDNET is a national consented registry of individuals with primary immunodeficiency diseases. The goals are to advance research in the field and to improve the quality of life of patients. It is managed by leading immunologists and administered by the Immune Deficiency Foundation.

## Valeant/Salix Pharmaceuticals

400 Somerset Corporate Blvd
Bridgewater, NJ 08807
Phone: (866) 246-8245
www.salix.com

**Booth #621**

For over 20 years, Salix Pharmaceuticals, a wholly-owned subsidiary of Valeant Pharmaceuticals International, Inc. has been committed to providing solutions for the management of many chronic and debilitating conditions. Salix currently markets products to U.S. healthcare providers in the areas of gastroenterology, hepatology, internal medicine, primary care, infectious disease, and allergy/immunology.

## Viracor-IBT Laboratories

1001 NW Technology Drive
Lee's Summit, MO 64086
Phone: (816) 554-5171
www.ViracorIBT.com

**Booth #417**

With 30+ years of specialized expertise in infectious disease, immunology and allergy testing for immunocompromised patients, Viracor-IBT gets results faster, when it matters most. We are passionate about delivering value to our clients, never losing sight of the connection between the testing we perform and the patients we serve. www.viracoribt.com.

## Vitalograph, Inc.

13310 W. 99th Street
Lenexa, KS 66215
Phone: (913) 730-3200
www.vitalograph.com

**Booth #920**

In our 53rd year of leadership in pulmonary diagnostics, Vitalograph offers Spirometes, ECG, Peak Flow and FEV1 Meters, Inhalation Trainers and Cardio-respiratory Clinical Trials / Centralized Spirometry.

## Wiley

350 Main Street
Malden, MA 02148
Phone: (781) 388-8544
www.wiley.com

**Booth #116**

Wiley is a global provider of knowledge and knowledge-enabled services that improve outcomes in areas of research, professional practice and education.

## World Allergy Organization

555 E Wells Street, Suite 100
Milwaukee, WI 53202
Phone: (414) 276-1791
www.worldallergy.org

**Booth #131**

The World Allergy Organization is an international umbrella organization whose members consist of 95 regional and national allergology and clinical immunology societies from around the world. By collaborating with member societies, WAO provides direct educational outreach programs, symposia and lectureship to members in nearly 100 counties around the globe.

## Xoran Technologies

5210 South State Rd.
Ann Arbor, MI 48108
Phone: (800) 709-6726
www.xorantech.com

**Booth #337**

Hundreds of Allergy physicians have chosen to trust Xoran - the market leader in medical point-of-care imaging. The MiniCAT CT scanner provides the perfect solution for increased convenience, immediate access to images and a favorable return on investment for small and large practices alike.

## Xtract Solutions

9954 SW Arctic Dr
Beaverton, OR 97005
Phone: (503) 379-0110
www.xtractsolutions.com

**Booth #434**

Xtract Solutions is pleased to introduce technology dedicated to your clinic's immunotherapy workflow. Our suite software systems include skin testing, vial preparation and injection. Benefits include: automated shot reminders, fingerprint and barcode verification for injections and mixing, and overall efficiency increases from our user friendly interface. EMR integration is available.

## Yodle

330 West 34th Street
New York, NY 10001
Phone: (877) 276-5104
www.yodle.com

**Booth #121**

Leader in local online marketing that empowers local businesses to find and keep their customers simply and profitably.

