American Academy of
Allergy Asthma & Immunology

Final Program

2015

AAAAI Annual Meeting
February 20-24

Houston Texas

American Academy of Allergy, Asthma & Immunology

American Academy of
Allergy Asthma & Immunology

SAVE THE DATE

2016
ANNUAL MEETING
LOS
ANGELES
CALIFORNIA
MARCH 4-7

AMERICAN ACADEMY OF ALLERGY, ASTHMA & IMMUNOLOGY

Welcome

Dear Colleagues,

Let us be the first to welcome you to Houston and the 2015 AAAAI Annual Meeting!

If you have a smartphone, remember to download the official 2015 Annual Meeting app. It allows you to easily locate session handouts, abstracts and speaker evaluations; research speakers and add their sessions to your calendar; learn about last minute program changes and navigate the meeting with interactive maps. You can download the app from the App Store or Play Store on your mobile device.

Enhanced Learning and Unique Sessions
The AAAAI has been working to make the Annual Meeting a more interactive educational experience. To this end, there will be nearly 40 sessions in Houston that feature various interactive styles of learning. Expect the use of audience response systems (another reason to bring your smartphone), flipped classroom learning techniques, Q&A workshops and case-based discussions.

Instead of the typical Presidential Plenary, there will be a Presidential Course on Friday afternoon and a Presidential Symposium late Saturday morning.

Following our focus on improving learning, the Presidential Course is titled Instructional Methods for Active Learning. This faculty development course will translate into having a larger number of speakers and moderators who are trained in a variety of adult learning techniques. If you are interested in being a presenter or facilitator, the Presidential Course offers a great opportunity to better your teaching skills.

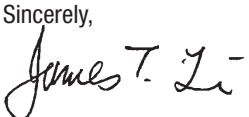
This year's Presidential Symposium will focus on Th2 Immune Response Modifiers for Severe Airway Diseases. Topics of discussion will include asthma and COPD phenotypes and the implications for personalized medicine, the therapeutic utility of targeting Th2-high phenotype in asthma, and how COPD can have similar pathologic mechanisms and therapeutic targets as asthma.

Exciting Keynotes
Some of the brightest minds in medicine deliver our Annual Meeting Keynotes, and this year is no exception. Do not miss Saturday's Keynote, The Reproducibility Crisis: Causes and Consequences, presented by John P.A. Ioannidis, MD DSc. You will also have the chance to hear Gideon Lack, MD discuss the latest data from the Learning Early About Peanut (LEAP) study, and Nancy Sullivan, PhD discuss vaccine research and the Ebola vaccine during Monday's Cutting-Edge Research Keynote.

Support for Our Specialty's Future
Adding to the excitement in Houston is the Allergy, Asthma & Immunology Education and Research Organization, Inc. (ARTrust™) events that support funding for A/I education and research. The ARTrust Benefit: Night at the Museum promises to be a thrilling event at the Houston Museum of Natural Science. Of course, everyone is looking forward to our Third Annual ARTrust 5K Run/Walk. Seeing the A/I community come together for the 5K Run/Walk is quite a sight, so join us and make this year the most successful yet.

We wish each of you an enriching Annual Meeting experience that sends you home with new knowledge, ideas and experiences to help provide optimal patient care.

Sincerely,



James T. Li, MD PhD FAAAAI
AAAAI President

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

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American Academy of Allergy Asthma & Immunology

Meeting Information

Abstracts

Abstracts programmed at the 2015 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. Abstracts are available on flash drives at the Member Resource Center.

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.

ATMs

Convention Center, Level Two
One ATM machine is available next to Starbucks, directly across from the 2nd level sky bridge from the Hilton.

Hilton Americas, Lobby Level
The hotel has two ATM machines. One is located near the lounge and the other is located in the East Lobby across from the gift shop.

Business Center

Convention Center, Level Two, Next to Starbucks
Onsite FedEx Store (713) 658-1899
Hours of Operation: Monday – Friday 8:00 am to 5:00 pm
Saturday and Sunday CLOSED

Hilton Americas, Level Three, Next to Skywalk
Onsite UPS Store (713) 577-6122
Hours of Operation: Monday – Friday, 7:00 am to 7:00 pm
Saturday and Sunday, 10:00 am to 3:00 pm

Career Connections Job Fair

Convention Center, Level Three, Rear of Exhibit Hall A3
Saturday, February 21, 12:00 to 3:00 pm

Delegates attending the 2015 Annual Meeting will have the opportunity to make valuable connections at the AAAAI onsite job fair component of the Career Connections Center. Meet employers, hand out copies of your resume, browse our onsite job board, and set up potential interviews with companies; all at no additional cost to you.

Children and Guests

The AAAAI asks delegates to refrain from taking children, spouses or guests to any educational session offered at the 2015 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 Houston 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, Level Three, Fire Department Office
The first aid office is located behind the General Assembly Theater across from rooms 342A and 342D in the Houston Fire Marshal office. They can also be reached directly at (713) 853-8140.

Evaluations

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

- Participants will be asked to provide input on the educational program of the 2015 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 or on paper evaluation forms. Paper forms will be available at evaluation stations located throughout the meeting space.
- The Annual Meeting website will include an online comments form where delegates can record their observations during and after the meeting.

Exhibits

Convention Center, Level Three, Hall A3
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 160 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 interest.

Exhibit Hours

Saturday, February 21	9:45 am to 3:15 pm
Sunday, February 22	9:45 am to 3:15 pm
Monday, February 23	9:45 am to 3:15 pm

Meeting Information

Food Outlets

There are various coffee, food and beverage vendors located throughout the third floor of the Convention Center. There are also several local restaurants within walking distance.

Handouts

The most up-to date versions of the 2015 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 Stations

Hilton Americas, Level Four, Prefunction Hall
Convention Center, Level Three, Registration
Convention Center, Level Three, South Hall (near sky bridge)
Handouts can be printed during the Annual Meeting at the Handout Stations.

Hospitality Suite

Hilton Americas, Level Four, Room 430
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.

Hospitality Suite Hours

Friday, February 20	8:00 am to 12:00 pm
Saturday, February 21	8:00 am to 12:00 pm
Sunday, February 22	8:00 am to 12:00 pm
Monday, February 23	8:00 am to 12:00 pm

Internet Stations

Hilton Americas, Level Three, Pre-function Hall
Convention Center, Level Three, Registration
Convention Center, Level Three, South Hall (near sky bridge)
Sponsored by McNeil Consumer Healthcare.

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.

Local Information

You can find information concerning nearby restaurants and local activities in Houston at the concierge desk located on level two of the convention center next to Starbucks.

Lost and Found

Convention Center, Level Three, Hall B3
In the event that you have lost a personal belonging please go to the registration desk to report your missing article. Found items may also be turned over to the registration desk.

Member Resource Center

Convention Center, Level Three, Hall B3
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.
- Pick up your Annual Meeting abstracts on flash drive.
- Obtain guidance about office operations, coding and promoting your practice.
- Pay your dues, update your membership information or learn how to become a member.
- 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, February 19	4:00 to 7:00 pm
Friday, February 20	6:45 am to 5:30 pm
Saturday, February 21	6:45 am to 5:30 pm
Sunday, February 22	6:45 am to 5:30 pm
Monday, February 23	6:45 am to 5:30 pm
Tuesday, February 24	6:45 am to 4:00 pm

Mobile Annual Meeting App

Sponsored by Teva Respiratory.
The AAAAI has a mobile application dedicated specifically to the 2015 Annual Meeting. This useful app features tools to search by speaker or session type, organize your schedule, stay current with changes as they occur during the meeting and navigate the convention center with floor plans and exhibitor information. Instructions on downloading the app will be provided onsite near the registration desk.

Name Badges

All registered attendees at the 2015 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.

Nursing/Lactation Room

Convention Center, Level Three, Room 380 D
There is a dedicated room for nursing mothers.

Open Payments Reporting

Attendees who receive goods or services from commercial entities at the AAAAI Annual Meeting may be subject to the public reporting requirements of the Open Payments provision of the Affordable Care Act. Company representatives may require that your name badge be scanned for this purpose at the time of the exchange of value. As you interact with the exhibitors at the Annual Meeting, check with the company's representatives to determine if they will need to record any exchanges of value in which you are involved.

Participation in the educational program of the AAAAI Annual Meeting does not result in a reportable exchange of value under the provisions of Open Payments. For more information on Open Payments, visit the CMS website at cms.gov.

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. There will also be a professional photographer onsite documenting the meeting and social events. By attending the meeting, you agree to be photographed. Photos may be used in future promotional materials, AAAAI publications, on the AAAAI website or other media formats published by the AAAAI.

Poster Hall

Convention Center, Level Three, Hall A3
The poster sessions, featuring presentations of abstracts in thematic groupings, are open Saturday through Tuesday. Authors will be present with their posters from 9:45 to 10:45 am daily.

Poster Hall Hours

Saturday, February 21	7:00 am to 6:00 pm
Sunday, February 22	7:00 am to 6:00 pm
Monday, February 23	7:00 am to 6:00 pm
Tuesday, February 24	7:00 am to 5:00 pm

Press Room

Convention Center, Level Three, Room 381 A
Members of the press representing print, broadcast and electronic consumer media and healthcare trade media are invited to attend the 2015 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 manufacturer's 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 specific media outlet. Exhibitors may not register as press.

Quiet Reflection Room

Convention Center, Level Three, Room 380 C
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 available for purchase on site at the registration desk 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, Level Three, Hall B3
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, February 19	4:00 to 7:00 pm
Friday, February 20	6:45 am to 5:30 pm
Saturday, February 21	6:45 am to 5:30 pm
Sunday, February 22	6:45 am to 5:30 pm
Monday, February 23	6:45 am to 5:30 pm
Tuesday, February 24	6:45 am to 4:00 pm

Ribbons

Ribbons are available at a kiosk located in Hall B3 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.

Meeting Information

Smoking
Smoking is prohibited at all 2015 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, Level Three, Hall B3
All speakers are asked to report to the Speaker Resource Room immediately upon arrival in Houston to deliver 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, February 19	4:00 to 7:00 pm
Friday, February 20	6:45 am to 5:30 pm
Saturday, February 21	6:45 am to 5:30 pm
Sunday, February 22	6:45 am to 5:30 pm
Monday, February 23	6:45 am to 5:30 pm
Tuesday, February 24	6:45 am to 4:00 pm

Download the 2015 Annual Meeting app from the App Store or Play Store on your mobile device.

Sponsored by Teva Respiratory.

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.

Training Stations
Convention Center, Level Three, Hall A3
Epinephrine Auto Injector Training
The Anaphylaxis Education Subcommittee will offer training in the use of epinephrine auto injectors at the Annual Meeting. This is an outstanding opportunity to "Practice on a Live One." Participation in the session will be available on a first-come, first-served basis. Educators will be available on Saturday from 10:00 am to 12:00 pm in the Training Stations.

Virtual Annual Meeting Recordings
Purchase the 2015 Virtual Annual Meeting at the registration desk located on Level Three in Hall B3. 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 selected courses, symposia, Interest Section Forums, workshops, pro/con debates and allied health sessions. Sessions included in the Virtual Annual Meeting are indicated with a icon in this program.

Wi-Fi
Sponsored by Teva Respiratory.
Complimentary Wi-Fi access is available in Hall B3 and all meeting rooms on the third floor of the convention center and in all meeting spaces throughout the Hilton Americas hotel.

Username: Teva2015
Password: Qnasl2015

Business and Committee Meetings

AAAAI Annual Business Meeting

Monday, February 23, 12:30 to 1:30 pm
Convention Center, Level Three, Grand Ballroom B

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, February 22, 12:30 to 2:30 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 59 for more information.

New Allergist/Immunologist Assembly Business Meeting and Reception

Saturday, February 21, 4:45 to 6:15 pm
Convention Center, Level Three, Room 382 AB

International Reception

Friday, February 20, 5:00 to 6:00 pm
Hilton Americas, Level Three, Room 344 AB

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

Program Directors Assembly Business Meeting

Friday, February 20, 2:00 to 4:00 pm
Hilton Americas, Level Four, Lanier Grand Ballroom A

RSLAAIS Assembly Forum and Business Meeting

Friday, February 20, 4:45 to 6:30 pm
Convention Center, Level Three, Room 382 AB

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
Saturday, February 21, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 329

Advocacy Committee
Saturday, February 21, 3:00 to 4:00 pm
Hilton Americas, Level Three, Room 343 AB

Allied Health Education Committee
Sunday, February 22, 2:00 to 3:00 pm
Hilton Americas, Level Three, Room 344 AB

Allied Health Professionals Assembly Leadership Meeting
Monday, February 23, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 339

Annual Meeting Awards Committee
Friday, February 20, 5:15 to 6:15 pm
Hilton Americas, Level Three, Boardroom 324

Annual Meeting Program Subcommittee
Tuesday, February 24, 10:00 am to 12:30 pm
Hilton Americas, Level Three, 335 AB

Core Curriculum, Education & Residency Review Subcommittee
Friday, February 20, 4:30 to 5:30 pm
Hilton Americas, Level Three, Room 336

Credentials Committee
Saturday, February 21, 7:00 to 8:00 am
Convention Center, Level Three, Room 350 A

Ethics/Conflict of Interest Committee
Friday, February 20, 5:00 to 6:00 pm
Hilton Americas, Level Three, Room 333

Federation of RSLAAIS Assembly Governors Meeting
Saturday, February 21, 2:00 to 3:15 pm
Hilton Americas, Level Three, Boardroom 326

Fellows-In-Training Committee
Saturday, February 21, 7:00 to 8:00 am
Convention Center, Level Three, Room 340

Grant Review Committee
Tuesday, February 24, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 339

Intraining Exam Committee
Friday, February 20, 11:30 am to 1:30 pm
Hilton Americas, Level Three, Room 329

Joint Meeting of the Interest Section Coordinating Committee and the Practice, Diagnostics and Therapeutics Committee
Sunday, February 22, 6:45 to 8:00 am
Convention Center, Level Three, Room 382 A

Joint Task Force for Quality Performance Measures
Saturday, February 21, 7:00 to 8:00 am
Hilton Americas, Level Three, Boardroom 326

Leadership Institute Working Group
Saturday, February 21, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 330

Needs Assessment and Outcomes Subcommittee
Monday, February 23, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 329

New Allergist/Immunologists Assembly Leadership Meeting
Sunday, February 22, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 340

Business and Committee Meetings

Plenary Subcommittee
Monday, February 23, 5:00 to 7:00 pm
Hilton Americas, Level Three, Room 344 AB

Practice Improvement and Education Committee
Tuesday, February 24, 6:30 to 8:00 am
Hilton Americas, Level Three, 335 AB

Practice Improvement Subcommittee
Saturday, February 21, 12:30 to 1:30 pm
Hilton Americas, Level Three, Room 330

Practice Management Committee
Sunday, February 22, 3:00 to 4:00 pm
Convention Center, Level Three, Room 330

Program Directors Assembly Executive Committee
Friday, February 20, 12:30 to 1:30 pm
Hilton Americas, Level Three, Room 330

VAMPSS Investigative Team Wine & Cheese Reception
Monday, February 23, 6:00 to 7:00 pm (After workshop 4814)
Convention Center, Level Three, Room 370

Veterans Health Administration Allergists Committee
Monday, February 23, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 335 C

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 & Latex Committee
Sunday, February 22, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 344 AB

Adverse Reactions to Foods Committee
Saturday, February 21, 6:30 to 8:00 am
Convention Center, Level Three, Room 360 A-F

Aerobiology Committee
Sunday, February 22, 7:00 to 8:00 am
Convention Center, Level Three, Room 340

Allergic Fungal Respiratory Diseases Committee Meeting
Sunday, February 22, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 339

Allergic Skin Diseases Committee
Monday, February 23, 7:00 to 8:00 am
Convention Center, Level Three, Room 330

Altered Immune Response Committee Meeting
Saturday, February 21, 6:30 to 7:30 AM
Hilton Americas Level Three, Room 335 C

Anaphylaxis Committee Meeting
Sunday, February 22, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 330

Asthma & Allergic Diseases in the Elderly Committee
Saturday, February 21, 12:30 to 1:30 pm
Hilton Americas, Level Three, Room 344 AB

Asthma Diagnosis, Assessment and Treatment Committee
Monday, February 23, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 343 AB

Cells and Mediators of Allergic Inflammation Committee
Saturday, February 21, 12:30 to 1:30 pm
Hilton Americas, Level Three, Room 343 AB

Committee on the Underserved
Saturday, February 21, 1:45 to 2:45 pm
Hilton Americas, Level Three, Room 335 C

Complementary and Alternative Practices in Allergy Committee
Saturday, February 21, 11:00 am to 12:00 pm
Convention Center, Level Three, Room 340

Environmental Exposures and Respiratory Health Committee
Sunday, February 22, 2:30 to 3:30 pm
Hilton Americas, Level Three, Room 339

Eosinophilic Gastrointestinal Disorders Committee
Sunday, February 22, 7:00 to 8:00 am
Convention Center, Level Three, Room 330

Genetics, Molecular Biology and Epidemiology Committee
Saturday, February 21, 12:30 to 1:30 pm
Hilton Americas, Level Three, Room 340 AB

Health Informatics, Technology and Education (HITE) Committee
Saturday, February 21, 12:30 to 1:30 pm
Convention Center, Level Three, Room 350 DEF

Immunotherapy, Allergen Standardization and Allergy Diagnostics Committee
Saturday, February 21, 6:30 to 8:00 am
Convention Center, Level Three, Room 352 A

Mast Cells Disorders Committee
Sunday, February 22, 7:00 to 8:00 am
Hilton Americas, Level Two, Ballroom of the Americas F

Microbes in Allergy and Asthma
Monday, February 23, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 333

Occupational Diseases Committee
Saturday, February 21, 12:30 to 1:30 pm
Hilton Americas, Level Three, Boardroom 334

Primary Immunodeficiency Diseases Committee
Sunday, February 22, 2:45 to 4:00 pm
Convention Center, Level Three, Room 340

Quality Adherence and Outcomes Committee
Monday, February 23, 7:00 to 8:00 am
Hilton Americas, Level Two, Room 230

Rhinitis, Rhinosinusitis and Ocular allergy Committee Meeting
Monday, February 23, 7:00 to 8:00 am
Convention Center, Level Three, Room 340

Sports, Exercise and Fitness Committee
Saturday, February 21, 7:00 to 8:00 am
Hilton Americas, Level Three, Room 339

Other Meetings and Events

Vaccines and Biological Threats Committee
Friday, February 20, 5:15 to 6:15 pm
Hilton Americas, Level Three, Boardroom 326

Other AAAAI Meetings

JACI Editorial Board Meeting
Saturday, February 21, 6:15 to 7:45 am
Convention Center, Level Three, Room 352 DEF

JACI Associate Editors Meeting
Tuesday, February 24, 6:15 to 8:00 am
Hilton Americas, Level Three, Room 336

JACI: In Practice Editorial Board Meeting
Monday, February 23, 7:00 to 8:00 am
Hilton Americas, Level Two, Ballroom of the Americas D

JACI International Advisory Board
Sunday, February 22, 6:45 to 8:00 am
Hilton Americas, Level Three, Room 333

JACI Journals' Editors Forum and Reception
Sunday, February 22, 6:00 to 7:00 pm
Hilton Americas, Level Two, Ballroom of the Americas C

Joint Board Review Course Task Force
Sunday, February 22, 11:00 am to 12:00 pm
Hilton Americas, Level Three, Boardroom 326

Lay Organization Breakfast
Monday, February 23, 7:30 to 9:00 am
Hilton Americas, Level Two, Ballroom of the Americas C

National Allergy Bureau (NAB) Counters
Friday, February 20, 5:15 to 6:15 pm
Hilton Americas, Level Three, Room 329

Other Meetings and Events

Allied Health Reception
Friday, February 20, 5:15 to 6:15 pm
Hilton Americas, Level Four, Lanier Grand Ballroom KL

Allergists for Israel Kiddush Reception
Friday, February 20, 6:00 to 11:00 pm
Hilton Americas, Level Two, Ballroom of the Americas F

American Association of Allergists and Immunologists of Indian Origin Semi-Annual Dinner Symposium
Friday, February 20, 6:00 to 10:00 pm
Hilton Americas, Level Four, Grand Ballroom H

Cincinnati Children's Hospital Medical Center Division of Allergy and Immunology Alumni Reception
Sunday, February 22, 9:00 to 11:00 pm
Hilton Americas, Level Three, Room 330

Food Allergy Research and Education (FARE) Medical Advisory Board Meeting
Friday, February 20, 8:00 to 10:30 pm
Hilton Americas, Level Three, Room 343 A

Hispanic American Allergy Asthma & Immunology Association Reception
Monday, February 23, 7:00 to 11:30 pm
Convention Center, Level Three, Room 352 DEF

INDANA (International Network for Diet and Nutrition in Allergy) Executive Committee Meeting
Saturday, February 21, 3:30 to 6:30 pm
Hilton Americas, Level Four, Room 440 AB

Mobile Asthma Care for Kids Network Collaborative Meeting
Friday, February 20, 1:00 to 5:00 pm
Hilton Americas, Level Three, Room 340 A

National Jewish Health Faculty and Fellows Reception
Sunday, February 22, 9:00 to 11:00 pm
Hilton Americas, Level Two, Ballroom of the Americas F

NYSSAAI Annual Meeting
Saturday, February 21, 3:30 to 4:30 pm
Hilton Americas, Level Three, Room 344 AB

St. Louis University Alumni Reception
Sunday, February 22, 6:00 to 8:00 pm
Hilton Americas, Level Three, Room 339

United States Immunodeficiency Network (USIDNET)
Sunday, February 22, 4:30 to 6:00 pm
Convention Center, Level Three, Room 382 A

VAMPSS Wine & Cheese Reception
Monday, February 23 (directly following workshop)
Convention Center, Level Three, Room 370

Dessert Reception

This program is not sponsored or programmed by the AAAAI.
Rethinking Intranasal Steroid Options for Adults, Adolescents, and Children with Allergic Rhinitis
Sunday, February 22, 8:30 to 10:30 pm
Hilton Americas, Level Four, Lanier Grand Ballroom GJ

Sponsored by Teva Respiratory.
Join us for the "Rethinking Intranasal Steroid Options for Adults, Adolescents, and Children with Allergic Rhinitis" program, sponsored by Teva Respiratory. This 4-Corners™ Interactive Forum is a discussion-based event that will explore the evolution of aerosolized INS therapy for the treatment of allergic rhinitis in children and adults. Complimentary desserts, beer, wine, and coffee will be served, and a $50 donation will be made to the ARTrust™ for each attendee that completes the program.

Dessert Reception

This program is not sponsored or programmed by the AAAAI.
Focus On FeNO: Interactive Forum and Workshop
Monday, February 23, 8:30 to 10:30 pm
Hilton Americas, Level Four, Lanier Grand Ballroom AD

Sponsored by Aerocrine.
The American Academy of Allergy, Asthma & Immunology and the American College of Allergy, Asthma & Immunology have endorsed the American Thoracic Society official guideline on how fractional exhaled nitric oxide (FeNO) measurements should be used and interpreted in clinical practice. At this session, experts will review how they utilize FeNO measurements to help assess and monitor their patients with asthma by presenting personal case studies. Join us to learn important information on FeNO and how you can integrate the NIOX VERO® device into your practice. All attendees will have the opportunity to test the device through a live workshop!

Other Meetings and Events

Non-CME Educational Program

This program is not sponsored or programmed by the AAAAI.

Addressing Patient Needs Through Individualizing Treatment in Primary Immunodeficiency Diseases (PIDD)

Friday, February 20, 6:30 to 8:30 pm

Hilton Americas, Level Two, Ballroom of the Americas AB

Sponsored by Baxter Healthcare Corporation.

Richard L. Wasserman, MD PhD FAAAAI (Chair/Moderator)
Jordan S. Orange, MD PhD
Amy L. Darter, MD PC CPI FAAAAI
Lisa J. Kobrynski, MD MPH
Mark R. Stein, MD

This complimentary dinner program will provide an overview of the PIDD patient's perspective as it pertains to individualizing HCP treatment decisions. Information on the changing landscape of immunoglobulin treatment will be reviewed. Finally, a panel discussion will allow the speakers to share their experiences with applying PIDD patient perspectives to individualize HCP treatment decisions in in real-world clinical practice.

Non-CME Educational Program

This program is not sponsored or programmed by the AAAAI.

Contemporary Challenges in Primary Immunodeficiency (PIDD) Management

Friday, February 20, 6:30 to 8:30 pm

Hilton Americas, Level Two, Ballroom of the Americas DE

Sponsored by CSL Behring.

Stephen Jolles, MD PhD
Niraj C. Patel, MD MS
Kathryn Samaan, MD
Jolan E. Walter, MD PhD

During this complimentary dinner program, current challenges in primary immunodeficiency (PIDD) will be considered to provide insights into treatment strategies to address patients' needs. Infectious and autoimmune complications of CVID, an analysis of monitoring chest disease across 13 centers in a cohort of over 1500 patients, along with considerations in the pediatric patient population will be described. A patient-centered approach to PIDD management and options for individualized dosing (e.g., daily, weekly, biweekly) with subcutaneous immunoglobulin (SCIg) will be discussed. This program will explore clinical challenges in PIDD and give clinicians insight into treatment options for optimal health while fitting into patients' lifestyles.

Non-CME Educational Program

This program is not sponsored or programmed by the AAAAI.

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

Friday, February 20, 8:30 to 10:30 pm

Hilton Americas, Level Four, Lanier Grand Ballroom GJ

Sponsored by Meda Pharmaceuticals.

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 ARTrust™ and $25 to The Allergy & Asthma Network-AAN) for each registered AAAAI attendee attending this Non-CME Symposium.

Non-CME Educational Program

This program is not sponsored or programmed by the AAAAI.

The Use of Allergen Components and Tryptase in Practice

Sunday, February 22, 6:30 to 8:30 PM

Hilton Americas, Level Two, Ballroom of the Americas AB

Sponsored by Thermo Fisher Scientific.

Objectives:

- Discuss the relevance of component resolved diagnostics (CRD) in clinical practice
- Examine the clinical utility of CRD in the management of peanut, cow's milk, hen's egg, tree nut, soy, and wheat allergies
- Review the clinical application of serum tryptase

Non-CME Educational Program

This program is not sponsored or programmed by the AAAAI.

Treatment of Symptomatic Chronic Idiopathic Urticaria Despite H1 Antihistamines

Sunday, February 22, 6:30 pm to 8:30 pm

Hilton Americas, Level Two, Ballroom of the Americas DE

Sponsored by Genentech, Inc. and Novartis Pharmaceuticals Corporation.

Sheldon Spector, MD

Genentech and Novartis will be hosting a non-CME product theater program on Sunday, February 22nd in the Ballroom of Americas DE (Level Two). This program will be presented by Dr. Sheldon Spector and it will feature a presentation on "Treatment of Symptomatic Chronic Idiopathic Urticaria Despite H1 Antihistamines".

Non-CME Educational Program

This program is not sponsored or programmed by the AAAAI.

Advances in the Characterization of Severe Asthma and COPD to Drive Targeted Therapies: A Look at Future Care

Sunday, February 22, 6:30 to 8:30 pm

Hilton Americas, Level Four, Lanier Grand Ballroom AD

Sponsored by AstraZeneca UK Ltd.

Eugene R. Bleecker, MD (Program Chair)
Jan Lötvall, MD PhD
Mona Bafadhel, MBChB MRCP PhD

Geared specifically for international heathcare practicioners, this symposium will highlight how severe asthma and COPD are associated with significant morbidity and mortality, impose enormous burdens to heath care systems, and have a considerable unmet need for safe and effective treatments. Three distinguished faculty will discuss emerging evidence on the role of eosinophils and cytokines in the pathogenesis of these inflammatory diseases and the increasing body of evidence that assessing phenotypic and genomic factors have a role in tailoring existing and novel therapies to appropriate patient endotypes. Attendance is restricted to international (non-US) attendees only to comply with regulatory requirements.

Other Meetings and Events

Non-CME Educational Program

This program is not sponsored or programmed by the AAAAI.

Factors to Consider in the Diagnosis and Management of Allergic Rhinitis

Monday, February 23, 6:30 to 8:30 pm

Hilton Americas, Level Two, Ballroom of the Americas AB

Sponsored by Merck.

Learning Objectives:

- Discuss clinical presentation of allergic rhinitis in adult patients
- Review study design
- Review efficacy and safety data for a treatment option for appropriate patients with allergic rhinitis

Non-CME Educational Program

This program is not sponsored or programmed by the AAAAI.

RUCONEST®: A Recombinant C1INH Treatment Option to Help Healthcare Professionals Achieve Individualized Therapy for Hereditary Angioedema (HAE) Attacks

Monday, February 23, 6:30 to 8:30 pm

Hilton Americas, Level Two, Ballroom of the Americas DE

Sponsored by Salix Pharmaceuticals.