# Exhibit Quick Reference Guide

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

## Allergenic Extracts



## Clinical Research Organizations



## Computer Hardware/Software



## Diagnostic Equipment



## Diagnostic Testing



## Environmental Products



## Equipment/Supplies



## Health/Body Care



## Immunotherapy



## Office Management



## Other

# Exhibit Quick Reference Guide

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

## Patient/Public Education



## Pharmaceuticals



## Physician Education



## Physician Recruitment

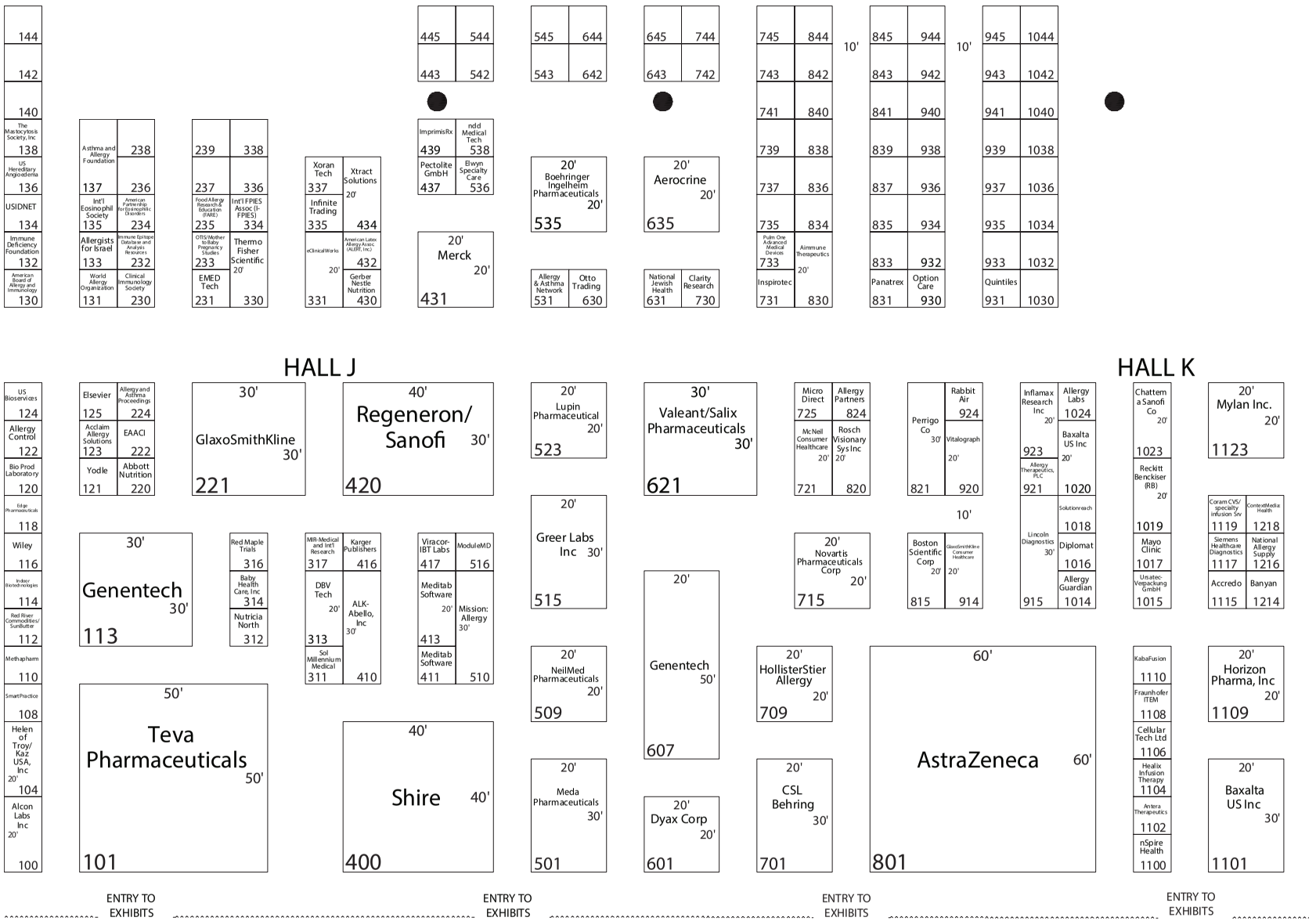


## Publications



## Spirometry

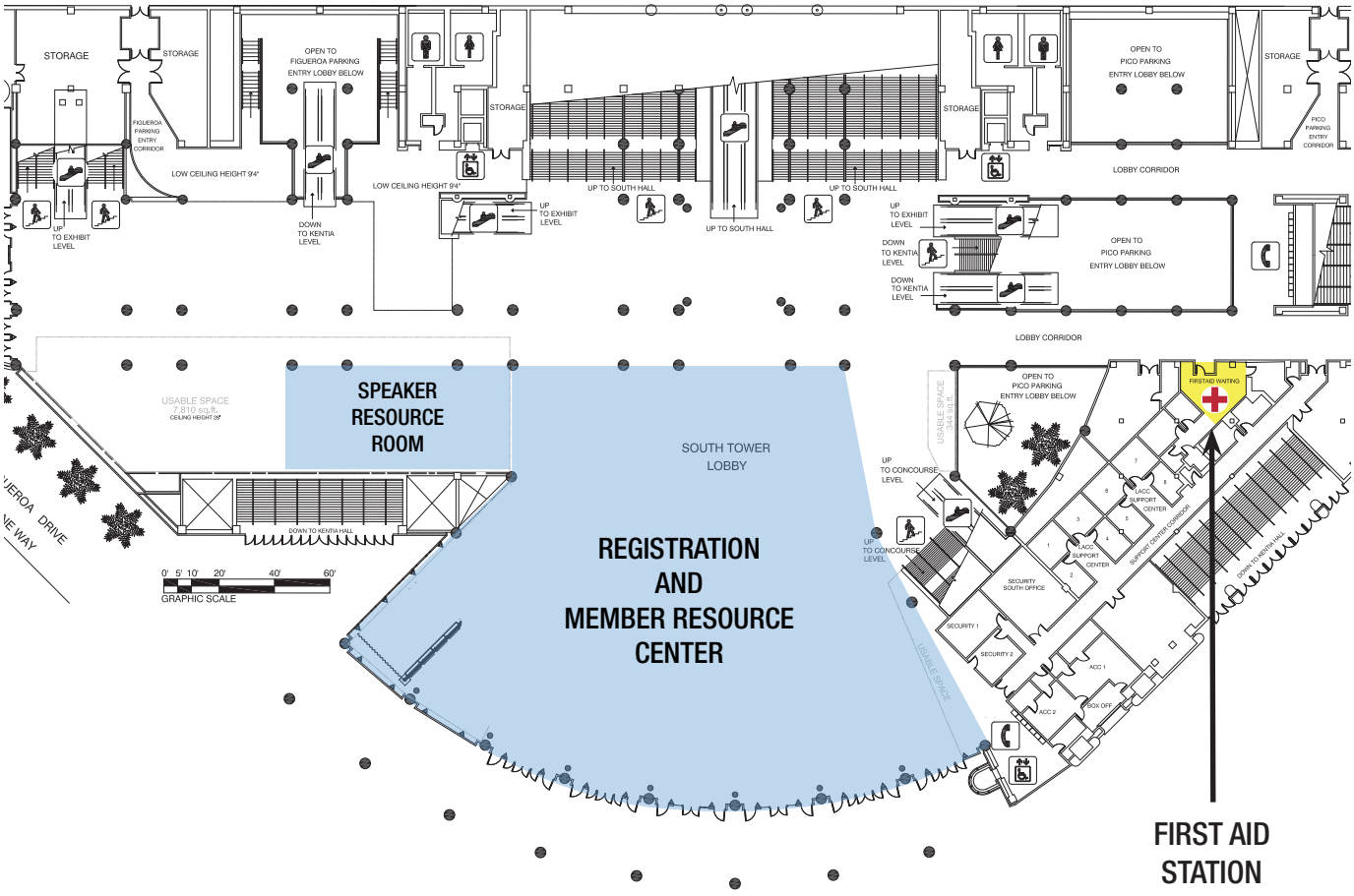