NIGHT AT THE MUSEUM

SATURDAY, FEBRUARY 21, 2015 7:00PM-10:00PM
HOUSTON MUSEUM OF NATURAL SCIENCE: MORIAN HALL OF PALEONTOLOGY
A BENEFIT SUPPORTING THE ALLERGY, ASTHMA & IMMUNOLOGY
EDUCATION AND RESEARCH ORGANIZATION, INC. (ARTRUST™)
FOR MORE INFORMATION, OR TO PURCHASE TICKETS, PLEASE VISIT
THE ARTRUST BOOTH IN THE MEMBER RESOURCE CENTER

ARTrust™
INVESTING TOGETHER IN OUR FUTURE

AAAAI
American Academy of
Allergy Asthma
& Immunology

JOIN US FOR THE THIRD ANNUAL

2015 ARTrust™ 5K Run/Walk

American Academy of Allergy Asthma & Immunology

LIGHT UP THE NIGHT

HOUSTON, TEXAS

ARTrust™
INVESTING TOGETHER IN OUR FUTURE

for Allergy & Asthma Research

Supporting allergy, asthma & immunology education and research

Where: Discovery Green Park
When: Sunday, February 22, 2015
Onsite Registration: 4:30pm
Warm-Up: 5:15pm
Race Start: 5:30pm

To register in advance, please visit **annualmeeting.aaaai.org** or stop by the ARTrust booth located inside the Member Resource Center.

The 2015 ARTrust 5K Run/Walk is sponsored in part by Shire

ARTrust-01154041

Newly designed TIPS brochures, AAAAI apparel, and more.

Receive special Annual Meeting pricing at the Member Resource Center.

Guest/Associate Activities

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, February 21, 9:00 to 11:00 am
Hilton Americas, Ballroom of the Americas F
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 Hilton Americas-Houston. 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

Hilton Americas, Level Four, Room 430
Make sure you visit the Hospitality Suite, which is open Friday, February 20 to Monday, February 23 from 8:00 am to 12:00 pm. A host will be on-hand to assist with restaurant 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 2015 AAAAI Annual Meeting. Biographies and photographs are available at annualmeeting.aaaai.org.

The Rebecca Buckley Lectureship: 4th year

Lecturer: Susan V. Lynch, PhD

Award presentation at Plenary Session 2101: How the Microbial Environment Influences the Development of Allergic Diseases: What We Know and What We Can Do on Saturday, February 21, 8:15 to 9:45 am

The Robert A. Cooke Memorial Lectureship: 53rd year

Lecturer: James E. Gern, MD FAAAAI

Award presentation at Symposium Session 3307: The ABCs of Rhinovirus Infections and Asthma on Sunday, February 22, 10:45 am to 12:00 pm

The Jerry Dolovich Memorial Lectureship: 17th year

Lecturer: David Proud, PhD

Award presentation at Symposium Session 2302: New Players in Allergic Immune Responses on Saturday, February 21, 10:45 am to 12:00 pm

The Elliot F. Ellis Memorial Lectureship: 17th year

Lecturer: David A. Khan, MD FAAAAI

Award presentation at Symposium Session 2304: The Drug Allergy: Protocols You Should Add to Your Clinical Practice on Saturday, February 21, 10:45 am to 12:00 pm

The Elliott Middleton Memorial Lectureship: 14th year

Lecturer: Michael Schatz, MD MS FAAAAI

Award presentation at Symposium Session 3306: Comparative and Implementation Research in the Management of Asthma: The Wave of the Future on Sunday, February 22, 10:45 am to 12:00 pm

The Harold S. Nelson Lectureship: 15th year

Lecturer: Stephen Dreskin, MD PhD FAAAAI

Award presentation at Plenary Session 3101: Urticaria: A Non-Allergic Disorder Treated as an Allergic Disorder on Sunday, February 22, 8:15 to 9:45 am

The John E. Salvaggio Memorial Lectureship: 14th year

Lecturer: Jonathan A. Bernstein, MD FAAAAI

Award presentation at Symposium Session 5304: HAE and Other Nonhistaminergic Angioedema: What You Need to Know on Tuesday, February 24, 10:45 am to 12:00 pm

The Gail G. Shapiro Memorial Lectureship: 9th year

Lecturer: Kathleen Barnes, PhD FAAAAI

Award presentation at Symposium Session 4301: The World Allergy Forum: The Skin as Barrier in Atopic Dermatitis: Co-Morbid Factors on Monday, February 23, 10:45 am to 12:00 pm.

The Robert G. Townley Lectureship: Inaugural year

Lecturer: Peter F. Weller, MD FAAAAI

Award presentation at Symposium Session 3308: Eosinophils and Immunopathology on Sunday, February 22, 10:45 am to 12:00 pm

The Burton Zweiman Memorial Lectureship: 15th year

Lecturer: Sarbjit Singh Saini, MD FAAAAI

Award presentation at Plenary Session 3101: Urticaria: A Non-Allergic Disorder Treated as an Allergic Disorder on Sunday, February 22, 8:15 to 9:45 am

ARTrust™: Investing Together in Our Future Lectureships

The ARTrust™ Lectureships: Investing Together in Our Future are established to recognize substantial contributions of at least $100,000 to the ARTrust through collaborative contributions of others or individual contributions honoring an individual or entity. The ARTrust Leadership is proud to announce the lectureships and lectureship speakers for the 2015 AAAAI Annual Meeting. Biographies and photographs are available at annualmeeting.aaaai.org.

ARTrust™ and Dr. William and Judith H. Busse Lectureship: Investing Together in Our Future: 2nd year

Lecturer: Mariana C. Castells, MD PhD FAAAAI

Award Presentation at Symposium Session 2304: Drug Allergy: Protocols You Should Add to Your Clinical Practice on Saturday, February 21, 10:45 am to 12:00 pm

ARTrust™ and Donald Y.M. Leung, MD PhD FAAAAI-JACI Lecture: Investing Together in Our Future: 3rd year

Lecturer: Serpil C. Erzurum, MD

Award Presentation at Plenary Session 4101: Severe Asthma: From Bench to Guidelines on Monday, February 23, 8:15 to 9:45 am

ARTrust™ and Phil and Barbara Lieberman and Friends Lecture: Investing Together in Our Future: Inaugural year

Lecturer: Erika Von Mutius, MD MSc

Award Presentation at Plenary Session 2101: How the Microbial Environment Influences the Development of Allergic Diseases: What We Know and What We Can Do on Saturday, February 21, 8:15 to 9:45 am

ARTrust™ and Stephen D. Lockey, Jr., MD Lecture: Investing Together in Our Future: 3rd year

Lecturer: Mario Castro, MD MPH

Award Presentation at Plenary Session 4101: Severe Asthma: From Bench to Guidelines on Monday, February 23, 8:15 to 9:45 am

Lectureships

ARTrust™ and Anjuli Seth Nayak, MD FAAAAI Lecture: Investing Together in Our Future: 3rd year

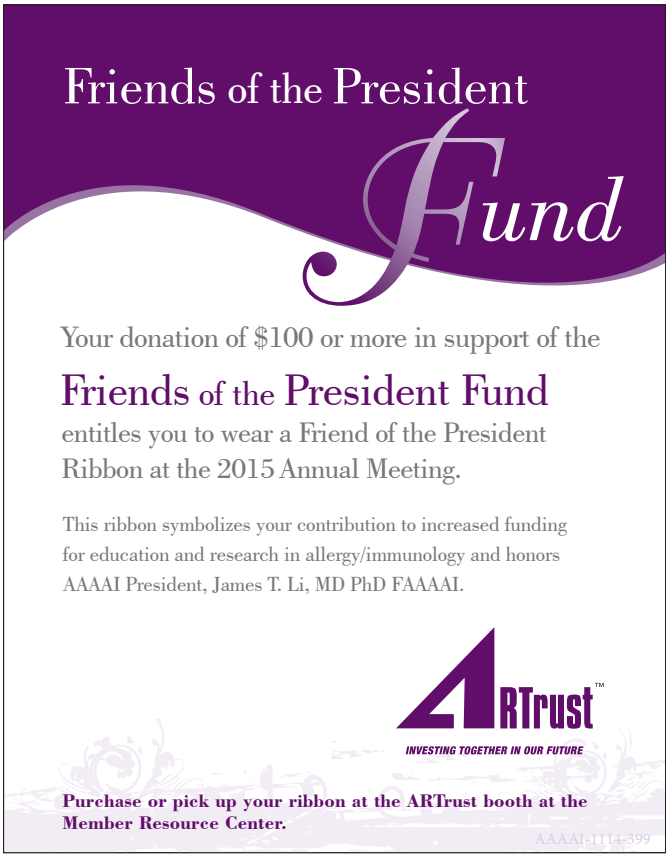
Lecturer: Karin A. Pacheco, MD MSPH FAAAAI

Award Presentation at Symposium Session 4304: The Air We Breathe: Indoor and Outdoor Pollutants on Monday, February 23, 10:45 am to 12:00 pm

ARTrust™ and William T. Shearer and Lynn Des Prez Lecture: Investing Together in Our Future: Inaugural year

Lecturer: Hirohito Kita, MD

Award Presentation at Symposium Session 2302: New Players in Allergic Immune Responses on Saturday, February 21, 10:45 am to 12:00 pm



AAAAI Allied Health $750 Travel Award Recipients

Najwa Al-Ghamedi, PharmD
Duquesne University, Pittsburgh, PA

Mary E. Cataletto, MD
Asthma Coalition of Long Island, Brookville, NY

Paige E. Dewhirst, MPH
Allegheny Singer Research Institute, Pittsburgh, PA

Kate Maslin, MSc RD
University of Portsmouth, United Kingdom

Claire R. Unruh, BSc
Children's Allergy and Asthma Education Centre, Winnipeg Canada

2015 Bernard B. Siegel Memorial Abstract Award

Alon Hershko, MD PhD
Meir Medical Center, Israel

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

Junior Faculty Award Recipients- $1000

Caroline Kuo, MD
UCLA - David Geffen School of Medicine

Maya Nanda, MD
Children's Mercy Hospital

FIT Award Recipients- $750

Aaron K. Kobernick, MD MPH
University of North Carolina, Chapel Hill

Margee Louisias, MD
Bingham and Women's Hospital

Liseth J. Villafana, MD
Ramon Y Cajal University Hospital

AAAAI/APFED Best Oral Abstract on EGIDs Awards

To be announced at the AAAAI Business Meeting.

2015 Allied Health Professionals Assembly Travel Scholarship Award Recipients

Anne E. Borgmeyer, DNP, RN, CPNP
St. Louis Children's Hospital
Saint Louis, MO

Elizabeth Ann Esterl, DNPc, RN
National Jewish Health
Denver, CO

Ann Hefel, FNP-BC, RN
National Jewish Health
Denver, CO

Rita Carroll Hudson Brown, BA
University of Arkansas for Medical Sciences
Little Rock, AR

Lila Christine Kertz, MSN,RN,CPNP,AE-C
Washington University School of Medicine, St. Louis
St. Louis, MO

Shemeka Marchett Randle, RRT
Arkansas Children's Hospital
Little Rock, AR

Marc Louis Rubin, RPh
Osco Drug, Inc
Crystal Lake, IL

Susan Dawn Savoia, RN BSN
Nationwide Childrens
Columbus, OH

2015 International Travel Scholarship Recipients

The following international in-training members have been awarded International Travel Scholarships to attend the Annual Meeting. The 2015 International Travel Scholarships are funded by the AAAAI and selected by an ad hoc panel of International Fellows.

Africa/Middle East
Talita Ferreira-van der Watt, MD
Red Cross Children's Hospital

Ashley Jeevarathnum, MD
Steve Biko Academic Hospital

Hossein Esmaeilzadeh, MD
Tehran University of Medical Science

Australia/New Zealand
Kuang-Chih Hsiao, MBChB
Murdoch Childrens Research Institute

East Asia
Ga Young Ban, MD
Ajou University School of Medicine

Hyunju Cho, MD
Asan Medical Center

Keigo Kainuma, MD
Mie National Hospital

Eu Kyoung Lee, MD
College of Medicine, The Catholic University of Korea

Kiyotake Ogura, MD
Sagamihara National Hospital

Europe
Feng Lan, MD
Ghent University

Gabrielle Lockett, PhD
University of Southampton

Cristina Russo, MD
University of Catania

Europe EAACI FIT Representatives
Sven Seys, PhD
KU Leuven

Olympia Tsilochristou, MD
University of Athens

South America
Carolina Aranda, MD
Federal University of Sao Paulo

Marcelo Vivolo Aun, MD
University of Sao Paulo

Daniel Cordeiro, MD
Ribeirao Preto Medical School, University of Sao Paulo

Eloisa Malbran, MD
British Hospital of Buenos Aires

South Asia
Wanwipa Chaimongkol, MD
Siriraj Hospital, Mahidol University

Wipa Jessadapakorn, MD
Prince of Songkla University

Chuleeporn Kongmeesook, MD
King Chulalongkorn Memorial Hospital

Plernpit Likkasittipan, MD
Ramathibodi Hospital, Mahidol University

Jaichat Mekaroonkamol, MD
King Chulalongkorn Memorial Hospital

Swati Sharma, MD
CSIR - Institute of Genomics and Integrative Biology

Prapasiri Singvijarn, MD
Ramathibodi Hospital, Mahidol University

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

Asthma Diagnosis and Treatment Interest Section
Alalia W. Berry, MD
University of Wsconsin School of Medicine and Public Health
"Human Rhinovirus Species Induce Differential Antiviral and Inflammatory Responses in Peripheral Blood Mononuclear Cells"

Basic and Clinical Immunology Interest Section
Min Jung Lee, MD
Brigham and Women's Hospital
"Dust Mite-Induced Dectin-2 Pathway Triggers IL-33 Generation in Leukotriene C4 Synthase- and CARD9-Independent Manner"

Environmental and Occupational Respiratory Diseases Interest Section
John P. Kelley, MD
University of Texas Medical Branch
"Protective Role of Hydrogen Sulfide in Paramyxovirus Infection"

Food allergy, Anaphylaxis, Dermatology and Drug Allergy Interest Section
Kimberly G. Blumenthal, MD
Massachusetts General Hospital
"Impact of a Clinical Guideline for Prescribing Antibiotics to Inpatients with Reported Penicillin or Cephalosporin Allergies"

Health Outcomes, Education, Delivery and Quality Interest Section
Margee Louisias, MD
Brigham and Women's Hospital
"Characteristics of Symptomatic Children Undiagnosed with Asthma and Known Asthmatics in Inner-City Schools"

Immunotherapy, Rhinitis, Sinusitis, Ocular Diseases and Cough Interest Section
Whitney W. Stevens, MD PhD
Northwesrtern University Feinberg School of Medicine
"Investigation of Molecular Characteristics of Aspirin Exacerbated Respiratory Disease"

Mechanisms of Asthma and Allergic Inflammation Interest Section
Qi Yang, PhD
University of Pennsylvania
"Epithelial IL-33 and TSLP Elicit Innate Lymphoid Cell Responses to Mediate Ozone-Induced Airway Inflammation and Hyperresponsiveness"

2015 FITs Travel Scholarships

The 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 grants and sponsorships from Genentech USA, Inc., McNeil Consumer Healthcare, Sanofi US, and Teva Respiratory.

$1,100 Awardees

Pamella Abghari, MD
Colleen S. Adkins, MD
Noah O. Agada, MD
Niti Sardana Agarwal, MD
Aisha Ahmed, MD
Alexander Alvarez, MD
Doerthe A. Andreae, MD PhD
Kristyn E. Anthony, MD
Ashish Asawa, MD
Selene Bantz, MD
Maria A. Barcena Blanch, MD
Alalia W. Berry, MD
Humaa M. Bhatti, DO
Sheila M. Bina, MD
Kimberly G. Blumenthal, MD
Sean P. Brady, MD
Moira E. Breslin, MD
Vanessa L. Bundy, MD PhD
Suzanne Burke-McGovern, MD
Jeana S. Bush, MD
Larisa Buyantseva, MD
Caroline V. Caperton, MD
Jason Catanzaro, MD
Sheva K. Chervinskiy, DO
Melanie H. Chong, MD
Kobkul Chotikanatis, MD
Amaziah Coleman, MD
Andrew D. Collins, MD
Christopher E. Couch, MD
Elena Crestani, MD
Jasmeen S. Dara, MD
Jared I. Darveaux, MD
Kristen Dazy, MD
Sharon Deol, MD
Steve M. Dorman, MD
Cullen M. Dutmer, MD
Maureen S. Egan, MD
Shelby N. Elenburg, MD
Ann T. Esquivel, MD
Nana Sarkoah Fenny, MD
Elizabeth J. Feuille, MD
Lindsay Finkas, MD
Joel L. Gallagher, MD
Stacey Galowitz, DO
Moyar Qing Ge, PhD
Bob Geng, MD
Kali Gerace, MD
Matthew P. Giannetti, MD
Katherine C. Gilbert, MD
Erica Glancy, MD
Mudita Gogna, MD
Torie L. Grant, MD
Joseph A. Grillo, MD
Miren Guenechea-Sola, MD
Malika Gupta, MD
Maria J. Gutierrez, MD
Corinne Savides Happel, MD
Sana Hasan, MD
Jonathan A. Hemler, MD
Sarah E. Henrickson, MD PhD
Alice E.W. Hoyt, MD
Alison L. Humphrey, MD
David A. Jara, MD
Marilyn Karam, MD
Irina Katayeva, MD
Alana B. Kekevian, DO
Theodore E. Kelbel, MD
John P. Kelley, MD
Brian T. Kelly, MD
Erin E. Kempe, DO
Yasmin W. Khan, MD
Alexander S. Kim, MD
Susan J. Kim, MD
Maleewan Kitcharoensakkul, MD
Erin J. Klaffky, MD PhD
Aaron K. Kobernick, MD MPH
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Robyn Kreiner, MD
Catherine Kubiak, MD
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Jennifer Lan, MD
Bruce J. Lanser, MD
Maria L. Lara-Marquez, MD PhD
Joyce Lee, MD
Min Jung Lee, MD
Tricia D. Lee, MD
Fanny Legrand, PhD
Zhenhong Li, MD PhD
Kevin D. Lindgren, MD
Changda Liu, PhD
Stephanie L. Logsdon, MD
Margee Louisias, MD
Ashish K. Mathur, MD
Sara M. May, MD
Jin Young Min, MD PhD
David W. Morris, MD
Megan S. Motosue, MD
Manali Mukherjee, PhD
David A. Nayak, MD
Vuong A. Nayima, DO
Adrianne C. Netterville, MD
Anthony Nguyen, DO
Andrew S. Nickels, MD
Eric T. Oliver, MD
Jennifer Olivier, MD
Jonathan A. Olsen, DO
Ashleigh A. Olson, MD
Roy A. Orden, MD
Vathani S. Packianathan, MD
Matthew H. Park, MD
Christopher P. Parrish, MD
Anil Patel, MD
Neha N. Patel, MD
Barry J. Pelz, MD
Lorena Pereira, MD
Aaron K. Pinion, DO
Arjun Rash, MD
Qura-Tul-Ain Rashid, MD
Whitney M. Rassbach, MD
Vinitha Reddy, MD
Jewmaull J. Reed, MD
Maristely Rodriguez Roa, MD
Frederick Rubner, MD
Kathryn Marie Ruda Wessell, DO
Amanda K. Rudman Spergel, MD
Melanie A. Ruffner, MD PhD
Alireza Sadegh Nejad, MD PhD
Maryam Saifi, MD
Masafumi Sakashita, MD
Hana Saleh, MD
Chelsea R. Schlegel, MD
Veronique M. Schulten, PhD
Edith Schussler, MD
Jesus A. Segovia, Jr., PhD
Shaili Shah, MD
Tara Shankar, MD
Shahrooz Shayegan, MD
Mili Shum, MD
Susanna G. Silverman, MD
Umesh Singh, MD PhD
Melissa Skupin, MD
Maria A. Slack, MD
Rachel Sparks, MD MPH
Mark E. Stevens, MD
Whitney Stevens, MD PhD
Kasey R. Strothman, MD
Qian Sun, PhD
Von A. Ta, MD
Farnaz Tabatabaian, MD
Jessica Tan, MD

$1,100 Travel Scholarships – *continued*

Jennifer Toh, MD
Erin C. Toller-Artis, DO
Bahar Torabi, MD
Leticia Tordesillas, PhD
Karen S. Tuano, MD
Sathisha Upparahalli Venkateshaiah, PhD
Griet A. Van Roey, PhD
Claire E. Ward, MD
Kate Welch, MD
Joseph B. West, MD
Kelli W. Williams, MD MPH
Karyn Winkler, MD
Andrew K. Wong
Carolyn R. Word, MD
Benjamin L. Wright, MD
Lakiea Wright, MD
Shuya Wu, MD PhD
Jenni Y. Yoon, MD

$800 Awardees

Vivek Agarwal, MD
Elias Akl, MD
Ashley M. Altman, DO
Lorraine Anderson, MD
Evan M. Atkinson, MD
Inessa R. Bachove, DO
Michael C. Balduzzi, MD
Diana S. Balekian, MD
Gillian Bassirpour, MD
Catherine M. Biggs, MD
Sumit Bose, MD
Kathleen M. Buchheit, MD
Adeeb A. Bulkhi, MD
Allison J. Burbank, MD
Amy M. CaJacob, MD
Sergio E. Chiarella, MD
Katherine E. Clarridge, MD MS
Cathleen A. Collins
Miranda L. Curtiss, MD PhD
Shilpa Desai, MD
Adam D. DeZure, MD
Meredith A. Dilley, MD
Dimana Dimitrova, MD
Svjetlana Dolovcak, MD
Ashmi M. Doshi, MD
Neha M. Dunn, MD
Hannah Elfassy, MD
Jennifer E. Fergeson, DO
Jeffrey M. Franklin, MD
Genevieve Genest, MD
Parwinder Gill, MD
Erin K. Ham, MD
Nicholas L. Hartog, MD
Peter Ho, MD
Gavin H. Imperato, MD
Ghislaine A. Isabwe, MD
Akilah A. Jefferson, MD MSc
Junfang Jiao, MD PhD
Andrea Jones, MD
Ilisten M. Jones, MD
Manstein Kan, MD
Jamie H. Kiehm, MD
Julie J. Kim-Chang, MD
Parul Kothari, MD
Fei Li Kuang, MD PhD
Mark Kuprowski, MD
Allison K. Kwan, MD
Christine Y. Lee-Kim, DO
James A. Loh, MD
Jeanne M. Lomas, DO
Sydney Long, MD
Alexander Lyttle, MD
Vaishaali Manga, MD
Jennifer L. McCracken, MD
Mary McHenry, MD
Meaghan R. Misiasz, MD
Mahta Mortezavi, MD
Ahmad Ammar Mourad, MD
Yuliya A. Ogai, MD
Hetu Parekh, MD
Reenal Patel, MD
Leilanie Perez Ramirez, MD
Daniel Petroni, MD PhD
Andrew Q. Pham, MD
Lahari Rampur, MD
Margaret Redmond, MD
Nasim Reedy, DO
Jennifer A. Regan, MD PhD
Erin L. Reigh, MD
Caroline Rizk, MD
Jonathan M. Rodrigues, MD
Jaime S. Rosa, MD PhD
Stacy L. Rosenberg, MD
Tamar Rubin, MD
Ali Saad, DO
Prathyusha Savjani, MD
Kristin A. Schmidlin, MD
Dimple V. Shah, MD
Nisha N. Shah, MD
Amir H. Shahlaee, MD
Jared Silver, MD PhD
Mitchell Smith, DO
Jessica L. Stern, MD
Matthew T. Tallar, MD
Hana M. Tartibi, MD
Charles Thompson, MD PhD
James C. Thompson, MD
Jeremy D. Waldram, MD
Shaan M. Waqar, MD
Lisa C. Winterroth, MD
Eric Yen, MD

$650 Awardees

Matthew C. Altman, MD
David Hagin, MD
Devi Jhaveri, DO
Qurat Kamili, MD
Megan Morsheimer, MD
Gita S. Ram, MD
Juan C. Ravell, MD
Lan Zhou, MD PhD

The AAAAI QCDR: Your Registry Reporting Tool for PQRS 2015

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

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$150 Discount available to AAAAI members

American Academy of Allergy Asthma & Immunology

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Practice Matters!

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

Continuing Education and Accreditation

Two types of continuing education credit will be available at the 2015 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 of them 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.

If you do not have time to visit the registration desk before you depart Houston, the self-report form will be available online beginning March 11, 2015 and will be accessible until December 31, 2015 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 51.00 *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. The educational sessions offered at the 2015 AAAAI Annual Meeting are linked to the content classification system used by ABAI to develop its examinations and will help physicians to meet MOC requirements by enhancing their knowledge of the specialty for optimal patient care. The Keyword Index on page 188 lists all Annual Meeting sessions by the relevant ABAI topics and can be used by delegates to tailor their itineraries to meet their needs when preparing for Certification or Maintenance of Certification. 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 61.20 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 of participation in activities offering *AMA PRA Category 1 Credits*™ for continuing education and credentialing purposes from advanced practitioners. For more information, please contact the appropriate organization.

Pharmacists

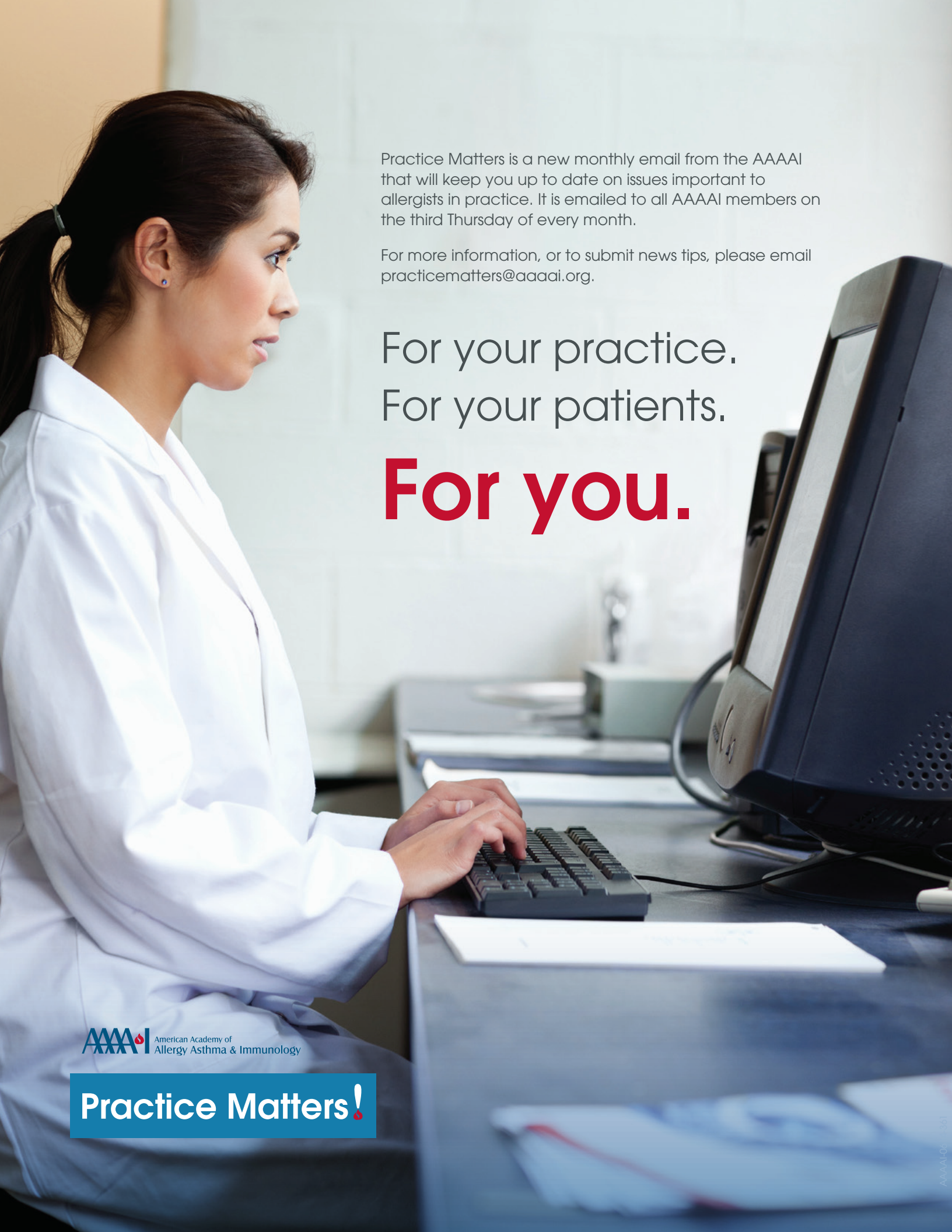
Pharmacists are encouraged to contact their state boards of pharmacy to determine if reports of participation in the AAAAI Annual Meeting are accepted for relicensure.

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.



Practice Matters is a new monthly email from the AAAAI that will keep you up to date on issues important to allergists in practice. It is emailed to all AAAAI members on the third Thursday of every month.

For more information, or to submit news tips, please email practicematters@aaaai.org.

For your practice.
For your patients.
For you.

American Academy of Allergy Asthma & Immunology

Practice Matters!

Introduction to Session Tracks

New for 2015, 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

Tan = Translational

Large sessions, such as plenaries and keynotes, will include all three types of content and so 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.