# Exhibit Hall Floor Plan



# Los Angeles Convention Center

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

## Convention Center — Ground Level



# Los Angeles Convention Center

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

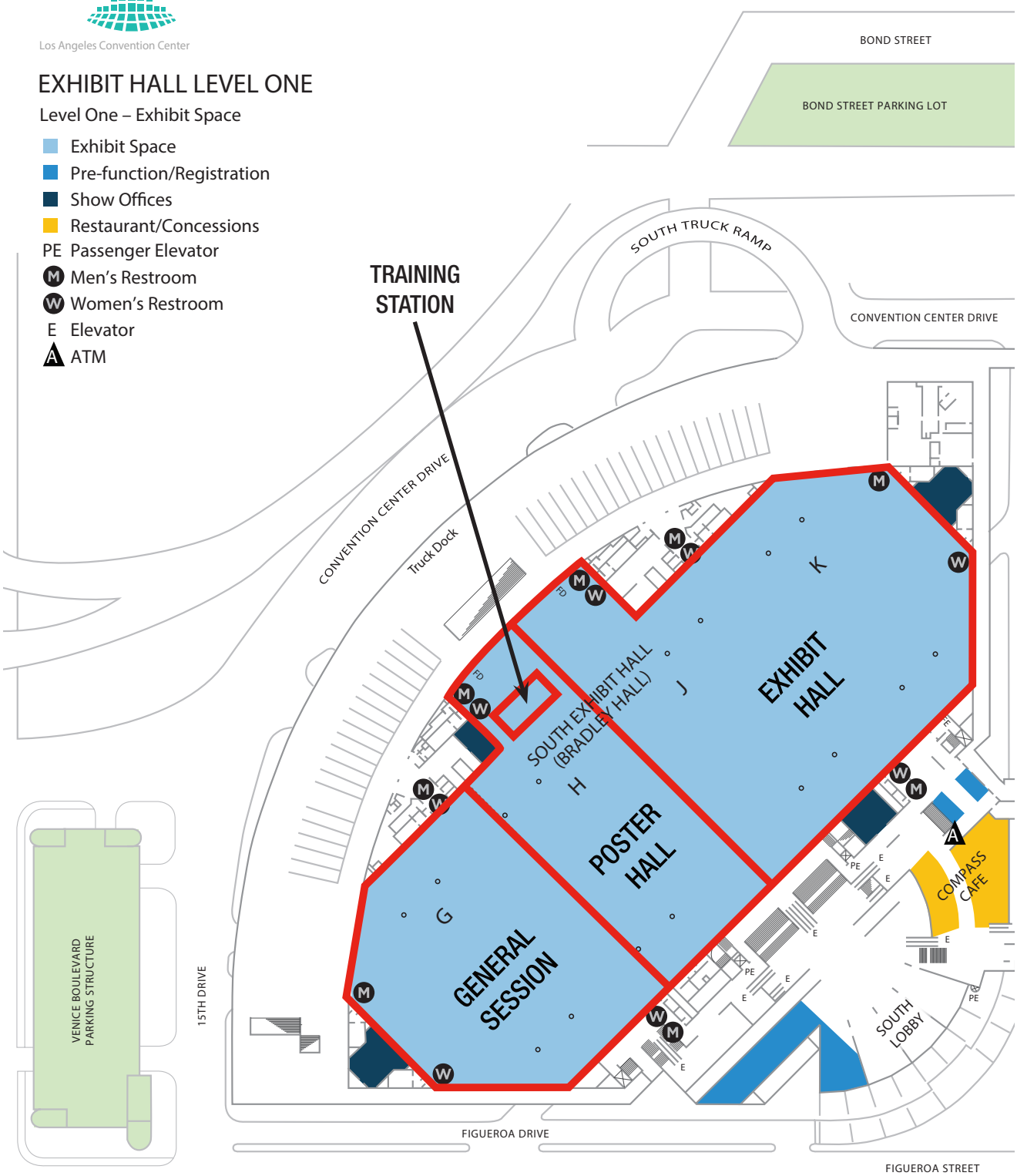
## Convention Center — Level One

Los Angeles Convention Center

### EXHIBIT HALL LEVEL ONE

Level One – Exhibit Space

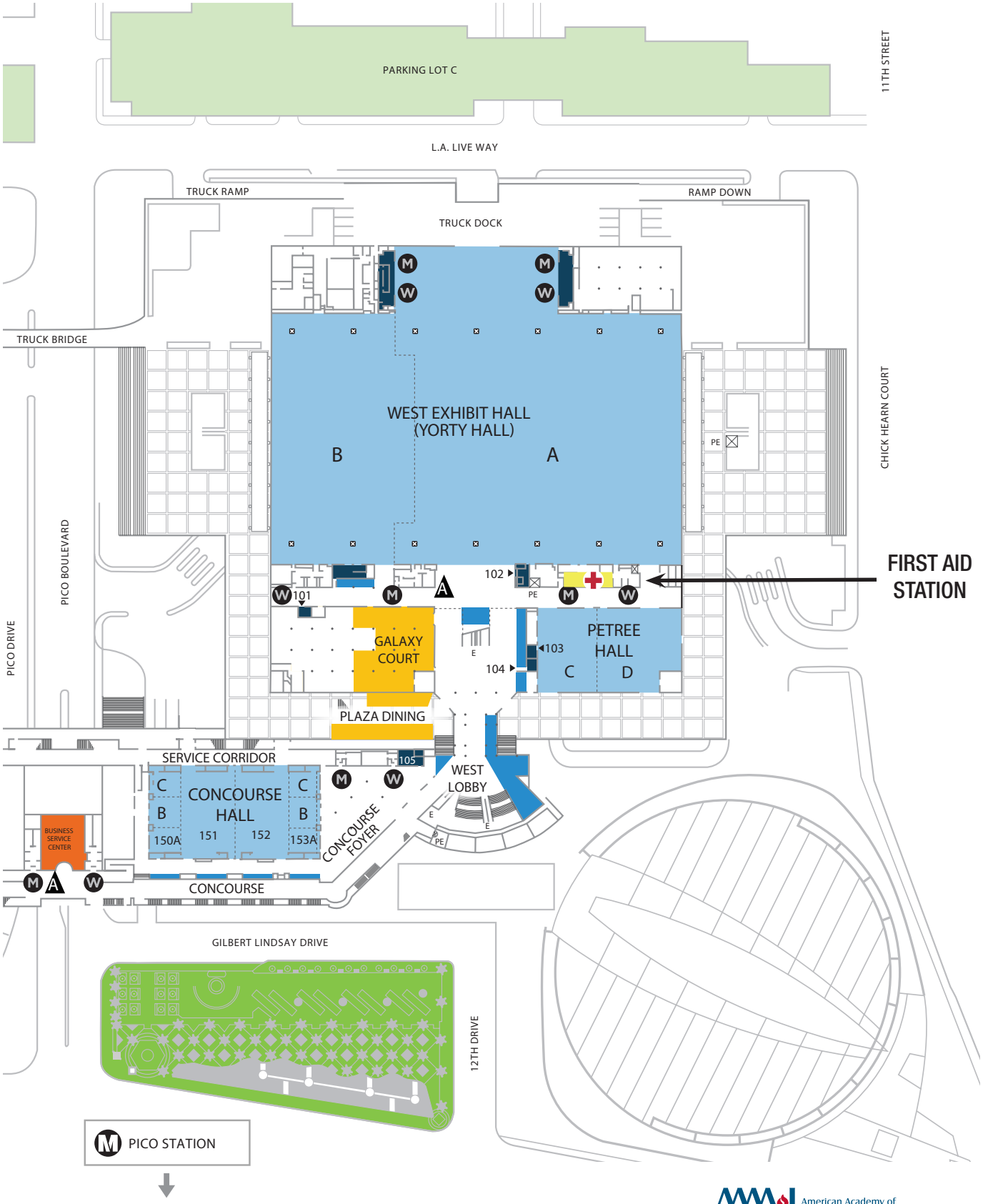
- Exhibit Space
- Pre-function/Registration
- Show Offices
- Restaurant/Concessions
- PE Passenger Elevator
- M Men's Restroom
- W Women's Restroom
- E Elevator
- A ATM