Thursday, February 19

Course

0001 29th Annual Harold S. Nelson Military Allergy/Immunology Symposium

7:20 am to 5:00 pm
Location: Convention Center, Room 360 ABC
Pre-registration and ticket required. No fee for approved and registered Military members. **$60 fee for non-Military members**.
Continental breakfast and box lunch included.
Credit: 7.00 CME / 8.20 CE
Moderator: Taylor A. Banks, MD

7:20 **Registration and Breakfast**

7:50 **Welcome and Overview**
Taylor A. Banks, MD

8:00 **Morning Address: Evaluation of Recurrent Fevers in Children: It's Not All Immunodeficiency**
Lori Broderick, MD PhD

9:00 **Break**

Fellow Original Research

9:30 **The Glycerin Associated Pain (GAP) Study**
Karen E. Bruner, MD

9:50 **Experience with Epinephrine Delivery in Immunotherapy-Associated Systemic Reactions**
Priscilla H. Wong, MD

Staff Original Research

10:10 **Do Vitamin D Levels Affect Response to the Influenza Vaccine? Serum Vitamin D Levels in the Military Population and Their Association with the Influenza Vaccine**
Rachel U. Lee, MD FAAAAI

10:30 **"But... My Mother Always Told Me I Was Allergic to Penicillin"… VA Allergy Implementing Penicillin Skin Testing/Oral Challenge**
Claire M. Murphy, NP-C

Fellow Case Reports

10:50 **Positive Oral Peanut Challenge Following Negative Percutaneous Skin Testing, Serum Whole Peanut IgE and Component Testing in Previously Documented Peanut Allergic Child**
Katherine S. Tille, MD

11:10 **Ruminating Over Refractory Eosinophilic Esophagitis**
Shahrooz Shayegan, MD

11:30 **Lunch and Bruton Lecture: Innate Immune Mechanisms of Asthma and Implications for Treatment**
Taylor Doherty, MD FAAAAI

Fellow Case Reports Continued

1:00 **"Severe Anaphylaxis to Flying Hymenoptera Stings in a Patient with Indolent Systemic Mastocytosis: News to US?"**
Thad L. Ocampo, MD

1:20 **Idiopathic Systemic Capillary Leak Syndrome Successfully Treated with Intravenous Immunoglobulin: A Case Report**
Yuliya A. Ogai, MD

1:40 **Break**

2:10 **Armed Forces Immunization Healthcare Center Update**
Margaret A. Yacovone, MD FAAAAI

2:40 **Military Aeroallergen Extract Laboratory Updates**
Susan E. Kosisky, BS MHA

Consultants to the Surgeons General Updates

3:10 **VHA Allergy Committee**
Joseph S. Yusin, MD FAAAAI

3:25 **Air Force**
Christopher A. Coop, MD

3:40 **Army**
Michael R. Nelson, MD PhD FAAAAI

3:55 **Navy**
Michael R. Kaplan, DO FAAAAI

4:10 **Business Meeting and Award Presentations**

Upon completion of this session, participants should be able to: Discuss the approach to identifying and working up the etiology of patients' recurrent fevers; Identify differences in presentation and pathophysiology of common adult and pediatric auto inflammatory diseases; Identify important innate pathways in asthma that may contribute to heterogeneity of disease and discuss key innate cytokines and receptors that are targets for future therapies for asthma.

Friday, February 20

Course

1111 2015 Chrysalis Project Didactic Program TICKET

7:30 am to 2:00 pm
Hilton Americas, Level Two, Ballroom of the Americas C
Pre-registration and ticket required. Attendance restricted to selected participants of award program. No fee. Continental breakfast and box lunch included.
Credit: 0.00 CME/ 0.00 CE

7:30 **Breakfast**

8:00 **Welcome**
Thomas A. Fleisher, MD FAAAAI
Kimberly A. Risma, MD PhD FAAAAI

8:05 **Welcome from the AAAAI President**
James T. Li, MD PhD FAAAAI

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

8:45 **Eosinophilic Disorders**
Amy D. Klion, MD

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**
Daniel C. Adelman, MD FAAAAI

11:40 **Private Practice Career Paths**
Linda Cox, MD FAAAAI

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

Saturday, February 21

Chrysalis Project Reception

6:00 pm to 7:00 pm
Hilton Americas, Level Two, Ballroom of Americas F
Private reception open to current Chrysalis participants, Chrysalis mentors, Chrysalis faculty, Chrysalis Workgroup members and the Program Directors Assembly. Prior RSVP required.

1011 FIT Symposium TICKET

7:00 am to 2:00 pm
Hilton Americas, Level Two, Ballroom of the Americas AB
Pre-registration and ticket required. No fee. Continental breakfast and box lunch included.
Credit: No CME / No CE
Moderator: Brian T. Kelly, MD MA

7:00 **Networking Breakfast**
7:50 **Introductions**
Mariana C. Castells, MD PhD FAAAAI
Brian T. Kelly, MD MA
8:00 **Networking Organizations**
8:10 **American Board of Allergy and Immunology**
Stephen I. Wasserman, MD FAAAAI
8:20 **Flow Cytometry in the Diagnosis of Primary Immunodeficiency**
James W. Verbsky, MD PhD
8:50 **Table Discussion: Interesting Cases Using Flow Cytometry**
9:20 **Break**
9:35 **Welcome from the AAAAI President**
James T. Li, MD PhD FAAAAI
9:45 **Core Competencies and Optimal Patient Care**
James T. Li, MD PhD FAAAAI
10:15 **Table Discussion: What is Optimal Patient Care?**
10:45 **Refractory Anaphylaxis: Epidemiology, Risk Factors and Treatment**
Phillip L. Lieberman, MD FAAAAI
11:15 **Table Discussion: Epinephrine Autoinjectors: Understanding Patient-Provider Barriers to Administration**
11:45 **AERD: Basics and Desensitization**
Tanya M. Laidlaw, MD PhD FAAAAI
12:15 **Networking Lunch**
1:00 **AERD Desensitization Simulation**

Upon completion of this session, participants should be able to: Describe flow cytometry and understand its use in the diagnosis of Primary Immunodeficiency (PID); Recognize risk factors associated with refractory anaphylaxis and demonstrate the proper technique of delivering injectable epinephrine; Outline current and emerging treatment modalities and adjuncts in the management of aspirin-exacerbated respiratory disease (AERD).

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

Allied Health Course

1101 Advanced Practice Course TICKET V

8:00 am to 12:30 pm
Hilton Americas, Level Four, Lanier Grand Ballroom KL
Pre-registration and ticket required. No fee.
Credit: 4.50 CME / 5.40 CE
Moderator: Debra A. Sedlak, MSN CPNP

8:00 **Introduction**
Debra A. Sedlak, MSN CPNP
8:15 **Identification and Treatment of Dermatitis for the Advanced Practice Provider**
Karol G. Timmons, RN MS CPNP
9:00 **EoE: Identification, Treatment and Patient Education**
Marion E. Groetch, MS RD
9:45 **Question & Answer**
10:00 **An Overview of Asthma for the Advanced Practice Provider**
Edward O. Corazalla, MS RPFT
10:45 **Presentation and Evaluation of the Patient with Recurrent Infections**
Debra A. Sedlak, MSN CPNP
11:30 **Bugs, Drugs, and Grub: Allergy and Anaphylaxis in the 21st Century**
Vivian P. Hernandez-Trujillo, MD FAAAAI
12:15 **Question & Answer**
12:30 **Break-out Sessions (See below)**

Upon completion of this session, participants should be able to discuss current information necessary to treat patients in practice.

Allied Health Advanced Practice Course Breakout Sessions TICKET $

Separate pre-registration, ticket and fee from the 1101 Advanced Practice Course. Pre-registration and ticket required. **Fee: $30**. Box lunch included. Sessions and meals are limited to registered attendees.
Credit: 1.50 CME / 1.80 CE

1101A Sex, Drugs and PIDD: What Your Immune Deficient Patients Want to Know But Are Afraid to Ask

Hilton Americas, Level Four, Lanier Grand Ballroom G
William R. Blouin, ARNP
Carla M. Duff, CPNP MSN CCRP IgCN

Upon completion of this session, participants should be able to discuss and gain insight into 21st century activity of daily living practices and quality of life concerns of PIDD patients that are difficult to discuss with their health care providers.

1101B Update on Rhinosinusitis

Hilton Americas, Level Four, Lanier Grand Ballroom H
Jeanette L. Arnold, MSN RN C-FNP
Nina A. Zimmermann, MSN RN ANP-BC AE-C

Upon completion of this session, participants should be able to describe current treatments for rhinosinusitis.

1101C Opening Pandora's Box: Asking the Right Questions

Hilton Americas, Level Four, Lanier Grand Ballroom I
David Wayne Unkle, MSN FCCM
Anthony J. Ricketti, MD

Upon completion of this session, participants should be able to: Discuss the pathophysiologic link (histamine and inflammatory mediator release) to anxiety, depression and suicidality; Develop strategies for interviewing patients through review actual patient case studies.

1101D Complementary and Alternative Medicine (CAM): What's New and What We Need to Know: Taking a History and Providing Guidance on Patients' Use of CAM in Allergy and Asthma

Hilton Americas, Level Four, Lanier Grand Ballroom KL
Maureen George, PhD RN AE-C
William S. Silvers, MD FAAAAI

Upon completion of this session, participants should be able to: Discuss commonly used CAM for seasonal allergies and asthma; Describe the evidence for saline nasal irrigation, acupuncture, butterbur, honey and other CAM in a clinical case; Investigate online resources for reference, e.g. NCCAM (NIH Nat'l Center for Complementary and Alternative Medicine), Natural Medicines Comprehensive Database, etc.

Allied Health Workshops

1102 The Anatomy of the Clinical Trial Agreement, Budget and Successful Negotiation

8:00 am to 9:15 am
Hilton Americas, Level Four, Lanier Grand Ballroom G
Credit: 1.25 CME / 1.50 CE
Moderator: William E. Berger, MD MBA FAAAAI

8:00 **Cheryl Koff Bernstein, RN BSN CCRC**
8:45 **Question & Answer**

Upon completion of this session, participants should be able to: Identify and discuss the language used in reciprocal or crossed-indemnification and offer alternative indemnification language during contract negotiations; Identify and discuss important sections of the contract, such as liability insurance language used to describe adherence to the protocol, payment, study termination and other alternative language; Discuss successful methods and techniques used during contract and budget negotiation with the sponsor.

1103 Billing and Coding Updates

8:00 am to 9:15 am
Hilton Americas, Level Four, Lanier Grand Ballroom H
Credit: 1.25 CME / 1.50 CE
Moderator: Joan E. Hawkins

8:00 **Speaker**
Teresa Thompson, CPC CMSCS CCC
9:00 **Question & Answer**

Upon completion of this session, participants should be able to: Describe how to meet meaningful use objectives in the allergy office; Discuss any coding changes; Identify the impact of ACOs and the ACA.

Courses

1201 Let's Go Skin Deep

8:00 am to 5:00 pm
Convention Center, Level Three, Grand Ballroom A
Pre-registration and ticket required. Fee: $50. Box lunch included.
Credit: 7.25 CME / 8.70 CE
Moderators: David I. Bernstein, MD FAAAAI
Lynda C. Schneider, MD FAAAAI

8:00 **An Overview of Contact Dermatitis and Patch Testing**
Ponciano D. Cruz, MD
8:45 **Walk Through the Parameters of Contact Dermatitis**
Luz S. Fonacier, MD FAAAAI
9:30 **Break**
10:00 **Common Allergen Review: Metals, Fragrances and Preservatives**
James A. Yiannis, MD
10:45 **Special Considerations: Contact Dermatitis in Children, Occupational Exposures and Irritant Contact Dermatitis**
Sharon Jacob, MD
12:00 **Lunch Break**
1:00 **The Patch Test: Materials, Methods and Patient Presentation**
Michael P. Sheehan, MD
2:00 **Attendees Will Rotate Between Each of the Hands-On Learning Stations (55 minutes with a 15 minute break between the first and second rotation)**

Patch Test Application
David I. Bernstein, MD FAAAAI
Luz S. Fonacier, MD FAAAAI

Patient Presentations: Patch Test Reactions
Ponciano D. Cruz, MD
Sharon Jacob, MD

Patch Test Considerations and Patient Counseling
Michael P. Sheehan, MD
James A. Yiannis, MD

Upon completion of this session, participants should be able to: Recognize appropriate patient selection and clinical evaluation of a patient suspected of allergic contact dermatitis; Describe appropriate and effective patch testing methods for the diagnosis and management of allergic and irritant contact dermatitis; Determine and discuss clinical relevance of patch test reactions.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

1202 Social Media: The Future is Here TICKET

9:00 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom B
Pre-registration and ticket required. No fee.
Credit: 3.00 CME / 3.40 CE
Moderator: Giselle Mosnaim, MD MS FAAAAI

9:00 **How to Use Twitter in an Allergist's Practice**
Matthew S. Bowdish, MD FAAAAI

9:20 **How to Use Facebook in an Allergist's Practice**
Sakina S. Bajowala, MD FAAAAI

9:40 **How to Use Blogging in an Allergist's Practice**
Ves Dimov, MD

10:00 **How to Use YouTube in an Allergist's Practice**
Ves Dimov, MD

10:20 **Break**

10:30 **Hands-On Learning**
Instructors
Sakina S. Bajowala, MD FAAAAI
Matthew S. Bowdish, MD FAAAAI
Ves Dimov, MD

Upon completion of this session, participants should be able to: Discuss how the utilization of social media in allergy and immunology practices can lead to improved patient education and satisfaction; Describe a step-wise plan for the implementation and maintenance of a social media strategy; Identify and implement processes designed to protect patient health information and prevent HIPAA violations when using healthcare social media.

1203 Teaching in the Allergy/Immunology Office TICKET

9:00 am to 12:00 pm
Convention Center, Level Three, Room 360 DEF
Pre-registration and ticket required. No fee.
Credit: 2.50 CME / 3.00 CE
Moderator: Mark H. Moss, MD
This session requires pre-meeting reading coursework.

9:00 **Effective Instruction in the Office Setting**
Gerald B. Lee, MD

9:20 **Break**

9:30 **Hands-On Learning**

10:00 **Assessing Trainees Using Competencies and Milestones**
Asriani M. Chiu, MD FAAAAI

10:20 **Break**

10:30 **Hands-On Learning**

11:00 **Meaningful and Effective Feedback Techniques**
Lily Pien, MD FAAAAI

11:20 **Break**

11:30 **Hands-On Learning**

Upon completion of this session, participants should be able to: Describe principles of adult learning when teaching during an allergy elective; Identify and assess trainee performance in the core competencies; Identify and provide effective and meaningful feedback to trainees.

1204 Difficult Cases (Part 1) V

9:00 am to 12:00 pm
Convention Center, Level Three, Room 361
Credit: 2.75 CME / 3.20 CE
Moderators: Eugene M. Choo, MD FAAAAI
Joyce E. Yu, MD FAAAAI
This session will use interactive learning strategies.

9:00 **Eosinophilic Esophagitis (EGID)**
Hugh A. Sampson, MD FAAAAI
Irene Mikhail, MD

9:35 **Question & Answer**

9:40 **Urticaria and Angioedema**
Sarbjit S. Saini, MD FAAAAI
Eveline Y. Wu, MD

10:15 **Question & Answer**

10:20 **Break**

10:40 **Occupational Asthma**
David B. Peden, MD MS FAAAAI
Nabeel Farooqui, MD FAAAAI

11:15 **Question & Answer**

11:20 **Insect Allergy**
Rohit Katial, MD FAAAAI
Jenny Stitt, MD

11:55 **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.

1205 Aspirin-Exacerbated Respiratory Disease (AERD): Clinical Science V

9:00 am to 12:00 pm
Convention Center, Level Three, Room 362
Credit: 3.00 CME / 3.40 CE
Moderators: C. J. Corrigan, MD PhD FAAAAI
Marek L. Kowalski, MD PhD

9:00 **A Controlled Trial of Aspirin Desensitization in AERD**
Ewa Nizankowska-Mogilnicka, MD PhD

9:25 **Identification of a Novel Endophenotype of AERD with Markedly Aberrant Regulation of Prostaglandin D2**
Katherine N. Cahill, MD

9:50 **New Approaches to the Treatment of AERD: Does a Dietary Intervention Work?**
Tanya M. Laidlaw, MD FAAAAI

10:15 **Question & Answer**

10:25 **Break**

10:35 **The Efficacy of Anti-IgE as a Therapy for AERD**
Masami Taniguchi, MD PhD

11:00 **Studies of LTE4 and COX-2 in Aspirin-Tolerant and Intolerant Asthma**
Barbro Dahlen, PhD

11:25 **Respiratory Reactions to Alcohol in AERD**
Andrew A. White, MD FAAAAI

11:50 **Question & Answer**

Upon completion of this session, participants should be able to: Recognize that AERD may be more than one disease; Identify novel therapies of AERD; Describe the genetic and epigenetic causes of AERD.

1206 When and How it All Starts: A Journey Through the Origins of Atopy and Allergic Disease

9:00 am to 12:00 pm
Convention Center, Level Three, Room 371
Credit: 2.75 CME / 3.30 CE
Moderator: Antonella Cianferoni, MD PhD FAAAAI

9:00 **Epigenetic Remodeling: Is Prevention After Birth Too Late?**
Susan Prescott, MD PhD

9:25 **Posttranscriptional Connections to Allergy and Asthma**
Ulus Atasoy, MD FAAAAI

9:50 **How the Microbiome Shapes Immunity**
Harald Renz, MD

10:15 **Break**

10:30 **An Innate Link Between Obesity and Asthma**
Dale T. Umetsu, MD PhD FAAAAI

10:55 **Influence of Maternal Mitochondrial Genes on Allergy: Does Mom Have the Final Word?**
Sanjiv Sur, MD

11:20 **Climate Change: An Etiology of Allergic Epidemics?**
Paul J. Beggs, PhD

11:45 **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; Discuss how environment and the immune system interact.

1207 NIAID: Prevention of Allergic Diseases and Asthma

9:00 am to 12:00 pm
Convention Center, Level Three, Room 372
Credit: 2.75 CME / 3.30 CE
Moderator: Marshall Plaut, MD FAAAAI

9:00 **Immunologic Basis for Primary Prevention of Allergic Diseases**
Patrick Holt, DSc

9:25 **Prospects for Prevention of Asthma**
Fernando D. Martinez, MD

9:50 **The Role of the Environmental Microbiome in the Prevention of Allergic Sensitization**
Nicholas W. Lukacs, PhD

10:15 **Break**

10:30 **Probiotics in the Prevention of Allergic Diseases and Asthma**
Erika Isolauri, MD PhD

10:55 **Early Peanut Exposure and Prevention of Peanut Allergy: The LEAP Study**
Gideon Lack, MD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to discuss current prospects for interventions to prevent the development of allergic diseases and asthma, with a focus on the role of early exposure to allergens and to bacteria via the oral or inhaled route.

1208 Basic Aeroallergen Course

9:00 am to 5:00 pm
Hilton Americas, Level Three, Room 339
Pre-registration and ticket required. Fee: $250. Box lunch included.
Credit: 7.00 CME / 8.40 CE
Moderator: Estelle Levetin, PhD FAAAAI

9:00 **Introduction**

9:05 **Introduction to Fungal Aerobiology**
W. Elliott Horner, PhD LEED AP FAAAAI

9:45 **Fungal Spore Morphology**
Estelle Levetin, PhD FAAAAI

10:25 **Hands-On Instruction; Question & Answer**

12:00 **Lunch Break**

1:00 **The Value of Air Sampling for Your Practice and for the AAAAI**
Kraig W. Jacobson, MD FAAAAI

1:15 **Setting Up a Sampling Station: Demonstration**
Estelle Levetin, PhD FAAAAI

2:00 **Introduction to Pollen Aerobiology**
Peter K. Van De Water, PhD

2:30 **Pollen Morphology**
Richard W. Weber, MD FAAAAI

3:10 **Hands-On Instruction; Question & Answer**

Upon completion of this session, participants should be able to: Describe the basics of setting up a sampling station and the value of air sampling in a clinical practice and for the AAAAI; Describe the fundamentals of fungal and plant reproductive biology as it relates to aeroallergens; Describe the basic features of pollen and fungal spore morphology and identify the most common pollen and spore types.

1209 Introduction to Rhinolaryngoscopy with Hands-On Instruction

9:00 am to 12:00 pm
Houston Methodist, Dunn Conference Center *(Shuttle Provided from Convention Center in Front of Hall E)*
Pre-registration and ticket required. Fee: $50.
Credit: 2.75 CME / 3.30 CE
Moderator: Jerald W. Koepke, MD FAAAAI

9:00 **Introduction to Rhinolaryngoscopy**
Jerald W. Koepke, MD FAAAAI

10:20 **Break**

10:30 **Hands-On Instruction**
Allen D. Adinoff, MD FAAAAI
Kevin R. Murphy, 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 fiber optic rhinoscope in the allergist's office.

1210 Interpretation of Pulmonary Function Tests

TICKET

9:00 am to 12:00 pm
Houston Methodist, Dunn Conference Center *(Shuttle Provided from Convention Center in Front of Hall E)*
Pre-registration and ticket required. No fee.
Credit: 3.00 CME / 3.50 CE
Moderator: Mark F. Sands, MD FAAAAI

9:00 **Introductory Remarks**
9:05 **Pathophysiology and the PFT**
Mark F. Sands, MD FAAAAI
9:40 **Performing the PFT: A Video Demonstration**
John M. Weiler, MD FAAAAI
9:50 **Interpretation of the PFT: Putting it All Together**
Donald P. Tashkin, MD
10:25 **Break**
10:30 **Hands-On Learning**
Donald W. Cockcroft, MD FAAAAI
Meredith C. McCormack, MD
Riccardo Polosa, MD PhD FAAAAI
Mark F. Sands, MD FAAAAI
Donald P. Tashkin, MD
John M. Weiler, MD FAAAAI

Upon completion of this session, participants should be able to: Describe the components of pulmonary function testing with proper technique; Recognize simple and complex obstructive and restrictive pulmonary abnormalities; Interpret PFTs from asthma and COPD to fixed and variable obstructive abnormalities as well as interstitial and other restrictive diseases.

1211 Anaphylaxis Simulation

TICKET

9:00 am to 12:00 pm
Houston Methodist, Methodist Institute for Technology, Innovation and Education (MITIE) *(Shuttle Provided from Convention Center in Front of Hall E)*
Pre-registration and ticket required. No fee.
Credit: 3.00 CME / 3.60 CE
Instructors:
Anne M. Ditto, MD FAAAAI
Erika G. Gonzalez-Reyes, MD FAAAAI
James M. Quinn, MD FAAAAI
Donald F. Stark, MD FAAAAI

Upon completion of this session, participants should be able to: Identify evidence-based strategies for treating patients experiencing, or are at risk of experiencing, anaphylaxis; In simulated patient encounters, diagnose and manage patients experiencing anaphylaxis.

Allied Health Workshops

1301 Wheat Allergy or Wheat Belly: The Spectrum of Gluten-Related Disorders

9:30 to 10:45 am
Hilton Americas, Level Four, Lanier Grand Ballroom G
Credit: 1.25 CME / 1.50 CE
Moderator: G. Lynn Christie, MS RD

9:30 **Wheat Allergy**
Isabel J. Skypala, PhD RD
10:00 **Spectrum of Gluten Disorders**
Berber Vlieg-Boerstra, PhD RD
10:30 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the differences between celiac disease, non-celiac gluten sensitivity, wheat allergy and wheat intolerance; Describe what diagnostic tests to perform in someone reporting symptoms to wheat; Describe which food products will need to be avoided and which are acceptable substitutes on a wheat-free diet.

1302 Nuts and Bolts for Coding with ICD-10

9:30 to 10:45 am
Hilton Americas, Level Four, Lanier Grand Ballroom H
Credit: 1.25 CME / 1.50 CE
Moderator: Joan E. Hawkins

9:30 **Teresa Thompson, CPC CMSCS CCC**
10:30 **Question & Answer**

Upon completion of this session, participants should be able to: Identify common issues post ICD-10 inception; Discuss how to avoid top coding errors.

1401 Immunotherapy Guideline Update: Compliance with USP 797 and Congressional Compounding Bill of November 27, 2013

11:00 am to 12:15 pm
Hilton Americas, Level Four, Lanier Grand Ballroom G
Credit: 1.25 CME / 1.50 CE
Moderator: James M. Hildebrand, MS MT

11:00 **Cheryl Koff Bernstein, RN BSN CCRC**
11:30 **Michael R. Nelson, MD PhD FAAAAI**
12:00 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the compliance requirements for allergen extract preparation according to the USP chapter 797 and immunotherapy practice parameters guidelines third edition update; Discuss the requirements and importance of becoming compliant with the Compounding Bill of November 27, 2013; Identify practical approaches for implementation of the guidelines.

1402 Use of Social Media and Mobile Technology: Times They Are A-Changin'

11:00 am to 12:15 pm
Hilton Americas, Level Four, Lanier Grand Ballroom H
Credit: 1.25 CME / 1.50 CE
Moderator: Joan E. Hawkins

11:00 **Social Media and Technology**
Melinda M. Rathkopf, MD FAAAAI
12:00 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss social media and how to use it to promote their practices; Discuss the use of mobile technology in patient education and patient engagement; Describe the use of technology in their office to maximize productivity and workflow.

1501 Medical Administrators Ask the Expert: Roundtable Discussion

TICKET $

12:30 to 1:45 pm
Hilton Americas, Level Four, Lanier Grand Ballroom F
Pre-registration and ticket required. Fee: $30. Box lunch included.
Credit: 1.25 CME / 1.50 CE
Moderator: John D. Milewski, MSHA
Speakers:
Joan E. Hawkins
Martha Steffen, PA-C
Teresa Thompson, CPC CMSCS CCC
Question & Answer

Upon completion of this session, participants should be able to: Discuss coding and billing solutions; Discuss ICD-10 challenges and readiness; Discuss the effective use of physician extenders effectively.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

Courses

1601 EoE Beyond Medications: The Emerging Role of Dietary Management

2:00 to 5:00 pm
Convention Center, Level Three, Grand Ballroom B
Pre-registration and ticket required. No fee.
Credit: 2.75 CME / 3.30 CE
Moderator: Seema Sharma Aceves, MD PhD FAAAAI

2:00 **Diet Selection in Adults**
Mark Holbreich, MD FAAAAI

2:15 **Diet Selection in Children**
Karen A. Freedle, MD MPH FAAAAI

2:30 **Question & Answer**

3:00 **Break**

3:15 **Nutritional Management**
Raquel Z. Durban, MS RD LDN

3:45 **Question & Answer**

4:00 **Small Group Discussion: Attendees will Participate at One of the Following Stations:**

Station 1
Alison M. Cassin, MS RD LD
Mark Holbreich, MD FAAAAI

Station 2
Raquel Z. Durban, MS RD LDN
Karen A. Freedle, MD MPH FAAAAI

Station 3
Seema Sharma Aceves, MD PhD FAAAAI
Isabel J. Skypala, PhD RD

Station 4
Princess U. Ogbogu, MD FAAAAI
Carina Venter, PhD RD

Station 5
Michelle L. Henry, MPH RD
Ellen R. Sher, MD FAAAAI

Station 6
Karen S. Hsu Blatman, MD
Marion E. Groetch, MS RD

Upon completion of this session, participants should be able to: Discuss the role of diet in EoE; Discuss the nutritional needs of patients on restricted diets; Discuss the practical aspects of dietary recommendations.

1602 Filling FIT Training Program Curriculum and Case Gaps: From Insects to Extracts and Hospitalized Asthma

2:00 to 5:00 pm
Convention Center, Level Three, Grand Ballroom C
Pre-registration and ticket required. No fee.
Credit: 2.75 CME / 3.30 CE
Moderator: Michael R. Nelson, MD PhD FAAAAI
This session will use interactive learning strategies.

2:00 **Asthma Inpatient Management Principles**
Faoud T. Ishmael, MD PhD FAAAAI

2:20 **Optimal Prescribing Principles for Allergen Immunotherapy**
Michael S. Tankersley, MD FAAAAI

2:40 **Insect Allergy: Management Principles**
David B.K. Golden, MD FAAAAI

3:00 **Break**

3:15 **Hands-On Learning (attendees will rotate to attend all stations):**

Hospitalized Asthma Cases
Michael B. Foggs, MD FAAAAI
Faoud T. Ishmael, MD PhD FAAAAI

Allergen Immunotherapy Prescription Writing Cases
Bryan L. Martin, DO FAAAAI
Michael S. Tankersley, MD FAAAAI

Media Fill Test & Extract Preparation Principles
Susan E. Kosisky, BS MHA
Michael R. Nelson, MD PhD FAAAAI
Cecilia Mikita, MD MPH FAAAAI

Insect Allergy Cases
Theodore M. Freeman, MD FAAAAI
David B.K. Golden, MD FAAAAI

Upon completion of this session, participants should be able to: Identify appropriate management options for insect allergy case presentations; Discuss allergen immunotherapy prescribing principles and complete a written examination and media fill test; Discuss optimal approaches to hospital inpatient management of severe asthma exacerbations and relevant guideline management principles.

1603 Exercise-Induced Bronchoconstriction (EIB): Pathogenesis, Diagnosis and Treatment

2:00 to 5:00 pm
Convention Center, Level Three, General Assembly Theater A
Credit: 2.75 CME / 3.30 CE
Moderator: Timothy J. Craig, DO FAAAAI

2:00 **Pathogenesis of EIB**
Christopher C. Randolph, MD FAAAAI

2:45 **Diagnosis of EIB**
William W. Storms, MD FAAAAI

3:30 **Break**

3:45 **Treatment of EIB**
Jack M. Becker, MD FAAAAI

4:30 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the pathogenesis of exercise-induced bronchoconstriction; Review diagnostic methods for exercise-induced bronchoconstriction; Discuss treatment options for exercise-induced bronchoconstriction.

1604 The Role of Fungi in Asthma and Chronic Rhinosinusitis

2:00 to 5:00 pm
Convention Center, Level Three, General Assembly Theater B
Credit: 2.75 CME / 3.30 CE
Moderators: Amber U. Luong, MD PhD
Andrew J. Wardlaw, MD PhD

2:00 **Identification of the Fungal Causes of Severe Asthma and Rhinosinusitis**
Catherine H. Pashley, PhD

2:25 **How Do Fungi Cause Severe Asthma and Rhinitis?**
Cory Hogaboam, PhD

2:50 **Fungal Proteinase-Induced Allergic Airway Disease**
David B. Corry, MD

3:15 **Break**

3:30 **Immune Responses to Fungi in the Airway**
Jay W. Kolls, MD

3:55 **Clinical Features of Fungal-Associated Sinusitis**
Amber U. Luong, MD PhD

4:20 **Clinical Features of Fungal-Associated Asthma**
Paul A. Greenberger, MD FAAAAI

4:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss which members of the fungal kingdom are involved in causing asthma and chronic rhinosinusitis; Describe the mechanisms by which fungi cause disease; Discuss the clinical features of fungal-associated asthma and rhinosinusitis including how they present, how they are diagnosed and how they should be optimally managed.

1605 High-Risk Asthma Clinics: How Different Care Can Improve Outcomes

2:00 to 5:00 pm
Convention Center, Level Three, General Assembly Theater C
Credit: 2.75 CME / 3.30 CE
Moderator: Joshua A. Steinberg, MD
This session will use interactive learning strategies.

2:00 **Adherence Interventions and Assessment**
Andrew G. Weinstein, MD FAAAAI

2:30 **Integrating Culture and Community into Clinical Management**
Ronina A. Covar, MD FAAAAI

3:00 **Integration of Technology into High-Risk Asthma Management**
Giselle Mosnaim, MD MS FAAAAI

3:30 **Break**

3:45 **Psychological and Social Factors: Assessment and Approaches**
Mary D. Klinnert, PhD

4:15 **Practical Issues: Development, Management and Proving the Efficacy of High Risk Clinics**
Christie F. Michael, MD

4:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss components and philosophies of high-risk outpatient interventions; Describe roles of allied health providers in high-risk care: asthma educators, asthma navigators, care managers, psychologists, social workers, visiting nurses, community allies, public health support, insurers and case managers; Discuss the evidence for high-risk clinic interventions and how outcomes are assessed.

1606 Presidential Course: Instructional Methods for Active Learning

2:00 to 5:00 pm
Convention Center, Level Three, Room 360 DEF
Pre-registration and ticket required. No fee.
Credit: 2.75 CME / 3.30 CE
Moderator: Gerald B. Lee, MD
This session will use interactive learning strategies.

2:00 **Principles of Adult Learning**
Lily Pien, MD FAAAAI

2:45 **Hands-On Activity: Analyze a Lecture**

3:15 **Break**

3:30 **Interactive Learning Methods**
Jesus R. Guajardo, MD PhD FAAAAI

4:00 **Hands-On Activity: Apply Active Learning Strategies**

4:30 **Discussion**

Upon completion of this session, participants should be able to: Identify adult learning principles; Describe the strategy of the flipped classroom; Describe and apply instructional methods for active learning.

1607 Difficult Cases (Part 2) 1801

2:00 to 5:00 pm
Convention Center, Level Three, Room 361
Credit: 2.75 CME / 3.20 CE
Moderators: Jason W. Caldwell, DO FAAAAI
Michael H. Land, MD FAAAAI
This session will use interactive learning strategies.

2:00 **Immunodeficiency Update vs. Inflammasome**
Jordan S. Orange, MD PhD FAAAAI
Lisa R. Forbes, MD

2:35 **Question & Answer**

2:40 **Chronic Sinusitis**
Todd T. Kingdom, MD
Anita Trikha, MD

3:15 **Question & Answer**

3:20 **Break**

3:40 **Mast Cell Disorders**
Cem Akin, MD PhD FAAAAI
Joyce E. Yu, MD FAAAAI

4:15 **Question & Answer**

4:20 **Pediatric Asthma**
Joseph D. Spahn, MD
Jonathan Malka, MD FAAAAI

4:55 **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.

1608 Aspirin-Exacerbated Respiratory Disease (AERD): Molecular Pathogenesis

2:00 to 5:00 pm
Convention Center, Level Three, Room 362
Credit: 3.00 CME / 3.40 CE
Moderators: Tanya M. Laidlaw, MD FAAAAI
Hae-Sim Park, MD FAAAAI

2:00 **Novel Connections Between Leukotriene Receptors and Mast Cells in AERD**
Joshua A. Boyce, MD FAAAAI

2:25 **Aspirin as an Agonist for Eosinophil Activation**
Larry Borish, MD FAAAAI

2:50 **ILC2 Cells as Effectors of Lipid Mediators**
Taylor Doherty, MD FAAAAI

3:15 **Question & Answer**

3:25 **Break**

3:35 **Epigenetics of AERD**
Scott T. Weiss, MD MS

4:00 **Activation of the Innate and Adaptive Immune Systems in Nasal Polyposis**
Robert P. Schleimer, PhD FAAAAI

4:25 **The Switch to Abnormal Lipid Mediator Metabolism in AERD**
Sven-Erik Dahlén, MD PhD

4:50 **Question & Answer**

Upon completion of this session, participants should be able to: Recognize the contribution of the innate immune system to AERD; Recognize the novel mechanisms of mast cell and eosinophil activation during reactions to aspirin; Recognize the role of epigenetic alterations in the eicosanoid pathways as potential causes of AERD.

1609 NIEHS: Emerging Roles for Cholesterol Dysregulation and its Treatment in Lung Disease

2:00 to 5:00 pm
Convention Center, Level Three, Room 370
Credit: 3.00 CME / 3.40 CE
Moderator: Michael B. Fessler, MD
This session will use interactive learning strategies.

2:00 **Clinical Trials of Statins in Asthma and COPD: What is the Evidence?**
Amir A. Zeki, MD MAS

2:20 **Question & Answer**

2:25 **Lipid Dysregulation as a Final Common Pathway to Fibrotic Lung Disease**
Ross S. Summer, MD

2:45 **Question & Answer**

2:50 **Oxysterols as Novel Mediators and Biomarkers of Lung Inflammation**
Michael B. Fessler, MD

3:10 **Question & Answer**

3:15 **Break**

3:25 **New Kids on the Block: The Emerging Role of Apolipoproteins in the Pathogenesis and Treatment of Asthma**
Stewart Levine, MD

3:45 **Question & Answer**

3:50 **The Cholesterol Rheostat of Adaptive Immunity: LXRs and SREBPs in T Cell Activation**
Steven Bensinger, PhD

4:10 **Question & Answer**

4:15 **Alveolar Macrophage Lipid Dysregulation as a Novel Approach to Understanding Rare Lung Diseases**
Mary Jane Thomassen, PhD FAAAAI

4:35 **Question & Answer**

Upon completion of this session, participants should be able to: Describe evidence that statins and other cholesterol-targeting drugs may have therapeutic efficacy in asthma and other lung diseases; Discuss and appreciate the role of cholesterol dysregulation in the pathogenesis of lung disease.

1610 Technology in the Clinical Practice Made Ridiculously Simple

2:00 to 5:00 pm
Convention Center, Level Three, Room 371
Credit: 3.00 CME / 3.40 CE
Moderator: Priya J. Bansal, MD FAAAAI

2:00 **What Can Technology Do for Your Practice?**
Eugene M. Choo, MD FAAAAI

2:20 **EHRs and the Meaningful Use of Life**
A. Sean McKnight, MD FAAAAI

2:50 **Practice Management Systems and Other Office Automation Tools**
David J. Shulan, MD FAAAAI

3:20 **Break**

3:30 **Making the Technology Work and Pay Off**
Nabeel Farooqui, MD FAAAAI

3:50 **iPhones, iPads and Androids, Oh My!**
Melinda M. Rathkopf, MD FAAAAI

4:20 **Social Media Tools for Marketing and Communications**
Ves Dimov, MD

4:50 **Question & Answer**

Upon completion of this session, participants should be able to: Describe EHRs, practice management systems and office automation technologies appropriate for the clinical practice; Explain the role of mobile technologies in the practice; Identify web and social media tools for practice marketing and communications.

1611 Finding a Job and Getting Started in Practice

2:00 to 5:00 pm
Convention Center, Level Three, Room 372
Credit: 3.00 CME / 3.40 CE
Moderator: Weily Soong, MD FAAAAI

2:00 **Overview and Introductions**
Sharon B. Markovics, MD FAAAAI

2:05 **Finding a Job and Negotiating the Agreement**
Tao T. Le, MD MHS FAAAAI

2:40 **Getting Licensed and Transitioning into Practice**
John Ramey, MD FAAAAI

2:55 **Secrets of a High-Value Allergy Practice**
David L. Patterson, MD MS MBA FAAAAI

3:30 **Break**

3:40 **Practice Finances 101**
Vinay Mehta, MD FAAAAI

4:15 **Marketing Your Practice and Referral Development**
Stanley M. Fineman, MD MBA FAAAAI

4:50 **Question & Answer**

Upon completion of this session, participants should be able to: Explain how to identify and join the right practice opportunity; Discuss the fundamentals of office management; Identify strategies for marketing a practice and building a patient base.

Allied Health Workshops

1701 An Introduction to Data Collection Using REDCap

2:00 to 3:15 pm
Hilton Americas, Level Three, Room 335 A
Credit: 1.25 CME / 1.50 CE
Moderator: Jaime Ross, RN

2:00 **What is REDCap and How Can We Use It?**
Patrick J. Lenehan

2:30 **Data Entry Methods to Encourage Accuracy**
Mary Jane C. Ong, CCRP

3:00 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss and setup survey forms for data collection; Identify and illustrate how to use REDCap to create a research database; Discuss data entry methods to encourage accuracy.

1702 Management Strategies for Safe Administration of OIT/SLIT in Clinical Research

2:00 to 3:15 pm
Hilton Americas, Level Two, Ballroom of the Americas D
Credit: 1.25 CME / 1.50 CE
Moderator: Suzanne K. Carlisle, RN BSN CCRP
This session will use interactive learning strategies.

2:00 **Anne M. Hiegel, RN CRC**

3:00 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss risk factors and safety issues for participants in OIT/SLIT clinical trials; Discuss safe strategies for managing clinical and home administration of OIT/SLIT.

1703 Atopic Dermatitis, Beyond the Surface: From Filaggrin to Foods

2:00 to 3:15 pm
Hilton Americas, Level Two, Ballroom of the Americas E
Credit: 1.25 CME / 1.50 CE
Moderator: Pooja Varshney, MD

2:00 **Immune Dysregulation in Atopic Dermatitis**
Gregory M. Metz, MD

2:20 **General Concepts of Managing Atopic Dermatitis Including When to Consider Investigation into Other Causes**
Karen L. Gregory, DNP APRN-BC RRT AE-C

2:40 **Food Allergy in Atopic Dermatitis and the Limitations and Pitfalls of Food Allergy Testing**
Pooja Varshney, MD

3:00 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the complex immune dysregulation that occurs in atopic dermatitis; Describe the general concepts of managing atopic dermatitis including when to consider investigation into other causes such as food allergy, immune deficiency, secondary infections; Discuss the role of food allergy in atopic dermatitis and the limitations or pitfalls of food allergy testing.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

Allied Health Symposium

1704 Failure to Thrive and Food Allergies: Management for the Pediatric Provider

2:00 to 3:15 pm
Hilton Americas, Level Four, Lanier Grand Ballroom J
Credit: 1.25 CME / 1.50 CE
Moderator: Pamela H. Steele, MSN CPNP AE-C

2:00 **Evaluation for Risk Factors for Failure to Thrive**
Maria G. Crain, CPNP AE-C

2:30 **Nutritional Management for Failure to Thrive**
April Clark, RD CSP LD

3:00 **Question & Answer**

Upon completion of this session, participants should be able to: Describe different types of food allergies and how these can put a patient at risk for failure to thrive; Discuss medical management of different types of food allergies; Discuss important aspects of nutritional management in children with food allergies.

Allied Health Plenary

1801 The Evolution of Food Allergy

4:00 to 5:15 pm
Hilton Americas, Level Four, Lanier Grand Ballroom KL
Credit: 1.25 CME / 1.50 CE
Moderator: Sally A. Noone, RN MSN

4:00 **Food Allergy: Where We've Been and What's Ahead**
Wayne G. Shreffler, MD PhD FAAAAI

4:30 **Managing Patients and Families Throughout the Evolution**
Pamela H. Steele, MSN CPNP AE-C

5:00 **Question & Answer**

Upon completion of this session, participants should be able to: Describe advances made in food allergy research; Identify new therapies and safety concerns for their implementation.

Seminars

5:15 to 6:15 pm
Pre-registration and ticket required. Fee: $40. Refreshments. Sessions and refreshments are limited to 30 people.
Credit: 1.00 CME / 1.20 CE

1901 Non-IgE-Mediated Food Allergies

Jean-Christoph Caubet, MD
Anna H. Nowak-Wegrzyn, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom A

Upon completion of this session, participants should be able to: Discuss the utility of feeding history, skin prick, serum specific-IgE-testing and oral food challenge in diagnosing complex patients with possible GI food allergies; Discuss a variety of patient cases posing diagnostic dilemmas in non-IgE food allergy.

1902 Hereditary Angioedema: Diagnosis and Management

Mark S. Dykewicz, MD FAAAAI
Bruce L. Zuraw, MD
Hilton Americas, Level Four, Lanier Grand Ballroom B

Upon completion of this session, participants should be able to: Discuss the mechanism of hereditary angioedema; Discuss how and when to use the new therapies for hereditary angioedema; Describe how to improve outcomes of patients with hereditary angioedema.

1903 The Intricacy of Penicillin Allergy Evaluation

Eric M. Macy, MD FAAAAI
Miguel A. Park, MD
Hilton Americas, Level Four, Lanier Grand Ballroom C

Upon completion of this session, participants should be able to: Discuss the different components of the penicillin skin test; Discuss how the different components of the penicillin skin test affect the negative predictive value; Discuss the role of oral challenges to penicillin and/or amoxicillin in the evaluation of penicillin allergy.

1904 Treating the Patient with Difficult-to-Treat Exercise-Induced Asthma: Novel Therapies for Exercise-Induced Bronchoconstriction

Matteo Bonini, MD
William W. Storms, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom D

Upon completion of this session, participants should be able to: Discuss current therapies for exercise-induced bronchoconstriction and acknowledge that some patients do not respond to them; Describe novel therapies for exercise-induced bronchoconstriction; Discuss why beta agonists do not work for all patients with exercise-induced bronchoconstriction.

1905 Fifty Shades of Eosinophilic Esophagitis: Identifying the Phenotypes

J. Pablo Abonia, MD
Mirna Chehade, MD MPH
Hilton Americas, Level Four, Lanier Grand Ballroom E

Upon completion of this session, participants should be able to: Identify EoE co-morbidities; Identify and recognize when to suspect EoE given the medical history, whenever esophageal eosinophilia is found; Discuss how to investigate for other diseases potentially associated with EoE that require medical attention.

2015 RSLAAIS Assembly Forum and Business Meeting: Allergy Practice Roundtable: The Experts Speak Out on Issues Impacting Allergy Practice 2015!

4:45 to 6:30 pm
Convention Center, Level Three, Room 382 AB
Credit: No CME / No CE

4:45 **Wine and Cheese Reception**

5:15 **RSL Business Meeting/Passing of Gavel**
Moderator: Sharon B. Markovics, MD FAAAAI, 2013-2015 RSLAAIS Chair
Special Guest: James T. Li, MD FAAAAI, AAAAI President

5:25 **Panel Discussion: Allergy Practice Roundtable: The Experts Speak Out on Issues Impacting Allergy Practice 2015!**
Moderator: Andrew W. Murphy, MD FAAAAI, 2015-2017 RSLAAIS Chair
Panelists:
David A. Brown, MD, Allergy Partners, Skyland, NC
Emily L. Graham, RHIA CCS-P, Hart Health Strategies, Washington, DC
Linda Cox, MD FAAAAI, Allergy and Asthma Center, Fort Lauderdale, FL
Theodore "Ted" M. Freeman, MD FAAAAI, San Antonio Allergy & Asthma Clinic, Helotes, TX

Upon completion of this session, participants should be able to: Identify key political, social, and economic factors influencing change in the practice of allergy, asthma, and immunology; Describe "regulatory" requirements for allergy practice and the relevance to healthcare delivery organizations; Evaluate strategies to increase awareness of the value of high quality allergy services in the present and future healthcare systems.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

Seminars

7:00 to 8:00 am
Pre-registration and ticket required. Fee: $40. Continental breakfast included. Sessions and meals are limited to 30 people.
Credit: 1.00 CME / 1.20 CE

2001 Causes of Cough and Dyspnea

Mandel R. Sher, MD FAAAAI
Gary J. Stadtmauer, MD FAAAAI
Hilton Americas, Level Three, Room 335 AB

Upon completion of this session, participants should be able to: Discuss and think beyond the nose and lung as causes of cough; Discuss and utilize proper tools to identify causes of cough (reflux questionnaire, endoscopy); Discuss and recognize vocal cord dysfunction in the differential of dyspnea and cough.

2002 The Importance of Fungal Allergy in Severe Asthma

Paul A. Greenberger, MD FAAAAI
Alan P. Knutsen, MD FAAAAI
Hilton Americas, Level Three, Room 336

Upon completion of this session, participants should be able to: Discuss how thermotolerant fungi can cause lung damage in asthma; Discuss how to recognize fungal allergy in patients with severe asthma and assess the risk of future lung damage; Identify how to manage fungal allergy associated asthma to minimize the risk of future lung damage and current symptoms caused by airway colonization.

2003 Differential Diagnosis of Angioedema

Aleena Banerji, MD
Bruce L. Zuraw, MD
Hilton Americas, Level Three, Room 337

Upon completion of this session, participants should be able to: Differentiate angioedema types; Discuss appropriate treatment for the different angioedema types; Discuss the life-threatening Systemic Capillary Leak Syndrome.

2004 There's An App for That: iPhones, iPads, Androids and Web Tools for Clinical Practice

Tao T. Le, MD MHS FAAAAI
Thanai Pongdee, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom A

Upon completion of this session, participants should be able to: Discuss novel applications of the smart devices in daily practice; Discuss mobile technology tools for improving patient care, education and outreach.

2005 Approaching the Pediatric Patient with Recurrent Infections

M. Teresa De La Morena, MD
Richard L. Wasserman, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom B

Upon completion of this session, participants should be able to: Describe and 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; Discuss and appreciate the variety of treatment modalities that are used in patients with recurrent infections.

2006 Update in Occupational Allergy: Occupational Anaphylaxis

Santiago Quirce, MD PhD
Susan M. Tarlo, MBBS FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom C

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 Outdoor Air Quality: What Do All Those Colors Mean?

David B. Peden, MD MS FAAAAI
David Diaz Sanchez, PhD
Hilton Americas, Level Four, Lanier Grand Ballroom D

Upon completion of this session, participants should be able to: Discuss current information on air pollution and present the air pollution teaching slide set; Discuss the current air quality ratings chart.

2008 Physical Urticarias

Mario Geller, MD FAAAAI
Allen P. Kaplan, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom E

Upon completion of this session, participants should be able to: Discuss how to diagnose the various presentations of physical urticarias; Identify updated knowledge to properly prevent and treat physical allergies; Describe strategies to apply in difficult-to-control physical urticarias using current scientific immunological advances.

2009 Difficult Situations in Practice Management

Sakina S. Bajowala, MD FAAAAI
Marshall P. Grodofsky, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom F

Upon completion of this session, participants should be able to: Identify and address difficult situations regarding employment and partnership contracts; Discuss difficult situations in hiring and firing; Describe difficult situations in marketing.

2010 Chronic Rhinosinusitis from the Surgeon's Perspective

Robert C. Kern, MD
Timothy L. Smith, MD MPH
Hilton Americas, Level Four, Lanier Grand Ballroom G

Upon completion of this session, participants should be able to: Discuss the incidence, prevalence and natural history of chronic rhinosinusitis (CRS); Identify the indications and expected outcomes for surgical treatment of CRS; Discuss the role of extended and minimalist surgical approaches to CRS.

2011 Predictors of Success in SIT

Linda Cox, MD FAAAAI
Martin Wagenmann, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom H

Upon completion of this session, participants should be able to: Discuss the clinical predictors of SIT outcome; Discuss the relevance of serological markers of SIT outcome; Discuss the value of nasal parameters for the outcome of SIT.

2012 Prostaglandin Regulation of Airway Inflammation

Joshua A. Boyce, MD FAAAAI
Dawn C. Newcomb, PhD
Hilton Americas, Level Four, Lanier Grand Ballroom I

Upon completion of this session, participants should be able to: Describe how PGE2 regulates aspirin-exacerbated respiratory disease (AERD); Discuss the mechanisms by which PGI2 inhibits ILC2 function; Identify and review the pathways by which PGD2 augments ILC2 function and how inhibition of this lipid mediator is being targeted in pharmaceutical trials.

Annual Meeting Seminars

Programmed by the AAAAI. Annual Meeting Seminars funded through an educational grant from Merck.

2013 Non-IgE-Mediated Effects of Allergens: DNA Injury, Tissue Memory and Innate Signaling

Rafeul Alam, MD PhD FAAAAI
Faoud T. Ishmael, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom J

Upon completion of this session, participants should be able to: Discuss examples and molecular basis of innate responses to allergens; Discuss induction of tissue memory induced by allergens; Describe the role of DNA damage and repair in allergic inflammation.

2014 Mastocytosis Mimics: Cutting Through the Clutter

Joseph H. Butterfield, MD FAAAAI
Todd M. Wilson, DO FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom K

Upon completion of this session, participants should be able to: Discuss the criteria for diagnosing systemic mastocytosis; Discuss the criteria for diagnosing mast cell activation syndrome; Identify the differential diagnosis possibilities when faced with a patient with symptoms suggestive of systemic mastocytosis.

2015 A Successful Approach to Food Allergy Diagnostic Dilemmas

Terri F. Brown-Whitehorn, MD
Stephanie A. Leonard, MD
Hilton Americas, Level Four, Lanier Grand Ballroom L

Upon completion of this session, participants should be able to: Identify and understand how to progress the diet for a child with food protein induced enterocolitis; Discuss and manage evaluation of a child who may have resolved a peanut allergy; Discuss management of a patient avoiding foods after an unnecessary allergy screen.

Allied Health Workshops

2021 Dermatitis: What to Do?

6:45 to 8:00 am
Hilton Americas, Level Two, Ballroom of the Americas A
Credit: 1.25 CME / 1.50 CE
Moderator: Karol G. Timmons, RN MS CPNP

6:45 **Karen S. Rance, DNP RN CPNP AE-C**
7:15 **Pinkus Goldberg, MD FAAAAI**
7:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss evidence-based approaches to the diagnosis and management of allergic contact dermatitis (ACD) and atopic dermatitis (AD); Identify how to choose among the various testing options available for ACD and AD; Describe how to differentiate between the presentation of ACD and AD.

2022 Stinging Insect Allergy: Update on Location and Management

6:45 to 8:00 am
Hilton Americas, Level Two, Ballroom of the Americas B
Credit: 1.25 CME / 1.50 CE
Moderator: Margaret R. Dodds, RN MS CPNP

6:45 **Identification and Geographic Distribution of Stinging Insects**
Ginger S. LaBelle, CPNP
7:15 **Assessment and Management of Patients with Stinging Insect Allergies**
Dewey F. Hahlbohm, PA-C AE-C
7:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the identification and geographic distribution of stinging insects; Develop skills for assessment and management of patients with stinging insect allergy.

2023 Is it Time for Your Practice to Hire a Mid-Level Practitioner?

6:45 to 8:00 am
Hilton Americas, Level Two, Ballroom of the Americas C
Credit: 1.25 CME / 1.50 CE
Moderator: John D. Milewski, MSHA

6:45 **Martha Steffen, PA-C**
7:45 **Question & Answer**

Upon completion of this session, participants should be able to: Identify the benefits of having a mid-level practitioner in your practice; Describe basic knowledge of regulations and reimbursement for mid-level practitioners; Discuss and review hiring, training, benchmarking and improving productivity of a mid-level.

2024 Conducting an Environmental Home Assessment

6:45 to 8:00 am
Hilton Americas, Level Two, Ballroom of the Americas D
Credit: 1.25 CME / 1.50 CE
Moderator: Jeanette L. Arnold, MSN RN C-FNP

6:45 **Overview and Issues**
Susan L. Balcer-Whaley, MPH
7:00 **Tools of the Trade**
Michelle Newman, RN
7:15 **Measurements, Assays and Results**
Matthew S. Perzanowski, PhD
7:30 **Question & Answer**

Upon completion of this session, participants should be able to: Describe an environmental home assessment and some issues faced when conducting home assessments; Describe the materials and procedures used to collect environmental home samples; Discuss the measurement and results of home samples and home sampling equipment.

Plenary

2101 How the Microbial Environment Influences the Development of Allergic Diseases: What We Know and What We Can Do

8:15 to 9:45 am
Convention Center, Level Three, Exhibit Hall B3
Credit: 1.50 CME / 1.80 CE
Moderator: Karin A. Pacheco, MD MSPH FAAAAI

8:15 **From the Hygiene Hypothesis to the Microbiome**
Erika Von Mutius, MD MSc
8:45 **The Role of the Skin Microbiome in Health and Disease**
Richard L. Gallo, MD PhD
9:15 **Microbiota Abnormalities in Inflammatory Airway Diseases: Potential for Therapy**
Susan V. Lynch, PhD

Upon completion of this session, participants should be able to: Discuss the associations between the gut microbiome and the development of food allergies; Identify the relationship between diversity of gut microbiota and the development of atopic eczema in infants; Describe how microbial colonization regulates allergic airways inflammation.

Annual Meeting Seminars

Programmed by the AAAAI. Annual Meeting Seminars funded through an educational grant from Merck.

Posters

9:45 to 10:45 am
Convention Center, Level Three, Exhibit Hall A3
Credit: No CME / No CE
Refer to pages 84 – 158 for abstracts and authors.

2201 Therapeutics and Omalizumab
2202 Asthma Therapeutics
2203 Atopy
2204 T Cells, Cellular, and Combined Immunodeficiencies
2205 Mold: Characteristics and Measurements of Exposure
2206 Allergy to Furry Animals and Asthma
2207 Food Allergy I
2208 Eosinophilic Gastrointestinal Disorders and FPIES
2209 Asthma
2210 Immunotherapy
2211 Chronic Rhinosinusitis
2212 Allergen Extracts and Diagnostics
2213 Mechanisms of Allergic Inflammation
2214 Dendritic Cell, Mast Cell, Basophil and IgE-Mediated Mechanisms of Disease
2215 Allied Health Saturday Poster Session

Symposia

2301 CVID: An International CONSensus Symposium

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom A
Credit: 1.25 CME / 1.50 CE
Moderator: Francisco A. Bonilla, MD PhD FAAAAI

This session requires pre-meeting reading, downloadable January 30th from the handout site.

10:45 **The Evolving Definitions of CVID and "CVID-like" Diseases**
Helen Chapel, MD MA

11:05 **CVID: How Many Diseases?**
Charlotte Cunningham-Rundles, MD PhD FAAAAI

11:25 **Preventing and Managing Complications of CVID**
Isil B. Barlan, MD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the consensus definition, epidemiology, and genetics of Common Variable Immune Deficiency (CVID); Describe the many potential manifestations and complications of CVID; Describe the principles of management and complications of CVID.

2302 New Players in Allergic Immune Responses

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom B
Credit: 1.25 CME / 1.50 CE
Moderator: Angela Haczku, MD PhD FAAAAI

10:45 **Regulation of Mucosal Immunity by Epithelial Cells**
David Proud, PhD

11:05 **Roles of Innate Type 2 Cells in Allergy and Asthma**
Fumio Takei, PhD

11:25 **Development of Follicular T Cells and Their Roles in Allergic Responses**
Hirohito Kita, MD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the cutting-edge research regarding the biology of key cell types involved in allergy and asthma; Describe how these cell types are involved in regulation of type 2 immunity and allergic responses; Discuss how this new information can be applied to understanding allergy and asthma in humans and how these cell types can potentially be modulated to treat patients.

2303 Lessons on Asthma from the Inner City: Pathogenesis, Phenotype, Treatment, and Prevention

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom C
Credit: 1.25 CME / 1.50 CE
Moderator: Alkis Togias, MD FAAAAI

This session will use interactive learning strategies.

10:45 **Inner City Asthma Phenotypes: Implications for Treatment Approaches and Disease Severity**
William W. Busse, MD FAAAAI

11:05 **Question & Answer**

11:10 **Urban Microbes, Allergens and Cytokine Patterns in the Development of Asthma**
Susan V. Lynch, PhD

11:30 **Question & Answer**

11:35 **Targeting IgE and Allergy in Inner City Asthma**
Stephen J. Teach, MD

11:55 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the phenotype characteristics of difficult-to-treat asthma; Discuss environmental allergen-microbiome factors in the development of asthma and inflammatory responses; Discuss IgE-directed treatment approaches to improve disease control.