# Los Angeles Convention Center

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

## Convention Center — Level One



# Los Angeles Convention Center

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

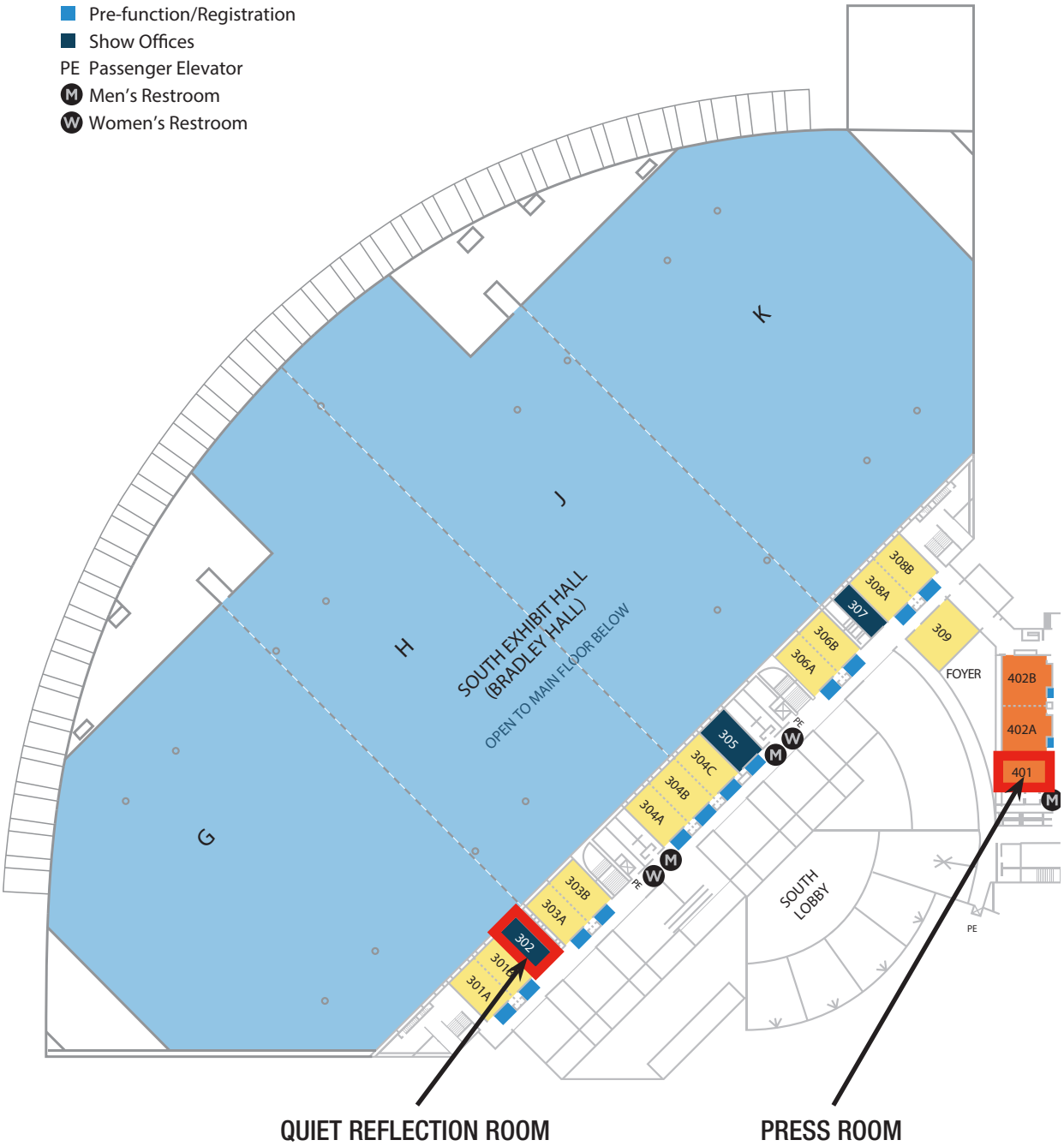
## Convention Center — Level Two

Los Angeles Convention Center

### EXHIBIT HALL LEVEL TWO

Level Two – Meeting Rooms

- West Hall Meeting Rooms
- Concourse Meeting Rooms
- South Hall Meeting Rooms
- Pre-function/Registration
- Show Offices
- PE Passenger Elevator
- (M) Men's Restroom
- (W) Women's Restroom