2304 Drug Allergy: Protocols You Should Add to Your Clinical Practice

10:45 am to 12:00 pm
Convention Center, Level Three, General Assembly Theater A
Credit: 1.25 CME / 1.50 CE
Moderator: Roland Solensky, MD FAAAAI

10:45 **Aspirin Desensitization for Non-AERD Cardiac Patients**
Katharine M. Woessner, MD FAAAAI

11:05 **Infusion Reactions from Monoclonal Antibodies and the Role for Challenge and Desensitization**
Mariana C. Castells, MD PhD FAAAAI

11:25 **Antibiotic Hypersensitivity Reactions: The Role for Challenge and Desensitization**
David A. Khan, MD FAAAAI

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the most up-to-date protocol for aspirin desensitization in non-aspirin exacerbated respiratory disease (AERD) patients; Describe the role of challenges and drug desensitizations for patients with antibiotic hypersensitivity reactions; Describe the symptoms of infusion reactions from monoclonal antibodies and the role for challenge and drug desensitization in these cases.

2305 Presidential Symposium: Th2 Immune Response Modifiers for Severe Airway Diseases

10:45 am to 12:00 pm
Convention Center, Level Three, General Assembly Theater B
Credit: 1.25 CME / 1.50 CE
Moderator: James T. Li, MD PhD FAAAAI

10:45 **Phenotypes in Asthma and COPD: Therapeutic Implications for Personalized Medicine**
Sally E. Wenzel, MD FAAAAI

11:05 **Targeting of Th2-high Phenotype in Asthma**
Thomas B. Casale, MD FAAAAI

11:25 **Th2 Cytokine Antagonists in COPD**
Reynold A. Panettieri, MD

11:45 **Question & Answer Panel Discussion**

Upon completion of this session, participants should be able to: Describe asthma and COPD phenotypes and the implications for personalized medicine; Describe and discuss the therapeutic utility of targeting Th2-high phenotype in asthma; Discuss how COPD can have similar pathologic mechanisms and therapeutic targets as asthma.

2306 New Advances in Allergen Immunotherapy

10:45 am to 12:00 pm
Convention Center, Level Three, General Assembly Theater C
Credit: 1.25 CME / 1.50 CE
Moderator: Michael S. Tankersley, MD FAAAAI

10:45 **What Constitutes Clinically Meaningful Effect: Findings from Recent Clinical Trials with Sublingual Immunotherapy**
Peter S. Creticos, MD FAAAAI

11:05 **Modified Allergens, Adjuvants and New Constructs: Where Do We Stand?**
Rudolf Valenta, MD

11:25 **Synthetic Peptide Immunoregulatory Epitopes**
Stephen R. Durham, MD MA

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Determine how to best evaluate immunotherapy outcomes; Evaluate and discuss new research findings of immunotherapy with modified molecules and adjuvants, and how these modifications might enhance efficacy and safety of immunotherapy in the future; Recognize and discuss the immunoregulatory function of certain epitopes: how they were discovered, their mechanisms of action and what their role might be in immunotherapy.

2307 Expanding Roles for Macrophages in Allergy and Immunology

10:45 am to 12:00 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderator: David D. Chaplin, MD PhD FAAAAI

10:45 **Transcriptional Control of Macrophage Self-Renewal**
Michael H. Sieweke, PhD

11:05 **Macrophage Plasticity: Potent Inflammatory and Immunoregulatory Activities**
Thomas A. Wynn, PhD

11:25 **Macrophages: Novel Potent Regulators of Asthmatic Inflammation and Airway Hyper-Reactivity**
Jessy Deshane, PhD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the potential for macrophages to undergo self-renewal in peripheral tissues; Discuss the plasticity of macrophages to adopt multiple functional forms; Discuss the ability of macrophages to use reactive free radicals to exacerbate airway hyper-reactivity or to suppress airway inflammatory responses.

2308 Gene-Epigene and Environmental Interactions in Allergic Disease of the 21st Century

10:45 am to 12:00 pm
Convention Center, Level Three, Room 362
Credit: 1.25 CME / 1.50 CE
Moderator: Jeffrey G. Demain, MD FAAAAI

10:45 **Globalization, Climate Change and Human Health: The Changing Landscape of Allergic Disease**
Kristie L. Ebi, PhD MPH

11:05 **Advances in Understanding Gene-Environmental Interactions in Allergic Diseases**
Francine Kauffmann, MD

11:25 **Air Pollution, Epigenetics and Allergy: What are We Learning?**
Joel Schwartz, PhD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the role of globalization and climate change on allergic disease; Identify the advances in our understanding of gene-environment interactions; Discuss the role of the epigenetic interaction of air pollution and genetic factors in promoting allergy and asthma.

Allied Health Symposium

2311 Psychosocial Aspects of Asthma and Allergic Disease

10:00 to 11:00 am
Hilton Americas, Level Two, Ballroom of the Americas A
Credit: 1.00 CME / 1.20 CE
Moderator: Melissa T. Korenblat-Hanin, ACSW LCSW

Panelists:
Jennifer M. Darr, MSW LCSW
Melissa T. Korenblat-Hanin, ACSW LCSW

Question & Answer

Upon completion of this session, participants should be able to: Discuss the psychosocial dynamics of living with food allergies, eczema and asthma: challenges, emotions and accomplishments; Identify and describe psychosocial assessment methodologies and intervention strategies that are helpful in enhancing coping mechanisms and adherence; Describe successful resources for assisting, supporting and educating the patient and families living with allergies and asthma.

Allied Health Workshops

2312 Developing and Maintaining a Successful Research Center: Secrets of the Trade

10:00 to 11:00 am
Hilton Americas, Level Two, Ballroom of the Americas B
Credit: 1.00 CME / 1.20 CE
Moderator: Sally A. Noone, RN MSN

10:00 **Karen J. Murphy-Berendts, BS RRT CCRC**
10:20 **David I. Bernstein, MD FAAAAI**
10:40 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the infrastructure necessary to establish a successful and productive research center; Describe the challenges of maintaining a successful research center while competing in global clinical trials; Identify and discuss contract and budget negotiating strategies.

2313 The Power of "One"

10:00 to 11:00 am
Hilton Americas, Level Two, Ballroom of the Americas C
Credit: 1.00 CME / 1.20 CE
Moderator: John D. Milewski, MSHA

10:00 **Larry Armor, PA MHA**
10:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe and quantify the financial impact of a new patient encounter; Discuss the basic concepts of fixed and variable practice overhead expense as they relate to an additional patient encounter; Identify ways to "put more day in your physician's hours" to accommodate additional new patients during the routine course of work.

2314 Skin Testing: Placement and Reading TICKET V

10:00 to 11:00 am
Hilton Americas, Level Two, Ballroom of the Americas D
Pre-registration and ticket required. No fee.
Credit: 1.00 CME / 1.20 CE
Moderator: Debra A. Sedlak, MSN CPNP

10:00 **Carla M. Duff, CPNP MSN CCRP IgCN**
10:10 **William R. Blouin, ARNP**
10:20 **Hands-On Instruction**

Upon completion of this session, participants should be able to: Identify and compare different devices and other equipment used for skin testing and their characteristics; Discuss and demonstrate the importance of standardized testing techniques; Discuss and demonstrate proficiency in skin test placement and reading.

Allied Health Symposia

2321 Urticaria and Angioedema in the Pediatric Patient: When to Worry

11:00 am to 12:00 pm
Hilton Americas, Level Two, Ballroom of the Americas A
Credit: 1.00 CME / 1.20 CE
Moderator: Kristin Epland, NP

11:00 **Finding Out Why, How and When to Worry**
Amanda L. Cox, MD
11:20 **Patient Management and Family Support**
Indu Warrier, MD
11:40 **Question & Answer**

Upon completion of this session, participants should be able to: Describe treatment for urticaria and angioedema; Describe mast cell-mediated urticaria and/or angioedema vs. bradykinin-associated; Identify tests that should be ordered for different case scenarios.

2322 Choosing Wisely: Using Evidence-Based Medicine to Dispel Allergy-Related Misconceptions

11:00 am to 12:00 pm
Hilton Americas, Level Two, Ballroom of the Americas B
Credit: 1.00 CME / 1.20 CE
Moderator: Jeanette L. Arnold, MSN RN C-FNP

11:00 **The Origins of Myths and Misperceptions**
Bryan L. Martin, DO FAAAAI
11:20 **Specific Examples of Common Misperceptions**
David R. Stukus, MD FAAAAI
11:40 **Question & Answer**

Upon completion of this session, participants should be able to: Identify commonly held misperceptions in the field of allergy/immunology; Describe the evidence that refutes these commonly held misperceptions; Discuss information and strategies to help providers address frequently asked questions from patients and referring clinicians.

2323 Cutting Edge: Nutrition and Allergic Disease

11:00 am to 12:00 pm
Hilton Americas, Level Two, Ballroom of the Americas C
Credit: 1.00 CME / 1.20 CE
Moderator: Carina Venter, PhD RD

11:00 **State-of-the-Art Research: Diet and the Microbiome**
Berber Vlieg-Boerstra, PhD RD
11:15 **Vitamin D and Food Allergy: A Review of the Evidence**
Nicolette W. de Jong, PhD
11:30 **Is Your Food-Allergic Child's Diet Nutritionally Balanced?**
Kathryn E. Grimshaw, PhD RD
11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Identify the most recent research on diet and the microbiome; Describe the evidence which links vitamin D to food allergy; Identify the role of key nutrients in the diet of an allergic patient.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

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 / 1.20 CE

2501 Asthma Highs and Lows: Issues and Recommendations for High Altitude Exercise and Scuba Diving

Richard R. Rosenthal, MD MS FAAAAI
Frank J. Twarog, MD PhD FAAAAI
Hilton Americas, Level Three, Room 335 AB

Upon completion of this session, participants should be able to: Describe and discuss the potential risks for high altitude exercise and scuba diving in those with asthma; Describe and discuss asthma management strategies for high altitude exercise and scuba diving.

2502 Are Allergists Missing the Diagnosis of Alpha-1 Antitrypsin Deficiency?

Timothy J. Craig, DO FAAAAI
Charlie Strange III, MD
Hilton Americas, Level Three, Room 336

Upon completion of this session, participants should be able to: Recognize that alpha-1 antitrypsin deficiency can mimic asthma; Discuss the ATS criteria for who should be screened for alpha-1 antitrypsin deficiency; Describe how to test for and treat alpha-1 antitrypsin deficiency to improve patient outcomes.

2503 Mechanisms of Corticosteroid Insensitivity in Asthma

Elena Goleva, PhD
Faoud T. Ishmael, MD PhD FAAAAI
Hilton Americas, Level Three, Room 337

Upon completion of this session, participants should be able to: Discuss glucocorticoid receptor function and the molecular pathways that lead to corticosteroid insensitivity; Identify current approaches for clinical evaluation of potential insensitivity to oral and inhaled corticosteroid; Discuss management of patients with suspected corticosteroid insensitivity and alternative therapeutic strategies for these patients.

2504 Effective Clinical Teaching: Using the One-Minute Preceptor

Mark H. Moss, MD
Lily Pien, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom A

Upon completion of this session, participants should be able to: Discuss components of the ambulatory teaching encounter; Describe and compare/contrast the two teaching models; Discuss and apply the two models in a simulated encounter.

2505 State-of-the-Art: Understanding the Genetics of CVID: Bench to Bedside

Janet S. Chou, MD
John W. Sleasman, MD
Hilton Americas, Level Four, Lanier Grand Ballroom B

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 genetics of CVID including newly discovered genes and how understanding the genetics affects prognosis and may alter medical decision making especially for CVID associated complications such as malignancy and GLILD; Discuss how understanding the genetics of CVID affects family planning, testing of minor children and genetic counseling.

2506 Autoinflammatory Disorders

Ronit Herzog, MD FAAAAI
Lu Yao, MD
Hilton Americas, Level Four, Lanier Grand Ballroom C

Upon completion of this session, participants should be able to: Discuss the clinical and laboratory presentation of patients with DIRA; Describe the pathophysiology of DIRA; Discuss the workup and management of the autoinflammatory disorders.

2507 Asthma, COPD and Iraq/Afghanistan War Lung Injury (IAW-LI)

Mark B. Lyles, MA MS DMD PhD
Anthony Szema, MD
Hilton Americas, Level Four, Lanier Grand Ballroom D

Upon completion of this session, participants should be able to: Discuss new onset asthma and COPD rates post Iraq/Afghanistan deployment in previously healthy young soldiers; Discuss Iraq/Afghanistan War Lung Injury (IAW-LI) leading to "titanium lung" which may mimic asthma; Describe and discuss the immune dysregulation with Iraq dust inhalation in mice as a model for human disease and deleterious properties of dust separate from risk of allergic asthma in the Middle East.

2508 Mold: Facts and Fiction

James J. Anderson, MLT
Peter J. Pityn, PhD
Hilton Americas, Level Four, Lanier Grand Ballroom E

Upon completion of this session, participants should be able to: Discuss common mold misconceptions and how they are perpetuated; Discuss MVOCs and mycotoxins; Discuss common and uncommon mold health issues.

2509 Allergenic Components: The Clinical Application

Matthew J. Greenhawt, MD MBA MSc
Maria Antonella Muraro, MD PhD
Hilton Americas, Level Four, Lanier Grand Ballroom F

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; Describe the role of component testing in food and environmental allergy.

2510 Natural Rubber Latex Allergy: Update on Diagnosis and Management

Kevin J. Kelly, MD FAAAAI
Gordon L. Sussman, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom G

Upon completion of this session, participants should be able to: Discuss the current prevalence of latex allergy in the USA and what is known about the protein families of NRL Hev b allergens; Discuss the diagnostic performance of IgE anti-NRL serology and the value of newer Hev b component availability on assay sensitivity and specificity; Describe current trends on the management of natural rubber latex.

2511 Efficacy vs. Effectiveness in Asthma

Andrea J. Apter, MD MA MSc FAAAAI
Anne L. Fuhlbrigge, MD MS
Hilton Americas, Level Four, Lanier Grand Ballroom H

Upon completion of this session, participants should be able to: Discuss the concepts of efficacy and effectiveness as they pertain to clinical asthma treatment; Discuss pragmatic trials and how they measure clinical effectiveness of asthma treatment; Discuss the pragmatic trials of asthma treatment.

Annual Meeting Seminars

Programmed by the AAAAI. Annual Meeting Seminars funded through an educational grant from Merck.

2512 Chronic Rhinosinusitis in Children

Fuad M. Baroody, MD FAAAAI
David W. Hauswirth, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom I

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.

2513 Evaluation and Management of the Difficult to-Treat Rhinitis Patient

Jonathan A. Bernstein, MD FAAAAI
Mark S. Dykewicz, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom J

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.

2514 Quantifying Th2 Immunomodulation in Clinical Trials

Calman Prussin, MD FAAAAI
Erik R. Wambre, PhD MBE
Hilton Americas, Level Four, Lanier Grand Ballroom K

Upon completion of this session, participants should be able to: Describe the utility of measuring Th2 responses as a surrogate marker for immunomodulatory therapy; Describe and discuss the different techniques available to measure total and allergen-specific Th2 responses; Identify and apply these techniques to clinical trials of allergen immunotherapy and immunomodulator therapy.

2515 Antigen Processing Pathways: Importance for Atopic Disease

Nora A. Barrett, MD FAAAAI
Angela Haczku, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom L

Upon completion of this session, participants should be able to: Describe the cellular pathways for antigen processing; Identify the cellular structures used in antigen processing; Discuss the enzymes that are important for antigen processing.

Pro/Con Debates

2521 Specific Immunotherapy is Effective for Atopic Dermatitis V

12:30 to 1:30 pm
Convention Center, Level Three, Grand Ballroom C
Credit: 1.00 CME / 1.20 CE
Moderator: John Oppenheimer, MD FAAAAI
This session will use interactive learning strategies.
Pro: *Moises A. Calderon, MD PhD*
Con: *Linda Cox, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the efficacy and safety of allergen immunotherapy for patients with IgE-mediated atopic dermatitis; Discuss appropriate diagnosis of patients; Discuss the treatment of allergic children with atopic dermatitis.

2522 Minor Determinants are Essential for Optimal Penicillin Allergy Testing V

12:30 to 1:30 pm
Convention Center, Level Three, General Assembly Theater A
Credit: 1.00 CME / 1.20 CE
Moderator: Mariana C. Castells, MD PhD FAAAAI
Pro: *Roland Solensky, MD FAAAAI*
Con: *Eric M. Macy, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the safety of penicillin skin testing using commercial reagents; Describe the potential limitation of commercial skin test reagents alone; Discuss the safety of oral challenges.

2523 You Should Use Antibiotics to Treat Chronic Rhinosinusitis (CRS) V

12:30 to 1:30 pm
Convention Center, Level Three, General Assembly Theater C
Credit: 1.00 CME / 1.20 CE
Moderator: Martin Wagenmann, MD FAAAAI
This session will use interactive learning strategies.
Pro: *Daniel L. Hamilos, MD FAAAAI*
Con: *Claus Bachert, MD PhD*

Upon completion of this session, participants should be able to: Identify and discuss the evidence for antibiotic therapy in chronic rhinosinusitis (CRS); Discuss and evaluate the effects of antibiotics in the two major subtypes of CRS (with/without nasal polyps); Describe the costs, side effects and consequences of antibiotic therapy in CRS.

Symposia

2524 E-cigarettes: What Do We Know? V

12:30 to 1:30 pm
Convention Center, Level Three, Room 361
Credit: 1.00 CME / 1.20 CE
Moderators: Neil Alexis, PhD
Edward O. Corazalla, MS RPFT
This session will use interactive learning strategies.

12:30 **E-Cigarettes Versus Traditional Cigarettes: Effects on Airway Mechanisms**
Robert Tarran, PhD

12:45 **E-Cigarettes: Toxicity and Increasing Use in the Community**
George T. O'Connor, MD

1:00 **E-Cigarettes: Targeting Adolescents?**
Chitra Dinakar, MD FAAAAI

1:15 **Question & Answer**

Upon completion of this session, participants should be able to: Describe mechanisms of e-cigarettes vs. traditional cigarettes on airway/inflammatory responses; Describe toxicity and prevalence of e-cigarette use in the community in comparison to traditional cigarettes; Describe how e-cigarette products may target adolescents.

Pro/Con Debates

2525 PPI-Responsive Esophageal Eosinophilia is a Distinct Entity

12:30 to 1:30 pm
Convention Center, Level Three, Room 370
Credit: 1.00 CME / 1.20 CE
Moderator: Dan Atkins, MD FAAAAI
Pro: *Glenn Furuta, MD*
Con: *Seema Sharma Aceves, MD PhD FAAAAI*

Upon completion of this session, participants should be able to: List the arguments supporting PPI-responsive eosinophilia as undiagnosed GERD; Discuss the arguments suggesting that PPI-responsive eosinophilia is actually EoE; Describe eosinophilia to the practicing allergist involved in evaluating patients with esophageal eosinophilia.

2526 Innate Immunity is the Major Contributor to Ongoing Asthma and Represents the Best Therapeutic Targets

12:30 to 1:30 pm
Convention Center, Level Three, Room 372
Credit: 1.00 CME / 1.20 CE
Moderator: Patrick J. Brennan, MD PhD
Pro: *Joshua A. Boyce, MD FAAAAI*
Con: *R. Stokes Peebles Jr., MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the contribution of innate and adaptive immunity to allergic asthma; Describe the rationale for therapeutic targeting of innate and adaptive immunity in allergic asthma; Identify and differentiate the innate and adaptive contributions to allergic disease in both the establishment phase and the chronic phase.

Allied Health Session

2551 Allied Health Professional Assembly Business Meeting & Oral Abstract Session

12:15 to 1:45 pm
Hilton Americas, Level Two, Ballroom of the Americas E
No fee. Box lunch included.
Credit: 1.25 CME / 1.50 CE
Moderator: Debra A. Sedlak, MSN CPNP

12:15 **Business Meeting**

12:30 **Association Between Asthma Prevalence and Environmental Tobacco Smoke (ETS) Exposure in Schoolchildren from the Pittsburgh Region**
Najwa Al-Ghamedi, PharmaD

12:45 **Consuming a Cows' Milk Exclusion Diet during Infancy Affects Eating Behavior and Liking for Dairy Products 10 Years Later**
Kate Maslin, MSC RD

1:00 **Pilot Study Demonstrates High Prevalence of Asthma in Inner-City Schoolchildren from Pittsburgh Region**
Paige E. Dewhirst, MPH

1:15 **Trends in the Workforce of Certified Asthma Educators (AE-Cs) in New York State (NYS) & Relationship to State Funding Support**
Mary E. Cataletta, MD

1:30 **Preliminary Results of the Teen Food Allergy Education Survey**
Claire Unruh, BSC

Upon completion of this session, participants should be able to develop an appreciation for the diversity of topics submitted by Allied Health members which impact the care of patients.

Symposium

2552 Representation, Inclusion and Diversity in the AAAAI

12:30 to 1:30 pm
Convention Center, Level Three, Room 371
Credit: 1.00 CME / 1.20 CE
Moderator: Susan M. MacDonald, MD FAAAAI

12:30 **Michael B. Foggs, MD FAAAAI**

1:10 **Question & Answer**

Upon completion of this session, participants should be able to: Recognize and discuss how poor representation of underrepresented minorities (URMs) in the AAAAI adversely affects the organization's ability to meet its mission of advancing optimal patient care; Evaluate current practices and discuss new initiatives in the AAAAI to encourage URM participation in scientific, educational, and practice-related activities; Recognize that the deliberate inclusion of all members in participatory and leadership roles in the AAAAI increases the effectiveness of the specialty as a whole.

Oral Abstracts

2601 Genetics and Epigenetics of Asthma

2:00 to 3:15 pm
Convention Center, Level Three, General Assembly Theater B
Credit: 1.25 CME / 1.50 CE
Moderators: Faoud T. Ishmael, MD PhD FAAAAI
Andrej Petrov, MD

2:00 **Interaction of Leptin Genetic Variants and DNA Methylation Influences Lung Function and Asthma at 18 Years of Age**
Nandini Mukherjee

2:15 **Epigenome Wide Study Identifies DNA Methylation Sites Associated with Cord Blood IgE**
Akhilesh Kaushal

2:30 **IFNγ and Foxp3 Methylation, Expression in Buccal Mucosa in Inner-City Children with Allergic Asthma**
Emily H. Miller, MD PhD

2:45 **Sophora Flavescens Alkaloid-Rich Fraction Induction of IL-10 Production and Prevention of Dexamethasone Suppression of Asthma Patient PBMC IL-10 Production Is Associated with Altered DNA Methylation at foxp3 Gene Promoter**
Ying Song, MS MD

3:00 **Early-Onset Asthma Is Associated with a Specific Polymorphisms of TLR-4 (Asp299Gly) in Ukrainian Adults**
Yuri Bisyuk

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

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

2602 Mechanisms in Atopy

2:00 to 3:15 pm
Convention Center, Level Three, Room 310
Credit: 1.25 CME / 1.50 CE
Moderators: Mark C. Glaum, MD PhD FAAAAI
Jonathan M. Spergel, MD PhD FAAAAI

2:00 **DNA Methylation Modifies the Effect of Genotype on Atopy Risk**
Gabrielle A. Lockett, PhD

2:15 **Oral Tolerance and Unresponsiveness to Allergen Challenge after Immunotherapy Are Not Associated with a Change in B10 Cell Number in Mice**
Kelly A. Orgel, BS

2:30 **Allergic Disease-Related Phenotypic Differences Emerges in Type 2 Immune Responses**
Erik R. Wambre, PhD MBE

2:45 **Variations in the Heat Shock Protein 90 Gene Are Associated with Asthma in Populations of African Ancestry**
Li Gao, MD PhD

3:00 **Negative Regulation of Eosinophil Production By TLR2**
David W. Morris, MD

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

2603 Allergy and Respiratory Disease in the Military and Civilian Workplace

2:00 to 3:15 pm
Convention Center, Level Three, Room 320
Credit: 1.25 CME / 1.50 CE
Moderators: Jonathan A. Bernstein, MD FAAAAI
Karin A. Pacheco, MD MSPH FAAAAI

2:00 **Peak TMA Specific IgG Responses May Predict the Likelihood of TMA Exposed Workers Developing TMA Specific IgE Responses**
Corey Davis Clay, MD PhD

2:15 **New Studies on Dust from Middle East Deployment Areas**
Mark B. Lyles, MA MS DMD PhD

2:30 **The Cardiac Protein Alpha-T-Catenin Contributes to the Pathogenesis of Occupational Asthma**
Stephen S. Folmsbee

2:45 **Occupational Asthma Due to Mold: Myth or Reality?**
Catherine Lemiere, MD

3:00 **The Potential of a Low-Cost Particle Counter to Quantify Airborne Particulate Matter in a Laboratory Animal Facility**
Meinir Jones

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

2604 New Insights into Eosinophilic Esophagitis

2:00 to 3:15 pm
Convention Center, Level Three, Room 351
Credit: 1.25 CME / 1.50 CE
Moderators: Mirna Chehade, MD MPH
John J. Lee, MD

2:00 **Functional Analysis of Calpain-14 in Eosinophilic Esophagitis**
Benjamin P. Davis, MD

2:15 **TRAIL Signalling Is Pro-Inflammatory in Eosinophilic Esophagitis**
Adam M. Collison, PhD

2:30 **Active Eosinophilic Esophagitis Is Characterized By Epithelial Barrier Defects and Eosinophil Extracellular Trap Formation**
Dagmar Simon, MD

2:45 **Salivary Microrna As a Biomarker for Monitoring Response to Treatment in Eosinophilic Esophagitis**
Theodore E. Kelbel, MD

3:00 **Transcriptome Analysis of PPI-Responsive Esophageal Eosinophilia Reveals the Presence of an Eosinophilic Esophagitis Transcriptome Reversible By PPI Mono-Therapy and the Identification of PPI-Response Predictor Genes**
Ting Wen, PhD

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

2605 Asthma in the Underserved

2:00 to 3:15 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderators: Chitra Dinakar, MD FAAAAI
Matthew A. Rank, MD FAAAAI

2:00 **Asthma Coach Intervention to Reduce Emergency Department Visits and Inpatient Hospitalizations**
Beth Roehm, MSN RN CPNP-PC AE-C

2:15 **(1) Asthma Needs Assessment on the Navajo Indian Reservation**
Aaron K. Kobernick, MD MPH

2:30 **Electronic Asthma Self-Management Program Can Improve Asthma Control and Quality of Life in Young, African Americans**
Christopher E. Couch, MD

2:45 **Characteristics of Symptomatic Children Undiagnosed with Asthma and Known Asthmatics in Inner-City Schools**
Margee Louisias, MD

3:00 **Characteristics of Inner City Children with Life-Threatening Asthma**
Mary E. Bollinger, DO FAAAAI

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

2606 Molecular Mechanisms at Respiratory Epithelial Level

2:00 to 3:15 pm
Convention Center, Level Three, Room 362
Credit: 1.25 CME / 1.50 CE
Moderators: Mahboobeh Mahdavinia, MD PhD
Martin Wagenmann, MD FAAAAI

2:00 **Regulation of Tissue Plasminogen Activator Expression in Human Epithelial Cells**
Masafumi Sakashita, MD

2:15 **Oncostatin M Is Elevated in Mucosal Disease and May Mediate Epithelial Barrier Dysfunction in Vivo**
Kathryn L. Pothoven

2:30 **Staphyloccoccus Aureus Induces a Th2 Response Via TSLP and IL-33 Release in Human Airway Mucosa**
Feng Lan, MD

2:45 **Omeprazole Has Anti-Inflammatory Effects on Type 2 Cytokine-Stimulated Human Airway Epithelial Cells**
Jin Young Min, MD PhD

3:00 **The Expression and Cross-Regulation of Epithelial-Derived Thymic Stromal Lymphopoietin, IL-25 and IL-33, in Eosinophilic and Non-Eosinophilic Crswnp**
Bo Liao

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

2607 Mechanisms of Atopic Diseases: Lymphocytes

2:00 to 3:15 pm
Convention Center, Level Three, Room 370
Credit: 1.25 CME / 1.50 CE
Moderators: Taylor Doherty, MD FAAAAI
Calman Prussin, MD FAAAAI

2:00 **Deficiency of Thymic Stromal Lymphopoietin (TSLP) Receptor Signaling Reduced IL-33 Protein Expression and the Number of Lung Group 2 Innate Lymphoid Cells (ILC2) Following Alternaria Extract-Challenge**
Shinji Toki, PhD

2:15 **Epithelial IL-33 and TSLP Elicit Innate Lymphoid Cell Responses to Mediate Ozone-Induced Airway Inflammation and Hyperresponsiveness**
Qi Yang, MD PhD

2:30 **Frequency of Type 2 Innate Lymphoid Cells (ILC2) in Bronchoalveolar Lavage (BAL) and Their Contribution to Type 2 Cytokine Production in Human Asthma**
Christina Christianson, PhD

2:45 **A Bell-Shaped Dose-Dependent Induction of Allergen-Specific Tetramer+ CD4 T Cells and Activated Lung ILC2s Following Epicutaneous Allergen Sensitization in HLA-DR4 Transgenic Mice**
Christopher D. Rudulier, PhD

3:00 **Rapamycin Preferentially Inhibits IL5+ Th2 Cell Proliferation through the mTORC1/S6 Kinase Pathway**
Yuzhi Yin, MD PhD

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

Allied Health Symposia

2611 Primary Immune Deficiency Disease Through the Ages

2:00 to 3:15 pm
Hilton Americas, Level Two, Ballroom of the Americas A
Credit: 1.25 CME / 1.50 CE
Moderator: Margaret R. Dodds, RN MS CPNP

2:00 **Oh Baby: Birth Through School Age**
M. Elizabeth M. Younger, CRNP PhD

2:20 **Wild and Crazy: Adolescents Through Young Adult**
William R. Blouin, ARNP

2:40 **All Grown Up: 30 Years Plus**
Kristin Epland, NP

3:00 **Question & Answer**

Upon completion of this session, participants should be able to develop the features and challenges for patients with PIDD.