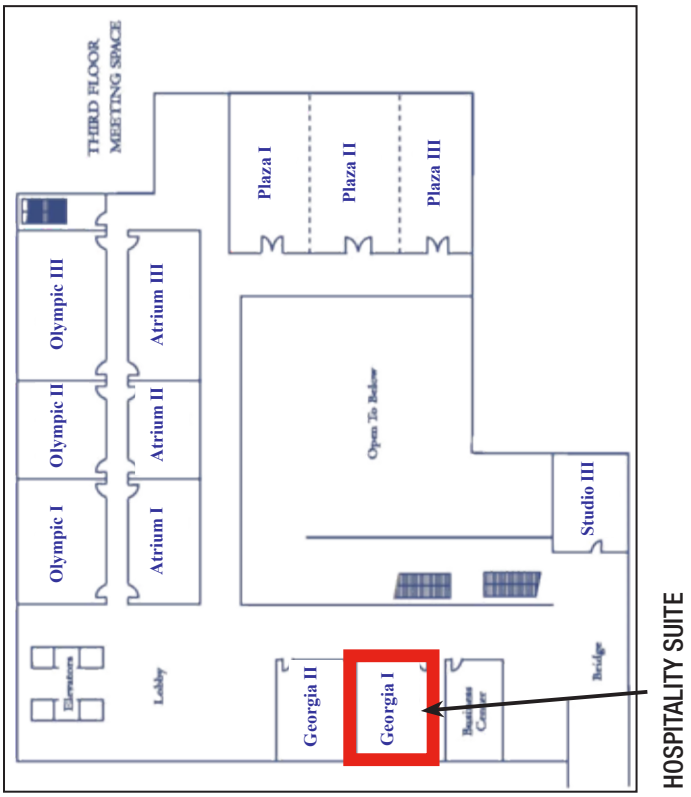
# Los Angeles Convention Center

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

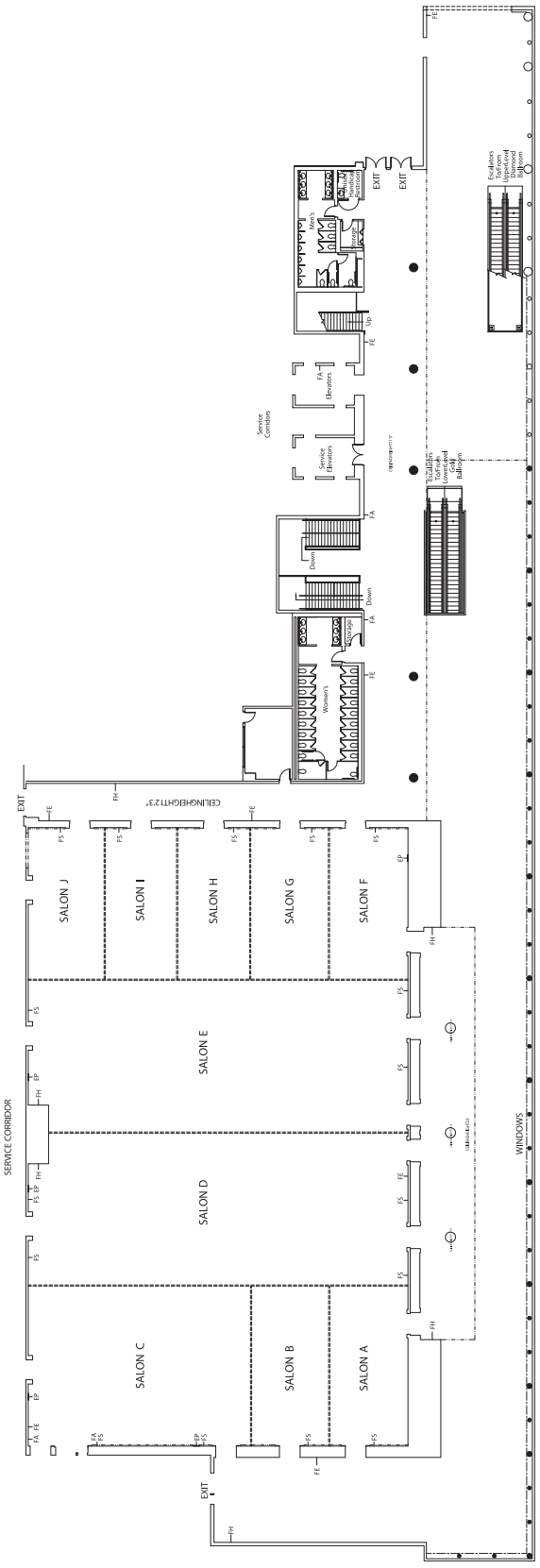
## Convention Center — Level Two

# JW Marriott

## JW Marriott — Third Floor



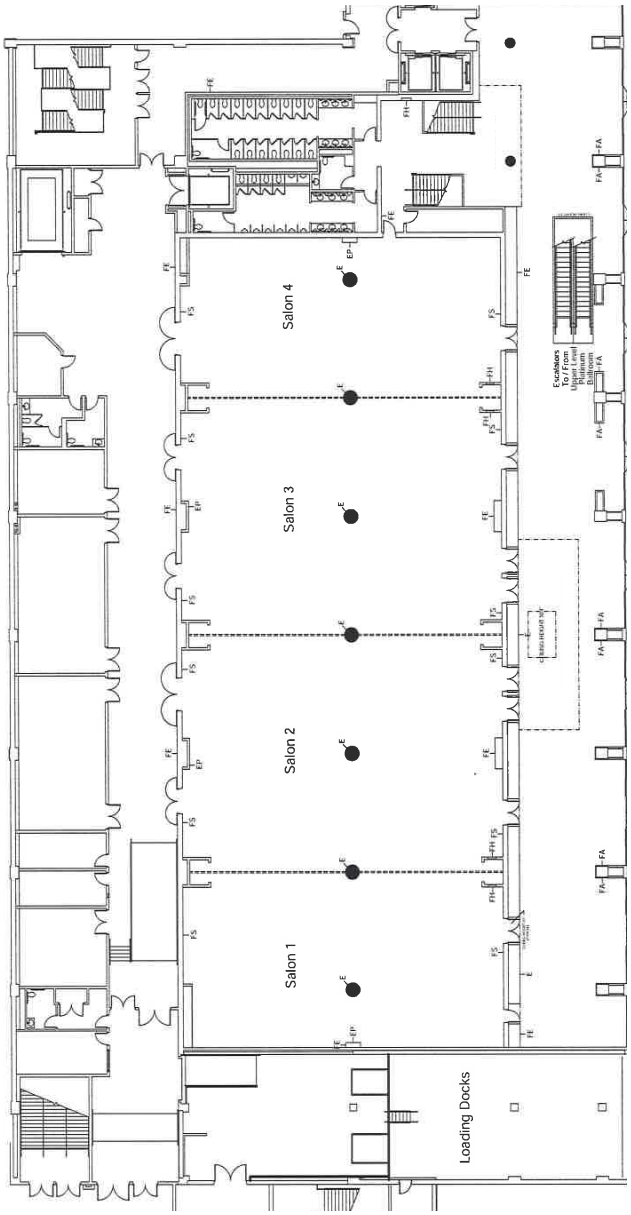

## JW Marriott — Platinum Ballroom Level



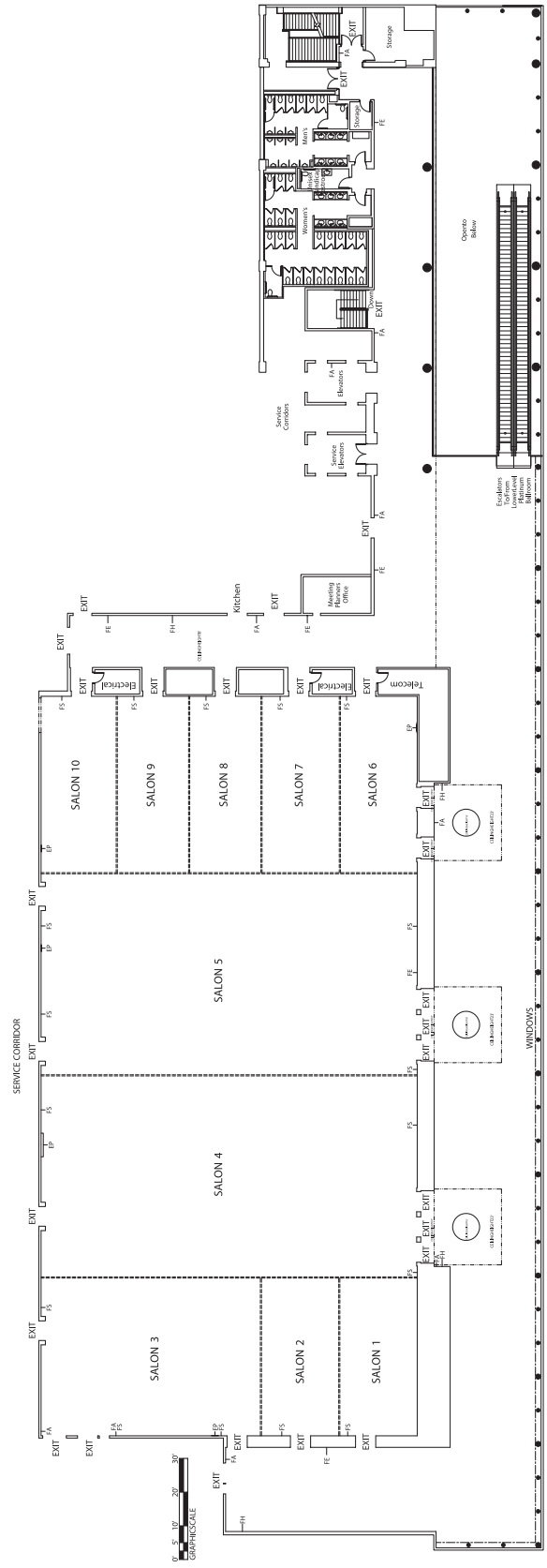
# JW Marriott



## JW Marriott — Gold Ballroom Level




## JW Marriott — Diamond Ballroom Level



# LA Transportation Map

2016 AAAAI ANNUAL MEETING LOS ANGELES CALIFORNIA MARCH 4-7

## DASH
## DOWNTOWN LOS ANGELES

**EFFECTIVE AUGUST 1, 2015**
**EFECTIVO 1 AGOSTO, 2015**

### LEGEND/LEYENDA

- **Route/Ruta A** Little Tokyo, City West
- **Route/Ruta B** Chinatown, Financial District
- **Route/Ruta D** Union Station, South Park
- **Route/Ruta E** City West, Fashion District
- **Route/Ruta F** Financial District, Exposition Park, USC
- DASH Pico Union/Echo Park
- DASH Lincoln Heights/Chinatown
- DASH Southeast
- DASH King-East
- Metro Purple Line
- Metro Blue Line
- Metro Red Line
- Metro Gold Line
- Metro Expo Line
- Bus stop - matches route color (Parada de Autobús - corresponde al color de la ruta)
- Multiple Route stop (Parada de Rutas Múltiples)
- Point of Interest (Punto de Interés)
- Transfer Point (Punto de Transbordo)
- Metro Station and Entrances (Estación y Entrada de Metro)
- Tunnel (Túnel)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# Faculty Index



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## P

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# Keyword Index

# ALPHABETIC INDEX TO ABSTRACT AUTHORS

Abstract numbers in bold type indicate first author.

# Looking for monumental ideas?

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# Notes

# Notes

# A once-a-month subcutaneous IG?!

## With HYQVIA, patients have more infusion-free days each month, giving them more time to focus on living their lives.

**As the first and only once-a-month subcutaneous immunoglobulin (IG) for the treatment of primary immunodeficiency in adults, HYQVIA [Immune Globulin Infusion 10% (Human) with Recombinant Human Hyaluronidase] offers added freedom with only[1]:**


- **Adjust the frequency and number of infusion sites taking into consideration volume, total infusion time, and tolerability[1]**

### Indication and Usage

HYQVIA is an immune globulin with a recombinant human hyaluronidase indicated for the treatment of Primary Immunodeficiency (PI) in adults. This includes, but is not limited to, common variable immunodeficiency (CVID), X-linked agammaglobulinemia, congenital agammaglobulinemia, Wiskott-Aldrich syndrome, and severe combined immunodeficiencies.