2612 Nutritional Aspects of Oral Food Challenges

2:00 to 3:15 pm
Hilton Americas, Level Two, Ballroom of the Americas B
Credit: 1.25 CME / 1.50 CE
Moderator: Berber Vlieg-Boerstra, PhD RD

2:00 **Preparing Double-Blind Challenge Materials for Threshold Challenges**
Julie A. Nordlee, MS

2:20 **Food Challenge: Why, How and When**
G. Lynn Christie, MS RD

2:40 **A Negative Food Challenge: Make Sure Your Patient Will Eat the Food**
Nicolette W. de Jong, PhD

3:00 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the methods of oral food challenge preparation; Discuss the reasons why you would undertake an oral food challenge and how you would go about it; Describe the reasons why people do not always reintroduce foods after a negative challenge and practical tips as to how this can be overcome.

2613 How To Manage Your Employees and Stay Out of Court

2:00 to 3:15 pm
Hilton Americas, Level Two, Ballroom of the Americas C
Credit: 1.25 CME / 1.50 CE
Moderator: John D. Milewski, MSHA

2:00 **Denise C. Yarborough, Esquire**

3:00 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the hiring process and best practices to avoid problems later; Discuss the basics of discrimination claims and how to avoid them; Discuss when a problematic employee is not working out and learn how to discipline effectively and, if necessary, terminate legally.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

2614 Allied Health Travel Grant Recipients

2:00 to 3:15 pm
Hilton Americas, Level Two, Ballroom of the Americas D
Credit: 1.25 CME / 1.50 CE
Moderator: Maureen George, PhD RN AE-C

2:00 **National Jewish Health's NJ4Kids Program (Skin Prick Testing)**
Elizabeth Esterl, RN MSN

2:05 **Severe Combined Immunodeficiency Screening**
Susan Savoia, RN BSN

2:10 **Program: Granulomatous Lymphocytic Interstitial Lung Disease (GLILD) in Common Variable Immunodeficiency (CVID)**
Ann Hefel, FNP-BC MS RN

2:15 **Severe Asthma Clinic for Kids (SACK)**
Lila C. Kertz, MSN RN CPNP AE-C

2:20 **Quality Improvement Project: A Simulation Class to Improve Staff Knowledge of the Asthma Action Plan and Skills to Educate Families Plan**
Anne E. Borgmeyer, MSN RN CPNP AE-C

2:25 **Community Resources for Asthma Care in Underserved Communities**
Rita H. Brown, BA

2:30 **Asthma Education Focusing on Device Technique and Associated Therapeutic Category in a Retail Pharmacy Setting**
Marc L. Rubin, RPh AE-C

2:35 **Effectiveness of an Interactive Mobile-Based Asthma Action Plan Application Compared to Paper Asthma Action Plan**
Shemeka Randle, RRT

2:40 **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.

Keynote

2701 The Reproducibility Crisis: Causes and Consequences

3:30 to 4:30 pm
Convention Center, Level Three, Exhibit Hall B3
Credit: 1.00 CME / 1.20 CE
Moderator: Paul V. Williams, MD FAAAAI

3:30 **The Reproducibility Crisis: Causes and Consequences**
John P.A. Ioannidis, MD DSc
C.F. Rehnborg Professor in Disease Prevention at Stanford University; Professor of Medicine, Professor of Health Research and Policy, and Director of the Stanford Prevention Research Center (SPRC) at Stanford University School of Medicine; Professor of Statistics (by courtesy) at Stanford University School of Humanities and Sciences.

Upon completion of this session, participants should be able to discuss the reasons why, despite exciting press reports, many high impact research findings are not increasingly reproduced.

Workshops

2801 Evidence-Based Diagnosis and Management of Chronic Urticaria/Angioedema

4:45 to 6:00 pm
Convention Center, Level Three, Grand Ballroom A
Credit: 1.25 CME / 1.50 CE
Moderator: David R. Weldon, MD FAAAAI
This session will use interactive learning strategies.

4:45 **Diagnostic Evaluation of Patients with Chronic Urticaria/Angioedema Based on Best Evidence**
David M. Lang, MD FAAAAI

5:00 **Question & Answer**

5:10 **Evidence-Based Evaluation and Management of Autoimmune Urticaria**
Jonathan A. Bernstein, MD FAAAAI

5:25 **Question & Answer**

5:35 **Therapeutic Options for Antihistamine-Resistant Chronic Urticaria**
David A. Khan, MD FAAAAI

5:50 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the cost-effective and evidence-based diagnostic evaluation of patients with chronic urticaria/angioedema; Describe evidence-based evaluation and management of patients with suspected autoimmune urticaria; Discuss evidence supporting the use of therapeutic interventions for patients with antihistamine-resistant urticaria/angioedema.

2802 Update from the U.S. Food and Drug Administration (FDA)

4:45 to 6:00 pm
Convention Center, Level Three, Grand Ballroom C
Credit: 1.25 CME / 1.50 CE
Moderator: F. Estelle R. Simons, MD FAAAAI

4:45 **Year-in-Review: An Update from the U.S. Food and Drug Administration**
Badrul A. Chowdhury, MD PhD FAAAAI

5:00 **Over-the-Counter (OTC) Marketing of Drug Products for Asthma**
Susan L. Limb, MD FAAAAI

5:15 **Pulmonary Oil Microembolism (POME) Drug Reactions and Anaphylaxis: A Case Study**
Stacy Chin, MD

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss recent FDA issues of scientific importance and their clinical implications; Describe issues related to the over-the-counter (OTC) marketing of drug products for the treatment of asthma; Discuss clinical features of pulmonary oil microembolism (POME) drug reactions.

Annual Meeting Workshops

Programmed by the AAAAI. Annual Meeting Workshops funded through an educational grant from Merck.

2803 Food Immunotherapy: What is the Best Method?

4:45 to 6:00 pm
Convention Center, Level Three, General Assembly Theater A
Credit: 1.25 CME / 1.50 CE
Moderator: Stacie M. Jones, MD

4:45 **OIT or SLIT: Who Should Be Treated and with What IT Mode?**
Corinne Keet, MD PhD

5:00 **EPIT for Food Allergy as an Alternative Pathway for Oral Tolerance Induction**
Christophe Dupont, MD PhD

5:15 **Baked Milk and Egg Diet as an Alternative Form of OIT**
Anna H. Nowak-Wegrzyn, MD FAAAAI

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the evidence from high quality clinical trials of oral (OIT), sublingual (SLIT) and epicutaneous (EPIT) immunotherapies; Describe the baked milk/egg approach and compare it with OIT; Identify the benefits and risks of OIT and baked milk/egg diet.

2804 JACI: In Practice Year-in-Review: Food Allergy, Asthma and Drug Allergy

4:45 to 6:00 pm
Convention Center, Level Three, General Assembly Theater C
Credit: 1.25 CME / 1.50 CE
Moderator: Michael Schatz, MD MS FAAAAI

4:45 **Food Allergy**
Scott H. Sicherer, MD FAAAAI

5:00 **Asthma**
Robert S. Zeiger, MD PhD FAAAAI

5:15 **Drug Allergy**
Mariana C. Castells, MD PhD FAAAAI

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how readers can use the published content from JACI: In Practice to help advance their knowledge base to improve clinical practice and disease management; Discuss the latest advances in food allergy, asthma and drug allergy.

2805 Using Technology to Improve Adherence in the Underserved Population

4:45 to 6:00 pm
Convention Center, Level Three, Room 310
Credit: 1.25 CME / 1.50 CE
Moderator: Rebecca Scherzer, MD FAAAAI

4:45 **Technologies for Chronic Disease Management and Population Health**
David R. Stukus, MD FAAAAI

5:00 **Question & Answer**

5:10 **Technologies for Patient Engagement and Treatment Adherence**
Giselle Mosnaim, MD MS FAAAAI

5:25 **Question & Answer**

5:35 **Using Technology to Reach the Unreachable**
Tamara T. Perry, MD

5:50 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss available and emerging technologies for chronic disease management and population health; Discuss available and emerging technologies for patient engagement and treatment adherence; Identify strategies for using these technologies to improve care for underserved urban, rural and minority populations.

2806 B-Cells in the Airways: Beyond Antibodies

4:45 to 6:00 pm
Convention Center, Level Three, Room 320
Credit: 1.25 CME / 1.50 CE
Moderator: Cem Akin, MD PhD FAAAAI
This session will use interactive learning strategies.

4:45 **Regulatory B-Cells in Allergic Airways Disease**
Hermelijn H. Smits, PhD

5:00 **Question & Answer**

5:05 **B-Cells in Allergic Airways Disease**
Kathryn E. Hulse, PhD

5:20 **Question & Answer**

5:25 **Effector B-Cells and Allergic Inflammation**
Beatriz Leon-Ruiz, PhD

5:40 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the evidence that demonstrates that B-lymphocytes are key players in airway immune responses; Identify the contribution of effector B-cells to airway inflammation; Discuss the key contribution of regulatory B-cells to airway homeostasis.

2807 Sleep-Disordered Breathing (SDB) in Children and Adults: Associated Disorders and the Role of the Allergist

4:45 to 6:00 pm
Convention Center, Level Three, Room 330
Pre-registration and ticket required. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Timothy J. Craig, DO FAAAAI
This session will use interactive learning strategies.

Case Presenters:
Fuad M. Baroody, MD FAAAAI
Eli O. Meltzer, MD FAAAAI

Upon completion of this session, participants should be able to: Discuss the definition and spectrum of sleep-disordered breathing (SBD) and obstructive sleep apnea (OSA) in patients and the role of rhinoscopy and polysomnography in establishing diagnosis and response to treatment; Identify the associations and theories of causality between allergic rhinitis and its consequences in patients and the demonstrated effects of treatments in improving secondary disorders; Discuss the role of the allergist/immunologist in identifying these patients and coordinating care.

2808 Genomic Studies in Allergy and Immunodeficiency

4:45 to 6:00 pm
Convention Center, Level Three, Room 340
Pre-registration and ticket required. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Patricia L. Lugar, MD MS
This session will use interactive learning strategies.

Genomic Applications in Asthma
Scott T. Weiss, MD MS

Genomic Applications in Immunodeficiency
Janet S. Chou, MD

Upon completion of this session, participants should be able to: Recognize the basic concepts of personalized medicine in the context of genomic study; Appreciate the utility of genomic study for asthma management; Appreciate the utility of genomic study for immunodeficiency diagnosis.

2809 Chronic Rhinosinusitis Management: Beyond Prednisone

4:45 to 6:00 pm
Convention Center, Level Three, Room 332
Credit: 1.25 CME / 1.50 CE
Moderator: Tara F. Carr, MD

4:45 **Ventilation or Drug Delivery? The Role of Surgery**
Rodney J. Schlosser, MD

5:00 **Topical Sinonasal Therapies: The Good, the Bad and the Ugly**
Daniel L. Hamilos, MD FAAAAI

5:15 **New Therapies for Chronic Rhinosinusitis**
Samuel L. Friedlander, MD

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the indication and goals of sinus surgery; Identify topical sinus therapies including the different delivery options, medications and their limitations; Discuss current and future biologics in the management of CRS.

2810 Non-Invasive Monitoring of Airway Inflammation in Asthma

4:45 to 6:00 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderator: Paul M. O'Byrne, MD FAAAAI

4:45 **Eosinophils in Blood and Induced Sputum**
Parameswaran K. Nair, MD PhD

5:00 **Novel and Emerging Biomarkers**
Serpil C. Erzurum, MD

5:15 **Mediators in Mucosal Lining Fluid: Nasosorption and Bronchosorption**
Trevor Thomas Hansel, MD PhD

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss different methods of sampling the airways; Assess and discuss the utility of sampling methods in clinical practice; Assess and discuss the utility of sampling methods for clinical trials with new therapies.

2811 Evaluating Sensitization to Implanted Medical Devices

4:45 to 6:00 pm
Convention Center, Level Three, Room 351
Credit: 1.25 CME / 1.50 CE
Moderator: Jeffrey G. Demain, MD FAAAAI
This session will use interactive learning strategies.

4:45 **Allergy to Orthopedic Prostheses**
Karin A. Pacheco, MD MSPH FAAAAI

5:00 **Question & Answer**

5:10 **Allergy to Cardiac and Endovascular Devices, Medication Pumps and Neurostimulators**
James S. Taylor, MD

5:25 **Question & Answer**

5:35 **Allergy to Dental and Gynecologic Devices**
Luz S. Fonacier, MD FAAAAI

5:50 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss similarities and differences in allergic reactions to orthopedic, cardiac, endovascular, dental, gynecologic and other medical devices; Identify clinical criteria to diagnose cutaneous and extra-cutaneous reactions to implants; Discuss when patch testing and lymphocyte transformation testing are indicated and which allergens to test.

2812 There's a Fungus Among Us: Mechanistic Links Between Antifungal Immunity and Allergic Disease

4:45 to 6:00 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderator: Angela Haczku, MD PhD FAAAAI

4:45 **Allergies as an Antifungal Defensive Strategy**
David B. Corry, MD

5:00 **IL-33 and ILC2 and Development of Allergic Sensitization**
Hirohito Kita, MD

5:15 **Fungal Lipids and iNKT in Asthma**
Dale T. Umetsu, MD PhD FAAAAI

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Describe how cleavage of fibrinogen as part of the antifungal response leads to allergic disease; Discuss the role of IL-33 and ILC2s in driving allergic disease in response to a fungal insult; Discuss how fungal glycolipids can drive allergic disease via the activation of iNKT cells.

2813 Clinical Dilemmas in Anaphylaxis

4:45 to 6:00 pm
Convention Center, Level Three, Room 362
Credit: 1.25 CME / 1.50 CE
Moderator: Amanda L. Cox, MD

4:45 **Insect Sting Anaphylaxis**
David B.K. Golden, MD FAAAAI

5:00 **Exercise-Induced Anaphylaxis and Cofactors**
Kirsi M. Jarvinen-Seppo, MD PhD FAAAAI

5:15 **Delayed Anaphylaxis: Alpha-Gal Allergy**
Scott P. Commins, MD PhD

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss and apply the latest practice parameters in the management of challenging patients with insect venom anaphylaxis; Discuss the presenting symptoms and kinetics, diagnosis and management of food-dependent exercise anaphylaxis; Discuss the pathophysiology, manifestations and management of alpha-gal anaphylaxis.

2814 Role of Lipids in Aspirin-Exacerbated Respiratory Disease

4:45 to 6:00 pm
Convention Center, Level Three, Room 370
Credit: 1.25 CME / 1.50 CE
Moderator: Monica Vasudev, MD

4:45 **Mechanisms of Overproduction and Hyperresponsiveness to Leukotriene E4**
Joshua A. Boyce, MD FAAAAI

5:00 **The Central Role of Platelets and Thromboxane in AERD**
Tanya M. Laidlaw, MD FAAAAI

5:15 **Aberrant Postaglandin D2 Metabolism is Both a Marker of AERD and a Pathogenetic Mechanism**
Katherine N. Cahill, MD

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss that leukotriene E4 may drive pathology through receptors and pathways that are not presently the targets of available drugs; Identify the key role for thromboxane and platelets; Discuss that prostaglandin D2 metabolism may define endophenotypes of AERD.

2815 AAAAI's Quality Clinical Data Registry: What You Need To Know

4:45 to 6:00 pm
Convention Center, Level Three, Room 371
Credit: 1.25 CME / 1.50 CE
Moderator: Matthew A. Rank, MD FAAAAI

4:45 **The AAAAI QCDR: Why it Was Created and the Role of the Immunotherapy Measures**
Linda Cox, MD FAAAAI

5:05 **Why Measures and Quality Reporting Matter to Your Practice**
Mark L. Corbett, MD FAAAAI

5:25 **The AAAAI QCDR: Getting Started, Getting Connected, Making it Work**
Simone Karp, RPh

5:45 **Question & Answer**

Upon completion of this session, participants should be able to: Identify the specialty-specific quality measures in the QCDR; Describe the ways in which using quality measures can improve practice and facilitate quality reporting.

Allied Health Symposia

2821 Thinking Outside the Box: Strategies for Improving Asthma Care

4:45 to 6:00 pm
Hilton Americas, Level Two, Ballroom of the Americas A
Credit: 1.25 CME / 1.50 CE
Moderator: Dee Mallam, RN AE-C

4:45 **Importance of Narrative Competence in Asthma**
Gregory M. Metz, MD

5:05 **Strategies for Improving Immune Function to Prevent Infections and Asthma Exacerbations**
Karen L. Gregory, DNP APRN-BC RRT AE-C

5:25 **Clinical Pearls for Asthma Self-Management to Improve Health Care Delivery**
Dee Mallam, RN AE-C

5:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the importance of narrative competence and apply skills learned to improve the delivery of a holistic and patient-centered treatment plan for asthma; Identify strategies at improving immune function to prevent infections and asthma exacerbations; Discuss clinical pearls for asthma self-management to assist with improved health care delivery.

2822 Bring Your Own Pediatric Food Challenge Experience

4:45 to 6:00 pm
Hilton Americas, Level Two, Ballroom of the Americas B
Credit: 1.25 CME / 1.50 CE
Moderator: Teri Holbrook, RN CRNP

Speakers:
Teri Holbrook, RN CRNP
Megan T. Ott, MSN CRNP
Humaira Robinson, BSN RN
Elisabeth S. Stieb, RN BSN AE-C

4:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss solutions to common problems encountered when conducting oral food challenges; Develop a network of health care providers who conduct food challenges for interaction as needed throughout the year.

2823 The Food Allergy Spectrum: Not Just Peanuts, Eggs and Milk

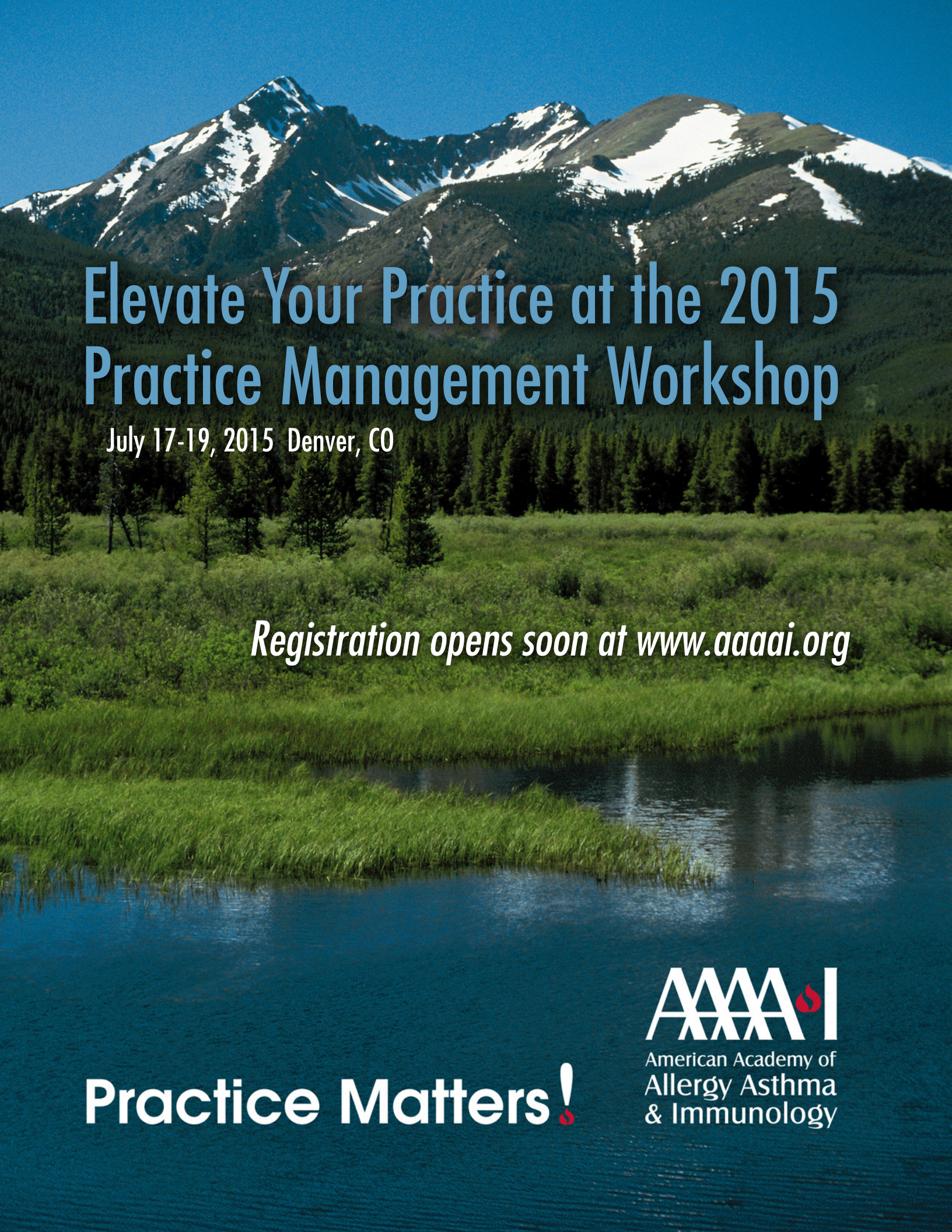
4:45 to 6:00 pm
Hilton Americas, Level Two, Ballroom of the Americas C
Credit: 1.25 CME / 1.50 CE
Moderator: Sally A. Noone, RN MSN

Speakers:
Pinkus Goldberg, MD FAAAAI
Karen S. Rance, DNP RN CPNP AE-C

Upon completion of this session, participants should be able to: Identify an evidence-based approach to managing food allergy patients with less common allergens; Discuss how to screen for possible sensitivity to food additives and preservatives; Describe a management approach for patients with multiple food allergies.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.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& Immunology

Seminars

7:00 to 8:00 am
Pre-registration and ticket required. Fee: $40. Continental breakfast included. Sessions and meals are limited to 30 people.
Credit: 1.00 CME / 1.20 CE

3001 Provocative Testing for Exercise-Induced Bronchoconstriction: Methacholine vs. Mannitol vs. Exercise Challenge

Christopher C. Randolph, MD FAAAAI
John M. Weiler, MD FAAAAI
Hilton Americas, Level Three, Room 335 AB

Upon completion of this session, participants should be able to describe and discuss the diagnostic utility of different provocative testing methods for the diagnosis of EIB.

3002 Prenatal Diet and Childhood Asthma

Supinda Bunyavanich, MD MPH FAAAAI
Augusto A. Litonjua, MD MPH
Hilton Americas, Level Three, Room 336

Upon completion of this session, participants should be able to: Discuss and examine the evidence for the effect of foods in the maternal diet on childhood wheeze and asthma; Discuss the evidence for the effect of vitamins and supplements in the maternal diet on childhood wheeze and asthma; Discuss practical and evidence-based dietary guidelines that may be discussed with expecting mothers with asthma concerns.

3003 Recurrent Infection in Adults

Ralph Shapiro, MD
Mark R. Stein, MD FAAAAI
Hilton Americas, Level Three, Room 337

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.

3004 Epitope Structures of Allergens: Factors Mediating Allergenicity and Clinical Significance

Martin D. Chapman, PhD FAAAAI
Judith A. Woodfolk, MBChB PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom A

Upon completion of this session, participants should be able to: Discuss the structural features of common allergenic proteins; Discuss how the biologic function of allergens can affect allergenicity; Describe evidence that environmental exposures can affect immune responses to common allergens.

3005 IgG4-Related Disease: A Primer for Allergist/Immunologists

Anna Kovalszki, MD
John H. Stone, MD
Hilton Americas, Level Four, Lanier Grand Ballroom B

Upon completion of this session, participants should be able to: Identify the signs and symptoms of IgG4RD in patients presenting to allergists' clinics for evaluation; Discuss ordering and interpretation of the correct diagnostic testing; Describe the general principles of management including when to refer patients with IgG4RD.

Annual Meeting Seminars

Programmed by the AAAAI. Annual Meeting Seminars funded through an educational grant from Merck.

3006 Testing for Primary Immunodeficiency Disorders on the Newborn Screen: Where Are We in 2015?

Kimberly A. Risma, MD PhD FAAAAI
Christine M. Seroogy, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom C

Upon completion of this session, participants should be able to: Discuss and review the technique used to test for SCID on the newborn screen; Describe the results that have been found in the states currently testing and the protocols being used for follow-up of an abnormal screening; Discuss the possibility of adding other tests for primary immunodeficiency disorders to the newborn screening.

3007 Review and Discussion of the Environmental Practice Parameter on Fungi

Sachin N. Baxi, MD
Jay M. Portnoy, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom D

Upon completion of this session, participants should be able to: Discuss the summary recommendations of the practice parameter; Discuss where the parameter calls for alterations in allergy practice.

3008 Biomass Smoke: Rural and Urban Air Pollution and Health

Patricia Mason Fritz
Andrew J. Ghio, MD
Hilton Americas, Level Four, Lanier Grand Ballroom E

Upon completion of this session, participants should be able to: Discuss the emergence of a potentially significant source of community or neighborhood air pollution; Discuss and understand the continuum and coherence of health effects from exposure to combustion emissions; Describe and consider the role of ambient air pollution on the health of non-urban populations.

3009 Novel Therapies in Urticaria and Angioedema

W. A. Carrock Sewell, MD PhD FAAAAI
David H. Dreyfus, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom F

Upon completion of this session, participants should be able to: Discuss indications for novel therapies for urticaria and angioedema; Discuss principles of off-label use of therapy for urticaria and angioedema; Describe case-based indications for testing and analysis of tests for urticaria and angioedema.

3010 A Successful Approach to Food Allergy Diagnostic Dilemmas

Kirsi M. Jarvinen-Seppo, MD PhD FAAAAI
Jonathan M. Spergel, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom G

Upon completion of this session, participants should be able to: Identify and understand how to progress the diet for a child with food protein induced enterocolitis; Discuss and manage evaluation of a child who may have resolved a peanut allergy; Discuss management of a patient avoiding foods after an unnecessary allergy screen.

3011 Decreasing Health Disparities in Asthma: Can Technology Make a Difference?

Alan P. Baptist, MD MPH FAAAAI
Christine L.M. Joseph, PhD
Hilton Americas, Level Four, Lanier Grand Ballroom H

Upon completion of this session, participants should be able to: Describe reasons why healthcare disparities exist; Discuss how the use of web-based and smartphone technology can be used to decrease these disparities; Discuss the challenges and potential pitfalls of using technology in the treatment of asthma.

3012 Innovative Strategies to Improve Patient Adherence to Treatment

Bruce G. Bender, PhD FAAAAI
Andrew G. Weinstein, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom I

Upon completion of this session, participants should be able to: Discuss how to use motivational interviewing to assess and improve a patient's readiness and confidence to accept treatment recommendations; Discuss the methods technology provides to reach patients in underserved populations; Discuss technological tools for monitoring allergy and asthma treatment adherence.

3013 Unresolved Issues Regarding the Safety of Subcutaneous and Sublingual Allergen Immunotherapy

Christopher W. Calabria, MD
Tolly Epstein, MD MS
Hilton Americas, Level Four, Lanier Grand Ballroom J

Upon completion of this session, participants should be able to: Discuss and critically assess recent literature regarding the safety of various dosing regimens for subcutaneous immunotherapy; Describe predictors of poor safety outcomes for asthmatic patients prescribed subcutaneous allergen immunotherapy; Identify potential risk factors for poor safety outcomes for patients receiving sublingual allergen immunotherapy.

3014 Diagnosis: Phenotyping and Treatment Options for Local Allergic Rhinitis

Stephen R. Durham, MD MA
Carmen Rondon, MD PhD
Hilton Americas, Level Four, Lanier Grand Ballroom K

Upon completion of this session, participants should be able to: Discuss the pathophysiology of local allergic rhinitis; Discuss the diagnostic challenges in local allergic rhinitis; Discuss the treatment options in local allergic rhinitis.

3015 Biomarkers and Asthma: Making Sense of it All

Gerald J. Gleich, MD FAAAAI
Sally E. Wenzel, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom L

Upon completion of this session, participants should be able to: Discuss if there is a cell-specific marker that can serve as a biomarker; Identify how the biomarker defines the disease; Describe how the novel biomarker is comparable with the present biomarkers.

3016 Non-IgE-Mediated Food Allergies

Jean-Christoph Caubet, MD
Anna H. Nowak-Wegrzyn, MD FAAAAI
Hilton Americas, Level Three, Room 343 AB

Upon completion of this session, participants should be able to: Discuss the utility of feeding history, skin prick, serum-specific IgE testing and oral food challenge in diagnosing complex patients with possible GI food allergies; Discuss a variety of patient cases posing diagnostic dilemmas in non-IgE food allergy.

Allied Health Seminars TICKET

7:00 to 8:00 am
Pre-registration and ticket required. No fee. Sessions are limited to 30 people.
Credit: 1.00 CME / 1.20 CE

3041 Difficult Cases in Infusion Medicine: Case Discussions

Kristin Epland, NP
M. Elizabeth M. Younger, CRNP PhD
Convention Center, Level Three, Room 350 A

Upon completion of this session, participants should be able to identify and develop individualized plans for immune replacement therapy.

3042 FPIES: Dietary Pitfalls and Practical Management

Rosan Meyer, PhD RD
Carina Venter, PhD RD
Convention Center, Level Three, Room 350 B

Upon completion of this session, participants should be able to: Describe the main foods involved in FPIES; Identify ways in which the diet can be manipulated to ensure nutritional adequacy; Identify how to achieve a balance between dietary management and quality of life for the patient and their family.

3043 Tips on Conducting Oral Food Challenges in Clinic

Amanda Troger, BSN RN
Cindy Nguyen, MD FAAAAI
Convention Center, Level Three, Room 350 C

Upon completion of this session, participants should be able to: Describe criteria for qualification for an oral food challenge; Describe portion size of food to be challenged as per Children's National Medical Center protocol; Discuss practical aspects of performing an oral food challenge.

3044 Pharmacology of HAE Treatment Options

Beth A. Allison, NP
James W. Baker, MD FAAAAI
Convention Center, Level Three, Room 352 A

Upon completion of this session, participants should be able to: Describe the pathophysiology and burden of illness of HAE; Describe on-demand and prophylactic therapies for HAE; Describe a comprehensive treatment plan for HAE.

Plenary V

3101 Urticaria: A Non-Allergic Disorder Treated as an Allergic Disorder

8:15 to 9:45 am
Convention Center, Level Three, Exhibit Hall B3
Credit: 1.50 CME / 1.80 CE
Moderator: Jonathan A. Bernstein, MD FAAAAI

8:15 **Urticaria: Varied Presentations and Clinical Trajectories**
Stephen C. Dreskin, MD PhD FAAAAI

8:45 **Urticaria: Novel Mechanisms**
Sarbjit S. Saini, MD FAAAAI

9:15 **Managing Urticaria: New Guidelines and Beyond**
Marcus Maurer, MD

Upon completion of this session, participants should be able to: Discuss the urticaria guidelines; Identify and utilize the treatments appropriately, including anti-IgE; Identify the mechanisms of urticaria.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

Posters

9:45 to 10:45 am
Convention Center, Level Three, Exhibit Hall A3
Credit: No CME / No CE
Refer to pages 84 – 158 for abstracts and authors.

3201 Severe Asthma and Asthma Phenotypes
3202 Epidemiology and Asthma Ancestry
3203 B-Cells, Humoral Deficiencies and IVIG
3204 Basic and Translational Research in Immunology
3205 Aerobiology: Climate Change and Novel Allergens
3206 Asthma: Viral Infections, Cigarette Smoke and Vitamin D
3207 Drug Allergy
3208 Urticaria
3209 Other HEDQ Topics
3210 Food Allergy from a HEDQ Perspective
3211 IRSOC Epidemiology and Patient-Related Issues
3212 Peptide and Epicutaneous Immunotherapy
3213 Cytokines and the Mechanisms of Disease
3214 Mechanisms of Innate Immunity and Viral Infections

Symposia

3301 Entering the Yellow Zone: Management of Early Loss of Asthma Control V

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom A
Credit: 1.25 CME / 1.50 CE
Moderator: Stephen A. Tilles, MD FAAAAI
This session requires pre-meeting reading, downloadable January 30th from the handout site.

10:45 **Evidence and Indications for Consideration of On Demand Therapy**
John Oppenheimer, MD FAAAAI

11:05 **Defining the Acute Loss of Asthma Control**
Chitra Dinakar, MD FAAAAI

11:25 **Using the Yellow Zone Practice Parameter to Escalate Therapy**
Leonard B. Bacharier, MD FAAAAI

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the acute loss of asthma control; Describe new recommendations for escalation of therapy highlighted within the Yellow Zone Practice Parameter; Discuss the evidence and indications for consideration of on demand therapy with inhaled corticosteroids and inhaled corticosteroid/long acting beta agonist combination agents.

3302 EAACI: Bringing Molecular Diagnosis and Treatment Closer to the Bedside: European Trials V

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom B
Credit: 1.25 CME / 1.50 CE
Moderators: Nikolaos G. Papadopoulos, MD FAAAAI, EAACI President
Maria Antonella Muraro, MD PhD, EAACI Secretary General and President Elect

10:45 **Immunotherapy with Modified Molecular Components: The Experience of FAST**
Lars K. Poulsen, PhD FAAAAI

11:05 **Evaluating the Role of Rhinovirus Using a Peptide Chip: Developments from PREDICTA**
Rudolf Valenta, MD

11:25 **Component Resolved Diagnosis of Food Allergy: Results from EUROPREVALL**
Ronald Van Ree, PhD FAAAAI

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Recognize and discuss the advances in the use of modified allergens for immunotherapy; Describe the potential of and use for a chip measuring rhinovirus exposure in relation to respiratory allergy activity and exacerbations; Identify the usefulness of molecular components for food allergy diagnosis.

3303 Atopic Dermatitis in Children and Adults: From Bench to Bedside

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom C
Credit: 1.25 CME / 1.50 CE
Moderator: Kirsi M. Jarvinen-Seppo, MD PhD FAAAAI
This session will use interactive learning strategies.

10:45 **The Pathogenesis of Atopic Dermatitis: Immune Responses to Allergens in the Skin**
Michiko K. Oyoshi, PhD MSc FAAAAI

11:05 **Question & Answer**

11:10 **Atopic Dermatitis in Children: Managing the Patient with Refractory Disease**
Donald Y.M. Leung, MD PhD FAAAAI

11:30 **Question & Answer**

11:35 **Atopic Dermatitis in Adults: Pathophysiology and Emerging Treatments**
Emma Guttman-Yassky, MD PhD

11:55 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the pathogenesis of atopic dermatitis and the role of allergens in modifying the immune response; Describe diagnosis and management of atopic dermatitis in children, including difficult-to-treat disease due to food allergy and other factors impacting treatment; Describe the features of atopic dermatitis in adults, including pathogenesis and unique treatment challenges.

3304 State-of-the-Art: Update from the AADCRC Food Allergy Research Centers

10:45 am to 12:00 pm
Convention Center, Level Three, General Assembly Theater B
Credit: 1.25 CME / 1.50 CE
Moderator: Xiu-Min Li, MD MS

10:45 **Mechanistic Studies in T Cells During Food Allergen Immunotherapy**
Erik R. Wambre, PhD MBE

11:05 **Profiling the Human Egg-Allergic Immune Response**
Cecilia Berin, PhD

11:25 **Surrogates of Persistent Tolerance Among the T and B Lymphocyte Antigen-Specific Responses During Peanut Oral Immunotherapy**
Wayne G. Shreffler, MD PhD FAAAAI

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the goals and limitations of correlative studies in the context of interventional trials and how identification of biomarkers may advance our understanding and eventual practice of immunomodulatory interventions for peanut and other food allergies; Discuss the current paradigms of tolerance and oral tolerance induction in the context of food allergy and immunotherapy; Discuss the current state of translational research on mechanisms of immune tolerance induction.

3305 Recurrent Fevers: What the Allergist Needs to Know About Autoinflammation

10:45 am to 12:00 pm
Convention Center, Level Three, Room 310
Credit: 1.25 CME / 1.50 CE
Moderator: Hirsh D. Komarow, MD

10:45 **Basics of Inflammasome Biology**
Suzanne L. Cassel, MD

11:05 **Autoinflammatory Diseases: Old and New**
Hal M. Hoffman, MD FAAAAI

11:25 **Evaluation of Recurrent Fevers in Children: It's Not All Immunodeficiency**
Lori Broderick, MD PhD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the role of the allergist/immunologist in diagnosing autoinflammatory disorders; Identify differences in the presentation and pathophysiology of common adult and pediatric autoinflammatory diseases; Discuss the advances being made in the identification and treatment of patients with autoinflammatory diseases.

3306 Comparative and Implementation Research in the Management of Asthma: The Wave of the Future

10:45 am to 12:00 pm
Convention Center, Level Three, Room 320
Credit: 1.25 CME / 1.50 CE
Moderator: Giselle Mosnaim, MD MS FAAAAI

10:45 **Health Disparities and Patient-Centered Outcomes in Asthma**
Sandra R. Wilson, PhD

11:05 **Pragmatic Clinical Trials: Promises and Pitfalls**
Michael Schatz, MD MS FAAAAI

11:25 **Partnering with Local Government to Improve Public Health Using Comparative Effectiveness Research**
Jerry A. Krishnan, MD PhD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of comparative effectiveness research in asthma research; Identify methodologies for conducting comparative effectiveness research; Describe new areas for comparative effectiveness research in asthma.

3307 The ABCs of Rhinovirus Infections and Asthma

10:45 to 12:00 pm
Convention Center, Level Three, Room 332
Credit: 1.25 CME / 1.50 CE
Moderator: Joshua L. Kennedy, MD

10:45 **Unique Attributes of Rhinoviral Species**
James E. Gern, MD FAAAAI

11:05 **Determinants of Rhinovirus Disease Severity**
Kirsten Kloepfer, MD MS

11:25 **New Insights into Antiviral Approaches**
Michael J. Holtzman, MD FAAAAI

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of innate and adaptive immunity in causing airway hyper-responsiveness during rhinovirus-associated asthma exacerbations; Describe the three species of rhinoviruses and the determinants of illness severity with rhinovirus infections; Describe the progress in the development of antivirals that can be used to treat or prevent virus-induced exacerbations of asthma.

3308 Eosinophils and Immunopathology

10:45 am to 12:00 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderator: Roma Sehmi, PhD FAAAAI

10:45 **Molecular Pathways Leading to Eosinophil Cytolysis**
Hans-Uwe Simon, MD PhD FAAAAI

11:05 **Eosinophil Cytolysis and Extracellular DNA Trap Formation**
Peter F. Weller, MD FAAAAI

11:25 **Eosinophils and Airway Remodeling: New Insights**
Steven J. Ackerman, PhD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of pathologic eosinophil cell death in eosinophilic diseases; Describe and discuss the power of clinical investigations as an in vivo approach to understanding eosinophil biology; Discuss the beneficial and detrimental roles of remodeling events in eosinophilic diseases.

Allied Health Symposia

3311 Update on Experience Performing Baked Egg and Baked Milk Food Challenges

10:45 am to 12:00 pm
Hilton Americas, Level Two, Ballroom of the Americas A
Credit: 1.25 CME / 1.50 CE
Moderator: Maria G. Crain, CPNP AE-C

10:45 **Teri Holbrook, RN CRNP**
11:00 **Elisabeth S. Stieb, RN BSN AE-C**
11:15 **Maria G. Crain, CPNP AE-C**
11:30 **Humaira Robinson, BSN RN**
11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Identify which children can be considered for a food challenge to baked milk and baked egg; Describe the appropriate protocol to use in your practice to conduct a baked milk and baked egg food challenge; Discuss how children who pass a baked milk and baked egg food challenge can increase the foods in their diets.

3312 Holistic Approach to Managing FPIES and Non-IgE-Mediated Food Allergies

10:45 am to 12:00 pm
Hilton Americas, Level Two, Ballroom of the Americas B
Credit: 1.25 CME / 1.50 CE
Moderator: Matthew J. Greenhawt, MD MBA MSc

10:45 **Medical Management of FPIES and Allergic Proctocolitis**
Stephanie A. Leonard, MD
11:05 **Nutritional Management**
Marion E. Groetch, MS RD
11:25 **Psychological Aspects of FPIES and the Needs of the Affected Families**
Fallon Schultz, MSW LCSW
11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe manifestations, diagnosis and management of the allergic proctocolitis, food protein-induced enterocolitis syndrome (FPIES), and food protein-induced enteropathy; Discuss the nutritional management issues of FPIES; Describe the psychological and social impact of FPIES on the affected families and also present the parent perspective.

3313 WhatsApp? The State of Mobile Asthma Self-Management Technology

10:45 am to 12:00 pm
Hilton Americas, Level Two, Ballroom of the Americas C
Credit: 1.25 CME / 1.50 CE
Moderator: Jeanette L. Arnold, MSN RN C-FNP

10:45 **What Technology is Available for Our Patients Now?**
Maureen George, PhD RN AE-C
11:15 **Can New Technology Help Us to Address Our Patients' Needs?**
Nina A. Zimmermann, MSN RN ANP-BC AE-C
11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Identify and recommend technology to improve asthma self-management; Describe the use of health games to educate patients and family members; Discuss new information about the development of new technology to address patient needs in asthma.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

Interest Section Forums

3521 ADT: Frontiers in Obstructive Airway Therapies

12:30 to 2:30 pm
Convention Center, Level Three, Grand Ballroom A
Pre-registration and ticket required for boxed lunch. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Timothy J. Craig, DO FAAAAI
This session will use interactive learning strategies.

12:30 **Lunch**
12:35 **Business Meeting**
Timothy J. Craig, DO FAAAAI
1:05 **Question & Answer**
1:15 **Monoclonal Therapy in Asthma: Summary of Recent Data and Potential Future Use**
Elliot Israel, MD FAAAAI
1:35 **Question & Answer**
1:40 **Summary of Newer Approved Therapies (LAMA and Once Daily LABA) for COPD and Potential Use in Asthma**
Reynold A. Panettieri, MD
2:00 **Question & Answer**
2:05 **Searching for Alpha-1 Deficiency in Asthma and Update on the Benefit of Augmentation in Alpha-1 Deficiency**
Charlie Strange III, MD
2:25 **Question & Answer**

Upon completion of this session, participants should be able to: Describe recent advances in monoclonal therapies in development and how they may affect asthma care; Summarize newer therapies recently approved by the FDA for obstructive lung disease and their potential use in asthma; Demonstrate improved identification of alpha-1 antitrypsin deficiency and review the recent advances in replacement therapy for the deficiency.

3522 BCI: Autoimmunity 2015

12:30 to 2:30 pm
Convention Center, Level Three, Room 370
Pre-registration and ticket required for boxed lunch. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Francisco A. Bonilla, MD PhD FAAAAI

12:30 **Lunch**
12:35 **Business Meeting**
Francisco A. Bonilla, MD PhD FAAAAI
1:05 **Question & Answer**
1:15 **Breaking Bad in the Immune System: Loss of Tolerance**
Maria Grazia Roncarolo, MD
1:45 **Unwanted Immunogenicity in Biopharmaceutical Therapy of Autoimmune Diseases**
Bonita Rup, PhD
2:15 **Question & Answer**

Upon completion of this session, participants should be able to: Review the current state of knowledge regarding mechanisms of establishment and maintenance of tolerance and how they are broken in autoimmune diseases; Idenitfy biologic therapies available for autoimmune disease; Describe indications and contraindications for biologic therapies and monitoring during management.

3523 EORD: Where Asthma and Contact Dermatitis Collide: Case Presentations with New and Common Allergens

12:30 to 2:30 pm
Convention Center, Level Three, Room 320
Pre-registration and ticket required for boxed lunch. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Jeffrey G. Demain, MD FAAAAI
This session will use interactive learning strategies.

12:30 **Lunch**
12:35 **Business Meeting**
Karin A. Pacheco, MD MSPH FAAAAI
1:05 **Question & Answer**
1:15 **Cleaning Chemicals: Irritants and Sensitizers**
Santiago Quirce, MD PhD
1:45 **Health Care Workers in Dentistry and Radiology**
George L. Delclos, MD MPH PhD
2:15 **Question & Answer**

Upon completion of this session, participants should be able to: Recognize common exposures in environmental and occupational settings that can trigger both asthma and contact dermatitis; Distinguish methods of identifying the causative agent and making the diagnosis; Determine best practices for managing exposures and treating disease.

3524 FADDA: New Developments in Food Allergy and Eosinophilic Esophagitis

12:30 to 2:30 pm
Convention Center, Level Three, Grand Ballroom C
Pre-registration and ticket required for boxed lunch. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: David A. Khan, MD FAAAAI
This session will use interactive learning strategies.

12:30 **Lunch**
12:35 **Business Meeting**
David A. Khan, MD FAAAAI
1:05 **Question & Answer**
1:15 **What Have We Learned About Oral Immunotherapy for Food Allergy and What's Next?**
Hugh A. Sampson, MD FAAAAI
1:45 **New Diagnostic Tools for Diagnosis and Monitoring of Eosinophilic Esophagitis**
Marc E. Rothenberg, MD PhD FAAAAI
2:15 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the future directions in therapy for food allergy; Review advances in future modalities for diagnosis and monitoring of eosinophilic esophagitis.

3525 HEDQ: Gaps in the Asthma Guidelines: What Are the Most Important Questions to be Answered in Asthma Research and Practice Today?

12:30 to 2:30 pm
Convention Center, Level Three, Room 371
Pre-registration and ticket required for boxed lunch. No fee.
Credit: 1.25 CME / 1.50 CE
Moderators: James P. Kiley, PhD
Michael Schatz, MD MS FAAAAI

12:30 **Lunch**
12:35 **Business Meeting**
Giselle Mosnaim, MD MS FAAAAI
1:05 **Question & Answer**
1:15 **Advances in Pediatric Basic Science, Clinical and Translational Asthma Research in the Past Seven Years**
Stanley J. Szefler, MD FAAAAI
1:45 **Advances in Adult Basic Science, Clinical and Translational Asthma Research in the Past Seven Years**
William W. Busse, MD FAAAAI
2:15 **Question & Answer**

Upon completion of this session, participants should be able to: Identify pediatric basic science, clinical, and translational asthma research advances in the past seven years; Identify adult basic science, clinical and translational asthma research advances in the past seven years; Discuss how to prioritize these research advances regarding updating the NHLBI NAEPP EPR3 asthma guidelines and their application in clinical practice.

3526 IRSOC: When and How to Apply Sublingua Immunotherapy: Learning from Everyday Cases

12:30 to 2:30 pm
Convention Center, Level Three, Grand Ballroom B
Pre-registration and ticket required for boxed lunch. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Désirée E.S. Larenas Linnemann, MD FAAAAI

12:30 **Lunch**
12:35 **Business Meeting**
Désirée E.S. Larenas Linnemann, MD FAAAAI
1:05 **Question & Answer**
1:15 **Allergic Rhinitis in the U.S.: Pitfalls and Solutions When Offering SLIT**
David P. Skoner, MD
1:45 **Using SLIT Beyond Tablets for Pollen Allergy**
Pascal M. Demoly, MD PhD
2:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how to select patients who might be candidates for sublingual immunotherapy as opposed to those who are not; Discuss practical aspects of sublingual immunotherapy; Discuss safety issues to consider when selecting patients for SLIT or SCIT.

3527 MAAI: Cutting Edge: Mechanisms of Asthma and Allergic Inflammation

12:30 to 2:30 pm
Convention Center, Level Three, Room 310
Pre-registration and ticket required for boxed lunch. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Mitchell H. Grayson, MD FAAAAI

12:30 **Lunch**

12:35 **Business Meeting**
Mitchell H. Grayson, MD FAAAAI

1:05 **Question & Answer**

1:15 **Is IgE Our Guardian Against Toxins?**
Stephen J. Galli, MD

1:45 **Barriers and Mucus: The Sticky Truth**
Christopher Evans, PhD

2:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how IgE against honeybee venom can be protective of venom-induced anaphylaxis; Describe how mucus plays an important role in the barrier function of the airway.

Oral Abstracts

3601 Biomarkers

2:45 to 4:00 pm
Convention Center, Level Three, Room 351
Credit: 1.25 CME / 1.50 CE
Moderators: Paula J. Busse, MD FAAAAI
Merritt L. Fajt, MD FAAAAI

2:45 **Exhaled Nitric Oxide Performance Compared to Methacholine Challenge in Pediatric Patients**
Andrew S. Nickels, MD

3:00 **Saliva-SP-D Is a Practical Marker to Identify the Peripheral Airway Inflammation**
Hiroki Murai, MD PhD
3:15 Hospital Admission Associated with Higher Total IgE Level in Pediatric Patients with Asthma
Michael G. Sherenian

3:30 **Polyunsaturated Lysophosphatidic Acid As a Potential Asthma Biomarker**
Steven J. Ackerman, PhD

3:45 **Serum Periostin Levels Correlates with Exercise-Induced Bronchoconstriction in Asthmatic Children**
Heysung Baek, MD PhD

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

3602 Immune Cell Signaling

2:45 to 4:00 pm
Convention Center, Level Three, Room 332
Credit: 1.25 CME / 1.50 CE
Moderators: Lisa R. Forbes, MD
Gulbu Uzel, MD

2:45 **Lipopolysaccharide-Responsive Beige-like Anchor Is Required for Both Activation and Deactivation of NFkB**
Jia-Wang Wang, PhD

3:00 **Convergence of Clinical and Cellular Phenotypes Among Patients with STAT3 and ERBB2IP Mutations**
Jonathan J. Lyons, MD

3:15 **Thymic Stromal Lymphopoietin Secretion As a Function of Genotype**
Claudia C.K. Hui, PhD

3:30 **Mycoplasma Pneumoniae Cards Toxin Regulates NLRP3 Inflammasome Activation**
Jesus A. Segovia Jr., PhD

3:45 **Fcγ-Fragment and IgG Monoclonal Antibody Polarization of Human Macrophages; A Novel Immunomodulatory Mechanism**
Ryan A. Steele, DO MS

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

3603 Infant and Maternal Microbiome and Allergen Exposures

2:45 to 4:00 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderators: Wanda Phipatanakul, MD MS FAAAAI
William J. Sheehan, MD

2:45 **Effects of Maternal Geohelminth Infections on the Risk of Allergy during the First 3 Years of Life: Findings from a Birth Cohort in Rural Ecuador**
Philip J. Cooper

3:00 **Relationship Between Domestic Mouse Allergen Exposure Assessed in Settled Dust and Mouse Specific IgE, IgG and IgG4 Antibodies in Asthmatic Children**
Alan Zhou

3:15 **Maternal and Birth Chracterestics Are Associated with Infant Gut Microbial Composition**
Christine Cole Johnson, PhD MPH FAAAAI

3:30 **The Infant Gut Microbiome Mediates the Association Between Breastfeeding and Allergic-like Response to Pets in Children**
Alexandra R. Sitarik, MS

3:45 **Environmental Estrogens Alter Signaling in Immune Cells That Promotes the Development of Childhood Asthma**
Terumi Midoro-Horiuti, MD PhD FAAAAI

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

3604 Peanut Oral Immunotherapy

2:45 to 4:00 pm
Convention Center, Level Three, General Assembly Theater B
Credit: 1.25 CME / 1.50 CE
Moderators: Lynda C. Schneider, MD FAAAAI
Amy M. Scurlock, MD

2:45 **High Rate of Sustained Unresponsiveness with Early-Intervention Peanut Oral Immunotherapy**
Brian P. Vickery, MD FAAAAI

3:00 **Peanut Sublingual Immunotherapy (SLIT) Results in Sustained Unresponsiveness in a Subset of Peanut Allergic Children**
Edwin H. Kim, MD MS

3:15 **Combined Probiotic and Peanut Oral Immunotherapy for the Treatment of Peanut Allergy: A Randomised Trial**
Mimi L. K. Tang, MD PhD FAAAAI

3:30 **Monitoring Major Peanut Allergen Levels in Foods and in Therapeutic Preparations Used for Oral Immunotherapy**
Denise Block

3:45 **Predictors of Elevated Rates of Adverse Events While on Peanut Oral Immunotherapy**
Yamini Virkud, MD MA MPH

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

3605 Asthma and Eczema

2:45 to 4:00 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderators: S. Andrea Pappalardo, MD
Marcus S. Shaker, MD FAAAAI

2:45 **Empowering Students with Asthma in Chicago Schools through Photovoice and Videovoice**
Jesse Blumenstock

3:00 **Taking Advantage of Smartphones and Cloud Computing to Decrease the Cost of Asthma**
Richard W. Lucas, PhD

3:15 **Gestational Asthma and Eczema: A New Reality?**
Subashini Rajagopalan

3:30 **Evidence for Harm Reversal in Asthmatic Smokers Who Switched to Regular Electronic Cigarettes Use**
Pasquale Caponnetto

3:45 **Identifying CpG Sites Associated with Eczema Via Random Forest Screening of Epigenome-Wide DNA Methylation**
Bilal M. Quraishi

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

3606 Peptide and Epicutaneous Immunotherapy

2:45 to 4:00 pm
Convention Center, Level Three, Room 362
Credit: 1.25 CME / 1.50 CE
Moderators: Désirée E.S. Larenas Linnemann, MD FAAAAI
Matthew A. Rank, MD FAAAAI

2:45 **Ara h 1 Peptide Immunotherapy Ameliorates Peanut-Induced Anaphylaxis**
Elizabeth Simms, MSc

3:00 **Persistent Treatment Effect with Grass Synthetic Peptide Immuno-Regulatory Epitopes in Grass Allergy Symptoms in an Environmental Exposure Unit Challenge after a Second Season of Natural Pollen Exposure**
Anne K. Ellis, MD MSc FAAAAI

3:15 **Larger and Stronger Expression of Tregs Gut Homing Receptors with Epicutaneous Than with Sublingual or Oral Immunotherapy**
Vincent Dioszeghy, PhD

3:30 **Immunogenicity Evaluation of Subcutaneous Administration of Peptide Hydrolysate from Lolium Perenne (gpASIT+™) in Combination with Bacterial HSP70 (DnaK) in Patients with Seasonal Allergic Rhinitis: A Double Blind Placebo Controlled Trial**
Mohamed H. Shamji, BSc MSc PhD FAAAAI

3:45 **The Evaluation of Efficacy and Adverse Effect in Intralymphatic Allergen-Specific Immunotherapy Against House Dust Mite, Cat, and Dog Allergens in Allergic Rhinitis**
Sang Min Lee, MD PhD

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

3607 Mechanisms of Atopic Diseases: Eosinophils

2:45 to 4:00 pm
Convention Center, Level Three, Room 372
Credit: 1.25 CME / 1.50 CE
Moderators: Paige Lacy, PhD FAAAAI
Sameer K. Mathur, MD PhD FAAAAI

2:45 **IL-18 Is Induced in Food Allergic Eosinophilic Esophagitis (EoE) Patients and Its Overexpression Promotes Disease Pathogenesis in Mice**
Sathisha Upparahalli Venkateshaiah, PhD

3:00 **H-PGD Synthase (H-PGDS) Gene Expression Increases in Eosinophils of Aspirin Exacerbated Respiratory Disease (AERD) Patients after Oral Graded Aspirin Challenge**
Elina Jerschow, MD MSc

3:15 **Development of a Novel Peptide Nanoparticle Inhibitor for Human CCR3/Eotaxin-Mediated Eosinophil Migration**
Kimberly G. Laffey, BSc

3:30 **IL-33 Induces Cytokine Production By Lineage-Committed Myeloid Progenitors and Positively Regulates Eosinophil Hematopoiesis in IL-5-Dependent Manner**
Hirofumi Tsuzuki

3:45 **Global Expression and Epigenetic Analyses of Eosinophil Development Reveal Potential Novel Regulators**
Carine Bouffi, PhD

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

Allied Health Symposium

3611 Preparing Data for Publication: From Collection to Analysis

2:45 to 4:00 pm
Hilton Americas, Level Two, Ballroom of the Americas A
Credit: 1.25 CME / 1.50 CE
Moderator: Kim E. Mudd, RN MSN CCRP

2:45 **Collection and Review of Research Data**
Jean Curtin-Brosnan, MA

3:05 **Finding and Correcting Issues Before Problems Compile**
Patrick J. Lenehan

3:25 **Data Analysis and the Effect of Outliers and Influencers**
Charles Aloe, MPH

3:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss strategies for collecting and reviewing data for best integrity; Describe the process of preparing data for analysis by looking for issues in the data stream and correcting both the source of as well as the problem itself; Discuss how amendments in the data can alter analytical results.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

Featured Poster Session and Reception

4:00 to 6:00 pm
Convention Center, Level Three, Grand Ballroom Pre-Function Area
All Annual Meeting delegates and their guests are invited to attend this event. No fee and no pre-registration required.
Credit: No CME / No 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 **Best of ADT**

3802 **Emerging Therapies and Insights for Clinical Allergy and Immunology**

3803 **Allergens and Pollutants in Childhood and Adult Asthma**

3804 **Exciting Research from FADDA**

3805 **Best of HEDQ**

3806 **Some of the Very Best of IRSOC**

3807 **The Best of the Best: MAAI Featured Poster Session**

3811 **Allied Health Featured Poster Session**

Seminars

7:00 to 8:00 am
Pre-registration and ticket required. Fee: $40. Continental breakfast included. Sessions and meals are limited to 30 people.
Credit: 1.00 CME / 1.20 CE

4001 Obesity, Chronic Inflammation and Exercise in Health and Disease

Richard J. Simpson, PhD
Daniel F. Soteres, MD FAAAAI
Hilton Americas, Level Three, Room 335 AB

Upon completion of this session, participants should be able to: Discuss the inflammatory cascade caused by obesity; Discuss how exercise can improve chronic inflammation to promote health and prevent disease.

4002 Novel Approaches for Smoking Cessation and Tobacco Harm Reduction

Riccardo Polosa, MD PhD FAAAAI
Mark F. Sands, MD FAAAAI
Hilton Americas, Level Three, Room 336

Upon completion of this session, participants should be able to: Discuss harm caused by cigarette smoking in atopic/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.

4003 Use of Flow Cytometry in the Work-Up for Primary Immunodeficiency Diseases

Roshini S. Abraham, PhD FAAAAI
John M. Routes, MD FAAAAI
Hilton Americas, Level Three, Room 337

Upon completion of this session, participants should be able to: Discuss and review the technique used to perform flow cytometry; Discuss traditional uses of flow cytometry in the work up for primary immunodeficiency diseases; Discuss novel testing done for Primary Immunodeficiency Diseases using flow cytometry.