Limitation of Use:
Safety and efficacy of chronic use of recombinant human hyaluronidase in HYQVIA have not been established in conditions other than PI.

### Detailed Important Risk Information

**BOXED WARNING: THROMBOSIS**

**Thrombosis may occur with immune globulin products, including HYQVIA. Risk factors may include advanced age, prolonged immobilization, hypercoagulable conditions, history of venous or arterial thrombosis, use of estrogens, indwelling vascular catheters, hyperviscosity, and cardiovascular risk factors. Thrombosis may occur in the absence of known risk factors. For patients at risk of thrombosis, administer HYQVIA at the minimum dose and infusion rate practicable. Ensure adequate hydration in patients before administration. Monitor for signs and symptoms of thrombosis and assess blood viscosity in patients at risk of hyperviscosity.**

**CONTRAINDICATIONS**

HYQVIA is contraindicated: in patients who have a history of anaphylactic or severe systemic hypersensitivity reactions to the administration of Human Immune Globulin (IgG); in IgA-deficient patients with antibodies to IgA and a history of hypersensitivity; and in patients with known systemic hypersensitivity to hyaluronidase or Recombinant Human Hyaluronidase of HYQVIA.

**WARNINGS and PRECAUTIONS**

**Hypersensitivity:** Severe hypersensitivity reactions may occur, even in patients who have tolerated previous treatment with IgG. IgA-deficient patients with antibodies to IgA are at greater risk of developing potentially severe hypersensitivity and anaphylactic reactions.

**Thrombosis:** Thrombosis may occur following treatment with immune globulin products, including HYQVIA. Risk factors may include advanced age, prolonged immobilization, hypercoagulable conditions, history of venous or arterial thrombosis, use of estrogens, indwelling central vascular catheters, hyperviscosity, and cardiovascular risk factors. Thrombosis may occur in the absence of known risk factors.

**Immunogenicity of Recombinant Human Hyaluronidase (PH20):** Non-neutralizing antibodies to the recombinant human hyaluronidase component can develop. The potential exists for such antibodies to cross-react with endogenous PH20, which is known to be expressed in adult male testes, epididymis, and sperm. The clinical significance of these antibodies or whether they interfere with fertilization in humans is unknown.

**Aseptic Meningitis Syndrome (AMS):** AMS has been reported to occur with IgG treatment administered intravenously and subcutaneously. Discontinuation of IgG treatment has resulted in remission of AMS within several days without sequelae.

**Hemolysis:** Acute intravascular hemolysis has been reported following intravenously administered IgG products, including Immune Globulin Infusion 10% (Human) administered intravenously, and delayed hemolytic anemia can develop due to enhanced RBC sequestration. IgG products, including HYQVIA, contain blood group antibodies which may cause a positive direct antiglobulin reaction and hemolysis.

**Please see additional Detailed Important Risk Information on facing page and Brief Summary of Prescribing Information, including Boxed Warning, on the following pages.**


HyQvia

[Immune Globulin Infusion 10% (Human) with Recombinant Human Hyaluronidase]

**Reference: 1.** HYQVIA Prescribing information. Westlake Village, CA: Baxter Healthcare Corporation; September 2014.

## Detailed Important Risk Information (cont'd)

**Renal Dysfunction/Failure:** Acute renal dysfunction/failure, acute tubular necrosis, proximal tubular nephropathy, osmotic nephrosis, and death may occur upon use of IgG products administered intravenously, especially those containing sucrose. HYQVIA does not contain sucrose. Ensure that patients are not volume depleted prior to the initiation of infusion of HYQVIA. Monitor renal function and urine output and consider lower, more frequent dosing in patients who are at risk of developing renal dysfunction because of pre-existing renal insufficiency or predisposition to acute renal failure.

**Spread of Localized Infection:** Do not infuse HYQVIA into or around an infected or acutely inflamed area due to potential risk of spreading a localized infection.

**Transfusion-Related Acute Lung Injury (TRALI):** Non-cardiogenic pulmonary edema has been reported in patients following treatment with intravenously administered IgG products, including Immune Globulin Infusion 10% (Human). TRALI is characterized by severe respiratory distress, pulmonary edema, hypoxemia, normal left ventricular function, and fever.

**Transmittable Infectious Agents:** Because the Immune Globulin Infusion 10% (Human) of HYQVIA is made from human plasma, it may carry a risk of transmitting infectious agents, e.g., viruses and other pathogens, and theoretically, the Creutzfeldt-Jakob disease (CJD) agent. No cases of viral transmission or CJD have been associated with HYQVIA.

**Interference with Laboratory Tests:** False positive serological test results, with the potential for misleading interpretation, may result from the transitory rise of the various passively transferred antibodies in the patient's blood after infusion of IgG. Passive transmission of antibodies to erythrocyte antigens (e.g., A, B, and D) may cause a positive direct or indirect antiglobulin (Coombs') test.

## ADVERSE REACTIONS

The most common adverse reactions observed in > 5% of patients in the clinical trials were: local adverse reactions (52%), headache (21%), antibody formation against recombinant human hyaluronidase (18%), fatigue (11%), nausea (7%), pyrexia (7%), and vomiting (7%). No serious adverse reactions occurred during the HYQVIA clinical trials.



Baxalta

HyQvia

[Immune Globulin Infusion 10% (Human) with Recombinant Human Hyaluronidase]

## BRIEF SUMMARY OF PRESCRIBING INFORMATION

## INDICATIONS AND USAGE

HYQVIA is an immune globulin with a recombinant human hyaluronidase indicated for the treatment of Primary Immunodeficiency (PI) in adults. This includes, but is not limited to, common variable immunodeficiency (CVID), X-linked agammaglobulinemia, congenital agammaglobulinemia, Wiskott-Aldrich syndrome, and severe combined immunodeficiencies.

Limitation of Use:

Safety and efficacy of chronic use of recombinant human hyaluronidase in HYQVIA have not been established in conditions other than PI.

### BOXED WARNING: THROMBOSIS

- Thrombosis may occur with immune globulin products, including HYQVIA. Risk factors may include advanced age, prolonged immobilization, hypercoagulable conditions, history of venous or arterial thrombosis, use of estrogens, indwelling vascular catheters, hyperviscosity and cardiovascular risk factors. Thrombosis may occur in the absence of known risk factors.
- For patients at risk of thrombosis, administer HYQVIA at the minimum dose and infusion rate practicable. Ensure adequate hydration in patients before administration.
- Monitor for signs and symptoms of thrombosis and assess blood viscosity in patients at risk of hyperviscosity.

### CONTRAINDICATIONS

HYQVIA is contraindicated in:

- patients who have had a history of anaphylactic or severe systemic reactions to the administration of IgG.
- IgA deficient patients with antibodies to IgA and a history of hypersensitivity.
- patients with known systemic hypersensitivity to hyaluronidase or Recombinant Human Hyaluronidase of HYQVIA.

### WARNINGS AND PRECAUTIONS

**Hypersensitivity—**Severe hypersensitivity reactions may occur, even in patients who have tolerated previous treatment with IgG. In case of hypersensitivity, discontinue the HYQVIA infusion immediately and institute appropriate treatment. Immune Globulin Infusion 10% (Human) of HYQVIA contains trace amount of IgA (average concentration of 37µg/mL). Patients with antibodies to IgA potentially are at greater risk of developing potentially severe hypersensitivity and anaphylactic reactions.

**Thrombosis—**Thrombosis may occur following treatment with immune globulin products, including HYQVIA. Risk factors may include advanced age, prolonged immobilization, hypercoagulable conditions, history of venous or arterial thrombosis, use of estrogens, indwelling central vascular catheters, hyperviscosity, and cardiovascular risk factors. Thrombosis may occur in the absence of known risk factors.

Consider baseline assessment of blood viscosity in patients at risk for hyperviscosity, such as those with cryoglobulins, fasting chylomicronemia/markedly high triacylglycerols (triglycerides), or monoclonal gammopathies. For patients at risk of thrombosis, administer HYQVIA at the minimum dose and infusion rate practicable. Ensure adequate hydration in patients before administration. Monitor for signs and symptoms of thrombosis and assess blood viscosity in patients at risk for hyperviscosity. [see Boxed Warning, Dosage and Administration (2), *Patient Counseling Information* (17) in full prescribing information].

**Immunogenicity of Recombinant Human Hyaluronidase (PH20)—**Eighteen percent (15 of 83) of subjects receiving HYQVIA in clinical studies developed non-neutralizing antibodies to the recombinant human hyaluronidase component. The potential exists for such antibodies to cross-react with endogenous PH20, which is known to be expressed in the adult male testes, epididymis, and sperm. It is unknown whether these antibodies may interfere with fertilization in humans. The clinical significance of these antibodies is not known.

**Aseptic Meningitis Syndrome (AMS)—**AMS has been reported to occur with IgG products, including Immune Globulin Infusion 10% (Human) administered intravenously and subcutaneously. Discontinuation of IgG treatment has resulted in remission of AMS within several days without sequelae. The syndrome usually begins within several hours to two days following intravenously administered IgG, perhaps more frequently in association with high dose (2 g/kg) intravenously administered IgG.

AMS is characterized by the following signs and symptoms: severe headache, nuchal rigidity, drowsiness, fever, photophobia, painful eye movements, nausea and vomiting [see *Patient Counseling Information* (17) in full prescribing information]. Cerebrospinal fluid (CSF) studies frequently reveal pleocytosis up to several thousand cells per $mm^3$, predominantly from the granulocytic series, and elevated protein levels up to several hundred mg/dL, but negative culture results. Conduct a thorough neurological examination on patients exhibiting such symptoms and signs, including CSF studies, to rule out other causes of meningitis.

**Hemolysis—**IgG products, including HYQVIA, contain blood group antibodies which may act as hemolysins and induce in vivo coating of red blood cells (RBC) with IgG. These antibodies may cause a positive direct antiglobulin reaction and hemolysis. Acute intravascular hemolysis has been reported following intravenously administered IgG, including Immune Globulin Infusion 10% (Human) administered intravenously, and delayed hemolytic anemia can develop due to enhanced RBC sequestration [see Adverse Reactions (6) in full prescribing information].

Monitor patients for clinical signs and symptoms of hemolysis. If signs and/or symptoms of hemolysis are present after HYQVIA infusion, perform appropriate confirmatory laboratory testing [see *Patient Counseling Information* (17) in full prescribing information].

**Renal Dysfunction/Failure—**Acute renal dysfunction/failure, acute tubular necrosis, proximal tubular nephropathy, osmotic nephrosis and death may occur upon use of IgG products administered intravenously, especially those containing sucrose. HYQVIA does not contain sucrose. Acute renal dysfunction/failure has been reported in association with Immune Globulin Infusion 10% (Human) administered intravenously. Ensure that patients are not volume depleted prior to the initiation of infusion of HYQVIA. In patients who are at risk of developing renal dysfunction because of pre-existing renal insufficiency or predisposition to acute renal failure (such as diabetes mellitus, age greater than 65, volume depletion, sepsis, paraproteinemia, or patients receiving known nephrotoxic drugs), monitor renal function and consider lower, more frequent dosing.

Periodic monitoring of renal function and urine output is particularly important in patients judged to be at increased risk for developing acute renal failure. Assess renal function, including measurement of blood urea nitrogen (BUN) and serum creatinine, before the initial infusion of HYQVIA and again at appropriate intervals thereafter. If renal function deteriorates, consider discontinuation of HYQVIA.

**Spread of Localized Infection—**Infusion into or around an infected area can spread a localized infection. Do not infuse HYQVIA into these areas due to potential risk of spreading a localized infection.

**Transfusion-Related Acute Lung Injury (TRALI)—**Non-cardiogenic pulmonary edema (TRALI) may occur with intravenously administered IgG and has been reported to occur with Immune Globulin Infusion 10% (Human) administered intravenously. TRALI is characterized by severe respiratory distress, pulmonary edema, hypoxemia, normal left ventricular function, and fever. Symptoms typically occur within 1 to 6 hours after treatment.

Monitor patients for pulmonary adverse reactions [see *Patient Counseling Information* (17) in full prescribing information]. If TRALI is suspected, conduct an evaluation, including appropriate tests for the presence of anti-neutrophil and anti-HLA antibodies in both the product and patient serum. TRALI may be managed using oxygen therapy with adequate ventilatory support.

**Transmittable Infectious Agents—**Because Immune Globulin Infusion 10% (Human) of HYQVIA is made from human plasma, it may carry a risk of transmitting infectious agents, e.g., viruses, the variant CJD (vCJD) agent, and theoretically, the classic Creutzfeldt-Jakob disease agent. This also applies to unknown or emerging viruses and other pathogens. No cases of transmission of viral diseases or vCJD have been associated with HYQVIA.

Report all infections thought to be possibly transmitted by HYQVIA to Baxalta US Inc., at 1-800-423-2090 (in the U.S.).

**Interference with Laboratory Tests—**After infusion of IgG, the transitory rise of the various passively transferred antibodies in the patient's blood may yield false positive serological testing results, with the potential for misleading interpretation. Passive transmission of antibodies to erythrocyte antigens (e.g., A, B, and D) may cause a positive direct or indirect antiglobulin (Coombs') test.

### ADVERSE REACTIONS

Common adverse reactions observed in clinical trials in >5% of subjects were: local reactions, headache, antibody formation against recombinant human hyaluronidase (rHuPH20), fatigue, nausea, pyrexia, and vomiting.

#### Clinical Trials Experience

Because clinical studies are conducted under widely varying conditions, adverse reaction rates observed in clinical studies of a product cannot be directly compared to rates in the clinical studies of another product and may not reflect the rates observed in clinical practice.

Immune Globulin Infusion 10% (Human) administered intravenously: Prior to initiation of treatment with HYQVIA, 87 patients received 365 infusions of Immune Globulin Infusion 10% (Human) encompassing 22.2 patient-years.

Among the 87 patients treated, 56 (64.4%) experienced 1 or more adverse reactions. Among the 365 intravenous infusions, 158 adverse reactions occurred for a rate per infusion of 0.43.

A total of 1359 infusions of HYQVIA were administered during the trial; 230 of these infusions occurred during the ramp-up period and the other 1129 occurred during the observation period. During the observation period, 81 patients received 1129 infusions of HYQVIA, of those, 67 (82.7%) experienced one or more adverse reactions. Among the 1129 HYQVIA infusions, 456 adverse reactions occurred for a rate per infusion of 0.40. Seven of these adverse reactions were severe defined as marked impairment of function or can lead to temporary inability to resume normal life pattern; requires prolonged intervention or results in sequelae.

Adverse reactions occurring in greater than 5% of subjects associated with infusions of HYQVIA vs. Immune Globulin Infusion 10% (Human) given intravenously are shown in Table 1. The majority of these adverse reactions were mild to moderate in severity and did not necessitate discontinuing the infusions. Mild is defined as transient discomfort that resolves spontaneously or with minimal intervention; moderate is defined as limited impairment of function and resolves spontaneously or with minimal intervention with no sequelae. No serious adverse reactions occurred during the HYQVIA clinical trials.

**Table 1**

**Adverse Reactions[a] in greater than 5% of Subjects Associated with Infusions of HYQVIA vs. Immune Globulin Infusion 10% (Human) (IGIV) Given Intravenously**

| | HYQVIA | | IGIV Given Intravenously | |
|---|---|---|---|---|
| **Adverse Reactions[b]** | **Number of Subjects (%) N = 81** | **Number of Adverse Reactions per Infusion (Rate[c]) N = 1129** | **Number of Subjects (%) N = 87** | **Number of Adverse Reactions per Infusion (Rate) N = 365** |
| Local ARs | 42 (51.9%) | 234 (0.21) | 4 (4.6%) | 4 (0.01) |
| Systemic ARs | 55 (67.9%) | 222 (0.20) | 54 (62.1%) | 154 (0.42) |
| Headache | 17 (21%) | 40 (0.04) | 22 (25.3%) | 42 (0.12) |
| Fatigue | 9 (11.1%) | 16 (0.01) | 8 (9.2%) | 10 (0.03) |
| Nausea | 6 (7.4%) | 12 (0.01) | 10 (11.5%) | 10 (0.03) |
| Pyrexia | 6 (7.4%) | 11 (0.01) | 6 (6.9%) | 7 (0.02) |
| Vomiting | 6 (7.4%) | 11 (0.01) | 5 (5.7%) | 7 (0.02) |

[a] Causally related adverse events and/or temporally associated adverse events occurring within 72 hours.
[b] Excluding infections.
[c] Rate = total number of events divided by total number of infusions.

Six subjects, 2 children and 4 adults, withdrew from the trial during the efficacy treatment period with HYQVIA due to mild to moderate adverse reactions. One child withdrew due to local pain and one due to fever, vomiting, and headaches. Of the four adults, two withdrew due to local pain and swelling, one had moderate swelling that transiently extended from the abdominal infusion site to the genitalia, and one had back injury.

Antibodies binding to rHuPH20: A total of 15 out of 83 subjects who were treated with HYQVIA developed an antibody capable of binding to recombinant human hyaluronidase in the clinical trials. These antibodies were not capable of neutralizing recombinant human hyaluronidase.

In the clinical trial, no temporal association between adverse reactions and the presence of antibodies capable of binding to the Recombinant Human Hyaluronidase of HYQVIA could be demonstrated. There was no increase in incidence or severity of adverse reactions in subjects who developed antibodies to Recombinant Human Hyaluronidase of HYQVIA. In all subjects, antibody titers decreased despite continued treatment.

The effect of exposure to antibodies capable of binding to Recombinant Human Hyaluronidase of HYQVIA for periods longer than this clinical trial has not been evaluated.

The local adverse reactions are listed by frequency in Table 2. Mild swelling around the infusion site was present in most infusions due to the large volumes infused, but in general was not considered to be an adverse reaction unless it caused discomfort. Among the 234 local adverse reactions, three were severe (infusion site pain, infusion site swelling and infusion site edema that extended from the abdominal infusion site to the genitalia); all were transient and resolved without sequelae. More than 98% of local reactions were either mild (70.5%) or moderate (28.2%) in severity.

**Table 2**

**Most Frequent Local Adverse Reactions Reported in greater than 1% of Infusion During Treatment With HYQVIA**

| Infusion Site Reaction | Number and Rate of Reactions per Infusion N = 1129 |
|---|---|
| Discomfort/pain | 122 (0.11) |
| Erythema | 32 (0.03) |
| Swelling/Edema | 35 (0.03) |
| Pruritus | 22 (0.02) |

Rate per infusion = total number of events divided by total number of infusions

During the combined efficacy and extension trials encompassing more than 3 years, the local adverse reaction rate was 2.6 per patient-year. During the first 12 month period (months 1-12), the rate was 3.68 local adverse reactions per patient-year. During the subsequent 12 month period (months 13-24), the rate declined to 2.12 local adverse reactions per patient-year. Finally, during the third 12 month period (months 25-36), the rate further declined to 0.37 local adverse reactions per patient-year.

Sixty-six of the 68 subjects who completed the efficacy clinical trial enrolled in a prospective, open-label, multicenter extension trial to assess the long-term safety and tolerability of HYQVIA. Sixty-three of 66 subjects enrolled received HYQVIA and 3 received IGIV. Of the 63 subjects who received HYQVIA, 48 completed the extension trial. The cumulative exposure of HYQVIA across the two trials was 188 subject-years and 2959 infusions, and a maximum exposure of 188 weeks or up to approximately 3.5 years. There were no clinically observable changes in the skin or subcutaneous tissue in either the efficacy or extension clinical trials.

**Postmarketing Experience**

Because postmarketing reporting of adverse reactions is voluntary and from a population of uncertain size, it is not always possible to reliably estimate the frequency of these reactions or establish a causal relationship to product exposure.

*Postmarketing Experience of Immune Globulin Products*

The following adverse reactions have been identified and reported during the postmarketing use of Immune Globulin products administered intravenously:

| | |
|---|---|
| **Hematologic** | Leukopenia, Pancytopenia |
| **Neurological** | Transient ischemic attack, Tremor, Burning sensation, Cerebral vascular accident, Coma, Seizures, Loss of consciousness |
| **Cardiovascular** | Hypotension, Hypertension, Myocardial infarction, Chest pain, Cardiac arrest, Vascular collapse |
| **Respiratory** | Pulmonary edema, Dyspnea, Oxygen saturation decreased, Cyanosis, Hypoxemia, Bronchospasm, Apnea, Acute Respiratory Distress Syndrome (ARDS) |
| **Gastrointestinal** | Abdominal pain, Hepatic dysfunction |
| **Integumentary** | Hyperhidrosis, Allergic dermatitis, Bullous dermatitis, Epidermolysis, Erythema multiforme, Stevens-Johnson Syndrome |
| **Psychiatric** | Anxiety, Insomnia |
| **Musculoskeletal** | Back Pain |
| **General/ Body as a Whole** | Edema, Rigors |



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January 2016 USBS/MG1/15-0872a