4004 The Use of Social Media in Allergy Practice

Priya J. Bansal, MD FAAAAI
David R. Stukus, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom A

Upon completion of this session, participants should be able to: Discuss how social media can be used to improve practice marketing and patient communication; Discuss the potential problems posed by using social media in clinical practice; Describe a plan for implementing a social media strategy.

4005 Exercise-Induced Anaphylaxis: Food-Dependent and Independent

Anna M. Feldweg, MD
Mario Geller, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom B

Upon completion of this session, participants should be able to: Discuss how to diagnose the different modalities of exercise-induced anaphylaxis; Identify how to investigate the possible role of foods and drugs in the pathogenesis of exercise-induced anaphylaxis; Describe how to best manage patients with exercise-induced anaphylaxis using the recently acquired immunological data.

Annual Meeting Seminars

Programmed by the AAAAI. Annual Meeting Seminars funded through an educational grant from Merck.

4006 The Multidisciplinary Approach to Patients with Refractory Atopic Dermatitis

Peter A. Lio, MD
Anne Marie Singh, MD
Hilton Americas, Level Four, Lanier Grand Ballroom C

Upon completion of this session, participants should be able to: Discuss and differentiate non-immunologic and immunologic triggers of atopic dermatitis; Discuss and develop strategies for allergist and dermatologist co-management of these patients; Describe appropriate domains for allergists and dermatologists when co-managing patients.

4007 Proactive Management of Food Allergies in Schools

Alton Lee Melton, Jr. MD
Michael C. Young, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom D

Upon completion of this session, participants should be able to: Identify activities and situations in the school environment that place allergic students at risk for accidental food allergen exposures; Discuss recommendations for schools and parents regarding best practices for treating allergic reactions when they do occur; Discuss challenging issues that affect the potential success of a proactive school food allergy management plan, such as separation, bullying and attitudes of staff and other students.

4008 Urbanization and Pollution Effects on Outdoor Allergens

Charles S. Barnes, PhD
David Diaz Sanchez, PhD
Hilton Americas, Level Four, Lanier Grand Ballroom E

Upon completion of this session, participants should be able to: Describe the interaction of pollution and historic allergens; Describe evidence that environmental interactions can affect immune responses to common allergens.

4009 Poor Adherence is a Problem in SLIT

Désirée E.S. Larenas Linnemann, MD FAAAAI
Ralph Mosges, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom F

Upon completion of this session, participants should be able to: Identify the challenges in patients' adherence with SLIT; Discuss the data for adherence and compliance with SLIT; Discuss methods to improve adherence and compliance with SLIT.

4010 Starting a Center of Excellence: The Cough Center Experience

Mandel R. Sher, MD FAAAAI
William W. Storms, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom G

Upon completion of this session, participants should be able to: Discuss the approach to developing a clinical center of excellence in an established clinical allergy practice; Discuss the diagnostic and therapeutic approach to chronic cough.

4011 Targeting Therapy at the Mast Cell Compartment

Cem Akin, MD PhD FAAAAI
Dean D. Metcalfe, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom H

Upon completion of this session, participants should be able to: Identify what therapeutic approaches directly target the mast cell; Discuss the requirements for a mast cell-specific therapy; Identify potential consequences of limiting human mast cell function.

4012 Respiratory Viruses and Asthma: Not Enough Interferon or Too Much Inflammation?

Mitchell H. Grayson, MD FAAAAI
Eva Kathryn Miller, MD
Hilton Americas, Level Four, Lanier Grand Ballroom I

Upon completion of this session, participants should be able to: Discuss the extent to which airway structural cells, migratory leukocytes and humoral immunity contribute to host defense against common respiratory viruses; Describe the influence of allergic disorders on anti-viral host defense; Discuss current controversies around the relative contributions of viral load and immune dysfunction to virus-induced asthma exacerbations.

4013 What Epidemiologic Research Teaches Us About Chronic Rhinosinusitis

Jayant M. Pinto, MD
Bruce K. Tan, MD
Hilton Americas, Level Four, Lanier Grand Ballroom J

Upon completion of this session, participants should be able to: Discuss the overall disease burden of chronic rhinosinusitis; Identify epidemiologic factors associated with the development of chronic rhinosinusitis; Discuss associated conditions that develop following diagnosis of chronic rhinosinusitis.

4014 Immunosenescence and Asthma: Understanding Pathophysiology of Geriatric Asthma

Paula J. Busse, MD FAAAAI
Sameer K. Mathur, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom K

Upon completion of this session, participants should be able to: Discuss the aging process and the immune system; Identify and review the respiratory system and the role of allergy; Discuss the clinical diagnosis and management of geriatric asthma.

4015 So! How Clean Should Your Home Be?

Homer A. Boushey, Jr. MD FAAAAI
Elizabeth C. Matsui, MD MHS
Hilton Americas, Level Four, Lanier Grand Ballroom L

Upon completion of this session, participants should be able to: Discuss recent literature on the hygiene hypothesis; Discuss practical implications for allergen exposure and the development of asthma.

Annual Meeting Allied Health Sessions

Programmed by the AAAAI. Annual Meeting Allied Health Sessions funded through an educational grant from AstraZeneca.

Allied Health Course

4051 The International Network for Diet and Nutrition in Allergy (INDANA): Advanced Practice Course: Nutritional and Dietary Aspects of Food Allergy Across the Ages

8:00 am to 2:15 pm
Hilton Americas, Level Two, Ballroom of the Americas A
Pre-registration and ticket required. Fee: $30.
Credit: 5.00 CME / 6.00 CE
Moderator: G. Lynn Christie, MS RD

8:00 **Nutrition and Allergy: The Importance of a Healthy Diet**
Kathryn E. Grimshaw, PhD RD

8:40 **Non-IgE-Mediated Conditions in Children**
Marion E. Groetch, MS RD

9:20 **Adverse Reactions to Foods in Adults**
Isabel J. Skypala, PhD RD

10:00 **Break**

10:20 **Dietary Assessment: Practical Approaches to Establishing Nutritional Support**
April Clark, RD CSP LD

11:05 **Beyond the Diet Sheets: What to Feed the Food-Allergic Individual**
Jamie L. Kabourek, MS RD

11:50 **Lunch Break (Lunch: On your own)**

12:50 **How to Wean the Atopic Infant and the Infant with Established Food Allergy**
Carina Venter, PhD RD

1:25 **Taking an Allergy-Focused Dietary History**
Isabel J. Skypala, PhD RD

2:10 **Summary and Wrap-Up**

Upon completion of this session, participants should be able to: Describe the most recent research relating to the nutritional and dietary aspects of food allergy in children and adults; Identify how to develop practical approaches to the diagnosis and management of food allergy in all ages; Discuss how to individualize treatment for patients, to ensure patients of all ages achieve dietary goals while managing their food allergy.

Plenary

4101 Severe Asthma: From Bench to Guidelines

8:15 to 9:45 am
Convention Center, Level Three, Exhibit Hall B3
Credit: 1.50 CME / 1.80 CE
Moderator: Timothy J. Craig, DO FAAAAI

8:15 **Underlying Mechanisms of Severe Asthma**
Serpil C. Erzurum, MD

8:45 **Utilization of Present Therapies Based Upon Biomarkers, Phenotypes and Endotypes**
Stanley J. Szefler, MD FAAAAI

9:15 **Guideline Recommendations and Emerging Treatments for Severe Asthma**
Mario Castro, MD MPH

Upon completion of this session, participants should be able to: Discuss the pathogenesis of severe asthma; Identify the phenotypes and endotypes associated with severe asthma; Discuss new guideline recommendations and emerging therapies for severe asthma.

Posters

9:45 to 10:45 am
Convention Center, Level Three, Exhibit Hall A3
Credit: No CME / No CE
Refer to pages 84 – 158 for abstracts and authors.

4201 Asthma: Biomarkers and Controls
4202 Lung Function, Asthma Mechanisms and Inflammation
4203 Immunology Cases and Case Series
4204 Expression Quantification and Structure of Allergens
4205 Patterns of Sensitization Across the Globe
4206 HAE and Angioedema
4207 Anaphylaxis and Insect Hypersensitivity
4208 Subcutaneous Immunotherapy
4209 Rhinitis
4210 Eosinophils in the Mechanisms of Disease
4211 Mechanisms of T Cells and Signaling in Disease

Symposia

4301 World Allergy Forum: The Skin as Barrier in Atopic Dermatitis: Co-Morbid Factors

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom A
Credit: 1.25 CME / 1.50 CE
Moderators: James T. Li, MD PhD FAAAAI
Lanny J. Rosenwasser, MD FAAAAI

10:45 **Early Skin Barriers: Gateway to Systemic Disease**
Kathleen C. Barnes, PhD FAAAAI

11:05 **Atopic Dermatitis and its Co-Morbidities**
Johannes Ring, MD PhD FAAAAI

11:25 **Novel Therapies for Atopic Dermatitis**
Donald Y.M. Leung, MD PhD FAAAAI

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe skin barrier functions and its role in disease; Discuss the natural history and co-morbidities of atopic dermatitis; Discuss novel therapies for atopic dermatitis.

4302 Innate Immunity in Food Allergy: Lessons Learned From Eosinophilic Esophagitis

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom C
Credit: 1.25 CME / 1.50 CE
Moderator: Jonathan M. Spergel, MD PhD FAAAAI

10:45 **How the Esophageal Epithelial Cells Shape the Immune Response in Eosinophilic Esophagitis**
Marc E. Rothenberg, MD PhD FAAAAI

11:05 **Basophil: A Rare Cell Type with a Major Role in Eosinophilic Esophagitis Pathogenesis**
Mark C. Siracusa, PhD

11:25 **Invariant Natural Killer Cells and Lipid Antigens in Eosinophilic Esophagitis**
Antonella Cianferoni, MD PhD FAAAAI

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of esophageal epithelial cells in modifying immunologic responses in EoE; Discuss the importance of basophils in the pathogenesis of EoE; Discuss the current understanding of invariant NK cells in disease manifestations and immune responses in EoE.

4303 NHLBI's Clinical Asthma Research Network's (AsthmaNet) Update on Answers to Key Asthma Questions

10:45 am to 12:00 pm
Convention Center, Level Three, General Assembly Theater B
Credit: 1.25 CME / 1.50 CE
Moderators: William W. Busse, MD FAAAAI
James P. Kiley, PhD

This session will use interactive learning strategies.

10:45 **Role of Azithromycin in Treating Preschool Wheezers**
Leonard B. Bacharier, MD FAAAAI

11:00 **Question & Answer**

11:10 **Challenges in Objectively Determining the Role of Oral Corticosteroids in Treating Preschool Wheezers**
Theresa W. Guilbert, MD MS

11:25 **Question & Answer**

11:35 **The Role of Vitamin D in Clinical Asthma**
Mario Castro, MD MPH

11:50 **Question & Answer**

Upon completion of this session, participants should be able to: Identify the role of azithromycin for preventing the development of upper respiratory tract illness into lower respiratory tract symptoms in children; Discuss challenges in determining the role of oral corticosteroids for treating episodes of significant lower respiratory tract symptoms; Discuss the role of vitamin D as a therapeutic agent for treating symptomatic patients with asthma and vitamin D deficiency.

4304 The Air We Breathe: Indoor and Outdoor Pollutants

10:45 am to 12:00 pm
Convention Center, Level Three, Room 320
Credit: 1.25 CME / 1.50 CE
Moderator: Jill A. Poole, MD FAAAAI
This session will use interactive learning strategies.

10:45 **A Pediatric Focus: Pollutants at Home and School**
Elizabeth C. Matsui, MD MHS

11:05 **Question & Answer**

11:10 **Outdoor Pollutants Affect Asthmatic Diseases**
Neil Alexis, PhD

11:30 **Question & Answer**

11:35 **Evaluating the Sick Building-Related Illness: What to Do?**
Karin A. Pacheco, MD MSPH FAAAAI

11:55 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the diversity and impact of indoor allergen and pollutant exposures at school and at home in mediating allergic respiratory diseases in pediatric populations; Identify both key outdoor pollutants responsible for mediating asthmatic diseases and novel biomarkers of disease activity that may be utilized to assess patients; Describe the best practices for clinical assessment of susceptible workers exposed to poor office indoor air quality and remediation strategies to create a healthy office indoor air quality environment.

4305 Control of Innate Lymphoid Helper Cells by Lipid Mediators

10:45 am to 12:00 pm
Convention Center, Level Three, Room 332
Credit: 1.25 CME / 1.50 CE
Moderator: Zoulfia Allakhverdi, PhD FAAAAI

10:45 **Prostacyclin Maintains Control Over ILC2 Responses in the Lung**
R. Stokes Peebles, Jr., MD FAAAAI

11:05 **The Role of Cysteinyl Leukotrienes and Prostaglandin D2 as Potent Inducers of ILC2 Activation**
Taylor Doherty, MD FAAAAI

11:25 **Maresin 1 Restrains Innate Lymphoid Cells in Allergic Lung Inflammation**
Nandini Krishnamoorthy, PhD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the receptors for lipid mediators that are expressed or induced on ILC2 cells; Outline the activating properties of the cysteinyl leukotrienes on ILC2 cells; Describe the capacity of prostacyclin and lipoxins to down regulate ILC2 responses.

4306 The Many Faces of Complement

10:45 am to 12:00 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderator: Michael M. Frank, MD FAAAAI

10:45 **Complement Regulates T Cell Function**
Claudia Kemper, MD

11:05 **Complement: The Double-Edged Sword**
John P. Atkinson, MD

11:25 **Complement in the Development of Asthma**
Marsha Wills-Karp, PhD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Outline the basics of the three complement activation pathways; Identify the diseases proven to result from complement activation; Describe the direction of research in the field.

4307 Sublingual Immunotherapy (SLIT): Current Perspectives

10:45 am to 12:00 pm
Convention Center, Level Three, Grand Ballroom B
Credit: 1.25 CME / 1.50 CE
Moderator: David P. Skoner, MD

10:45 **Long-Term Clinical Outcomes with SLIT**
Ronald Dahl, MD

11:05 **Latest Clinical Findings in SLIT: Clinical Efficacy, Safety and Dosing Regimens**
Linda Cox, MD FAAAAI

11:25 **When to Consider SLIT vs. SCIT**
Désirée E.S. Larenas Linnemann, MD FAAAAI

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the underlying mechanisms and actions of sublingual immunotherapy (SLIT) constructs; Identify how to properly evaluate and determine the maintenance treatment dose, the duration of therapy and the components of treatment when using SLIT; Discuss how to initiate appropriate treatment with the relevant therapeutic constructs that have recently received regulatory approval for use in the practice setting.

4308 Introduction to the Microbiome

10:45 am to 12:00 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderator: Kirsten Kloepfer, MD MS

10:45 **Basics of Microbiome**
Fernando D. Martinez, MD

11:05 **How the Airway Microbiome Influences Airway Disease**
Yvonne Huang, MD

11:25 **The Environmental Microbiome's Influence on Atopic Disease**
Harald Renz, MD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss what constitutes the microbiome; Describe how the microbiome influences airway disease; Describe how the environmental microbiome influences atopic disease.

Oral Abstracts

4601 Epidemiology and Asthma Risk Factors

2:00 to 3:15 pm
Convention Center, Level Three, General Assembly Theater B
Credit: 1.25 CME / 1.50 CE
Moderators: Douglas H. Jones, MD FAAAAI
Heather K. Lehman, MD FAAAAI

2:00 **Maternal Prenatal Intake of Fructose Is Associated with Asthma in Children**
Lakiea S. Wright, MD MAT

2:15 **Higher Serum 5-Methyltetrahydrofolate (5-MTHF) Levels Are Associated with Lower Risk of Wheeze in the National Health and Nutrition Examination Survey (NHANES)**
Emily C. McGowan, MD

2:30 **Relationships Among Eosinophils, Asthma, and Sex in a High-Risk Birth Cohort**
Frederick J. Rubner, MD

2:45 **Time Trends in the Prevalence of Asthma in Japanese Children**
Akira Akasawa, MD PhD

3:00 **Longitudinal Patterns of Skin Prick Test Sensitization in Early Childhood Predicts Risk for Asthma at Age 7**
Jessica S. Tan, MD MPH

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

4602 Immune Mechanisms in Allergic Disease: The Immunology of Allergy

2:00 to 3:15 pm
Convention Center, Level Three, Room 332
Credit: 1.25 CME / 1.50 CE
Moderator: Antonella Cianferoni, MD PhD FAAAAI

2:00 **Neonatal Exposure to Microbial Phosphorylcholine Dampens the Development of HDM Allergy Later in Life**
Preeyam S. Patel

2:15 **Levels of Regulatory B Cells in Allergic Rhinitis and Non-Allergic Individuals**
Alexander S. Kim, MD

2:30 **Potential Immunoregulatory Roles of Natural Killer Cells in Children with Atopic Dermatitis**
Gunnur Deniz, PhD

2:45 **Release of High-Mobility Group Box-1 (HMGB1) in the Airways of Children with Viral Lower Respiratory Tract Infections**
Chelsea R. Schlegel, MD

3:00 **Ovarian Hormones Increase IL-17A Production from Th17 Cells through an IL-23R and Let-7f Mediated Pathway in Severe Asthma**
Dawn C. Newcomb, PhD

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

4603 Assessing Air Pollution and Allergen Effects

2:00 to 3:15 pm
Convention Center, Level Three, Room 320
Credit: 1.25 CME / 1.50 CE
Moderators: Andrew H. Liu, MD FAAAAI
Jill A. Poole, MD FAAAAI

2:00 **Detection of Airborne *Juniperus* Pollen By Conventional and Real-Time PCR from Burkard Air Samples**
Rashmi Prava Mohanty, MS

2:15 **Magnifying: The Truth behind Fungal Spore Counts**
Josh D. McLoud

2:30 **A Systematic Analysis of Pollen Transcriptomes from Plant Allergens Reveals Conserved Targets of Immune Responses**
Luise Sternberg

2:45 **Molecular Characterization & Epitope Mapping of Recombinant Rice Chitinase**
Naveen Arora, PhD

3:00 **The GIS-Based Ecological Association Between Ambient Ozone and Allergic Diseases at the Sub-District Level in Seoul, Korea**
Sungchul Seo

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

4604 Novel Insights in Drug Allergy

2:00 to 3:15 pm
Convention Center, Level Three, Room 351
Credit: 1.25 CME / 1.50 CE
Moderators: Ana Dioun Broyles, MD FAAAAI
Roland Solensky, MD FAAAAI

2:00 **Adverse Reactions Associated with Oral and Parenteral Cephalosporin Use: A Retrospective Population-Based Analysis**
Eric M. Macy, MD FAAAAI

2:15 **Impact of a Clinical Guideline for Prescribing Antibiotics to Inpatients with Reported Penicillin or Cephalosporin Allergies**
Kimberly G. Blumenthal, MD

2:30 **The Effect of Misoprostol in Aspirin Exacerbated Respiratory Disease Undergoing Aspirin Challenge**
Kristen M. Dazy, MD

2:45 **Clinical Utility of Skin Testing Six Weeks after a Carboplatin Induced Hypersensitivity Reaction**
Timothy P. Lax, MD

3:00 **Rituximab Hypersensitivity: Evaluation, Implications of Skin Testing, Potential Mechanisms, and Desensitization**
Johnson T. Wong, MD FAAAAI

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

4605 Novel Insights in Food Allergy

2:00 to 3:15 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderators: J. Andrew Bird, MD FAAAAI
Motohiro Ebisawa, MD PhD FAAAAI

2:00 **Safety of Food Allergy Clinical Trials: The Consortium for Food Allergy Research's 10 Years of Experience**
Robert W. Lindblad, MD

2:15 **Increasing Tolerance to Less Extensively Heat-Denatured (baked) Milk Products in Milk-Allergic Children**
Anna H. Nowak-Wegrzyn, MD FAAAAI

2:30 **Safety, Clinical and Immunologic Efficacy of a Chinese Herbal Medicine (FAHF-2) for Food Allergy**
Julie Wang, MD FAAAAI

2:45 **Investigation of Peanut Oral Immunotherapy Using CpG/Peanut-Nanoparticles in a Murine Model of Peanut Allergy**
Kamal D. Srivastava, PhD

3:00 **Pioglitazone Attenuates Peanut Induced Anaphylaxis in a Mouse Model of Peanut Allergy**
Amy M. Scurlock, MD

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

4606 Immunotherapy, Vaccines, Drug Adherence, and Drug Interactions

2:00 to 3:15 pm
Convention Center, Level Three, Room 362
Credit: 1.25 CME / 1.50 CE
Moderators: Mariana C. Castells, MD PhD FAAAAI
David A. Khan, MD FAAAAI

2:00 **Impact of Allergen Immunotherapy Labeling and Dosing Diversity at the "Big 10" Universities' Health Services**
Christine L. Holland, MD

2:15 **Long-Term Adherence to Self-Injectable Epinephrine Prescription**
Joyce Xiang Wu Lee, MD

2:30 **A Cost-Effective Analysis of the U.S. Varicella Zoster Virus (VZV) Vaccination Program with Consideration for Delayed Onset of Asthma Following Vzv Infection**
Jared B. Ditkowsky, BA Sc

2:45 **Association Between Acetaminophen and Asthma Morbidity in a Latino Population**
Nana Sarkoah Fenny, MD

3:00 **Factors Associated with Rates of Influenza Vaccination in Allergy and Primary Care Clinics**
Melissa K. Skupin, MD

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

4607 Chronic Rhinosinusitis

2:00 to 3:15 pm
Convention Center, Level Three, Room 370
Credit: 1.25 CME / 1.50 CE
Moderator: Tara F. Carr, MD
Anjeni Keswani, MD

2:00 **Complement Activation in Nasal Tissue of Patients with Chronic Rhinosinusitis**
Griet A. Van Roey, PhD

2:15 **Interleukin-25 As a Novel Therapeutic Target in Nasal Polyps of Chronic Rhinosinusitis**
Dong-Kyu Kim

2:30 **A Newly Established Murine Model of Nasal Polyps Demonstrates B Cell Activation, Similar to Human Nasal Polyps**
Dong-Young Kim, MD PhD

2:45 **Innate Lymphoid Cell and Mast Cell Distributions in Chronic Rhinosinusitis Subtypes**
Caroline J. Padro Dietz, PhD

3:00 **Allergic Sensitization, High Local IL-5 and IgE Predict Surgical Outcome 12 Years after Endoscopic Sinus Surgery for Chronic Rhinosinusitis with Nasal Polyposis**
Philippe Gevaert, MD

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

4608 Mechanisms of Atopic Diseases: IgE, Basophils, and Mast Cells, Oh My!

2:00 to 3:15 pm
Convention Center, Level Three, Room 371
Credit: 1.25 CME / 1.50 CE
Moderators: Susan M. MacDonald, MD FAAAAI
Monica Vasudev, MD

2:00 **IgE Is Necessary for Pulmonary Vascular Leak during a Respiratory Viral Infection**
Brian T. Kelly, MD MA

2:15 **Rhinovirus Infection Modulates the Activation Status of Circulating Basophils and Dendritic Cells**
Rachana Agrawal, PhD

2:30 **Alternaria alternata Induces Mast Cell Activation in an IgE-Independent Fashion**
Lora G. Bankova, MD

2:45 **Prostaglandin E2 Deficiency Permits Leukotriene E4-Selective Airway Hyperresponsiveness and Mast Cell Activation**
Tao Liu, PhD

3:00 **The Fcεriβ Homologue, MS4A4, Promotes Fcεri-Dependent Human Mast Cell Degranulation By Facilitating PLCγ1 Signaling**
Glenn Cruse, PhD

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

Late Breaking Oral Abstract

4611 Asthma Therapy and Mechanism

2:00 to 3:15 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderator: Timothy J. Craig, DO FAAAAI

2:00 **Reslizumab Treatment for Moderate to Severe Asthma with Elevated Blood Eosinophil Levels**
Mario Castro, MD MPH

2:15 **Long-Acting Beta Agonists Enhance Allergic Airway Disease**
John M. Knight, PhD

2:30 **Leptin Modulates Airway Remodeling Processes and Responses to Interleukin-13 in Lung Fibroblasts in a Murine Model of Chronic Allergic Airways Disease**
Jennifer L. Ingram, PhD

2:45 **Microrna-22 Coordinates Asthma and Pulmonary Emphysema through Histone Deacetylase 4**
Wen Lu

3:00 **High-Dimensional Single-Cell Monitoring of Circulating Cells in Allergic Asthmatics Infected with Rhinovirus Reveals Dynamic Flux in Diverse Immune Cells**
Lyndsey Muehling, MS

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

Keynote

4701 Cutting-Edge Keynote

3:30 to 4:30 pm
Convention Center, Level Three, Exhibit Hall B3
Credit: 1.00 CME / 1.20 CE
Moderator: Mary Beth Fasano, MD FAAAAI

3:30 **The LEAP Study: Can Peanut Allergy be Prevented through Oral Tolerance Induction?**
Gideon Lack, MD

4:00 **Vaccine Development for Emerging Infections**
Nancy Sullivan, PhD

Upon completion of this session, participants should be able to: Discuss the feasibility, acceptability, and safety of early frequent exposure to peanut in an attempt to prevent peanut allergy in high risk infants; Describe the process of potential target discovery and the development of vaccines to combat infection.

Workshops

4801 JACI: Year-In-Review

4:45 to 6:00 pm
Convention Center, Level Three, General Assembly Theater B
Credit: 1.25 CME / 1.50 CE
Moderator: Donald Y.M. Leung, MD PhD FAAAAI

4:45 **Asthma**
Stanley J. Szefler, MD FAAAAI

5:00 **Food Allergy**
Scott H. Sicherer, MD FAAAAI

5:15 **Immunotherapy**
Cezmi A. Akdis, MD FAAAAI

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how to use the JACI's published content to help advance knowledge for research or clinical practice; Describe the latest advances in food allergy, asthma and immunotherapy.

4802 The Anatomy, Radiology and Endoscopic Evaluation of the Sinuses

4:45 to 6:00 pm
Convention Center, Level Three, Room 310
Credit: 1.25 CME / 1.50 CE
Moderator: Jerald W. Koepke, MD FAAAAI

4:45 **Anatomy and Major Pathologies of the Nose and Throat**
Bruce K. Tan, MD

5:00 **Radiology of the Sinuses**
Achilles G. Karagianis, DO

5:15 **Endoscopic Evaluation of the Sinuses: Before and After Surgery, Including Cultures and Case Studies**
Wellington S. Tichenor, MD FAAAAI

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the anatomy of the sinuses and major sinonasal and throat pathologies; Describe the radiology of the sinuses; Describe endoscopic evaluation of patients with chronic rhinosinusitis.

4803 How Viruses Subvert the Airways

4:45 to 6:00 pm
Convention Center, Level Three, Room 320
Credit: 1.25 CME / 1.50 CE
Moderators: Kecia N. Carroll, MD MPH
John R. Cohn, MD FAAAAI

Panelists:
Tina V. Hartert, MD MPH
Daniel J. Jackson, MD
Kirsten Kloepfer, MD MS

Upon completion of this session, participants should be able to: Discuss airway epithelial defense against respiratory viral infection; Describe the risk factors related to host and environment that increase the likelihood of rhinovirus-induced exacerbations of asthma; Discuss the epidemiologic and clinical data that reveal that early life severe respiratory syncytial virus (RSV) infection is a risk factor for asthma genesis.

4804 Mast Cell Activation Syndromes

4:45 to 6:00 pm
Convention Center, Level Three, Room 330
Pre-registration and ticket required. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Dean D. Metcalfe, MD FAAAAI

This session will use interactive learning strategies.

Case Presenters:
Melody C. Carter, MD
Joseph H. Butterfield, MD FAAAAI

Upon completion of this session, participants should be able to: Describe diagnostic criteria for primary mast cell activation syndromes; Discuss clinical presentation and workup of patients with idiopathic mast cell activation syndromes; Describe laboratory findings and treatment of mast cell activation syndromes.

Annual Meeting Workshops

Programmed by the AAAAI. Annual Meeting Workshops funded through an educational grant from Merck.

4805 Getting Ready for ICD-10: Cracking the Code

4:45 to 6:00 pm
Convention Center, Level Three, Room 332
Credit: 1.25 CME / 1.50 CE
Moderator: Vinay Mehta, MD FAAAAI

4:45 **What Does ICD-10 Mean to My Practice?**
Marshall P. Grodofsky, MD FAAAAI

5:00 **Smart Strategies for ICD-10 Planning and Implementation**
A. Sean McKnight, MD FAAAAI

5:15 **ICD-10 Cases: How Do I Code This (and Get Paid)?**
Teresa Thompson, CPC CMSCS CCC

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Describe ICD-10 and its potential impact on the clinical practice; Identify strategies for implementing ICD-10 in clinical practice; Apply ICD-10 codes to common cases in clinical practice.

4806 Severe Atopic Dermatitis

4:45 to 6:00 pm
Convention Center, Level Three, Room 340
Pre-registration and ticket required. No fee.
Credit: 1.25 CME / 1.50 CE
Moderator: Peter A. Lio, MD

This session will use interactive learning strategies.

Case Presenters:
Mark Boguniewicz, MD FAAAAI
Lynda C. Schneider, MD FAAAAI

Upon completion of this session, participants should be able to: Discuss the differential diagnosis of severe atopic dermatitis; Discuss and assess food allergy as a co-morbid condition in this patient; Discuss and review cutting-edge literature on the state-of-the-art skin therapy in refractory atopic dermatitis.

4807 AAP: Hot Topics in Pediatric Allergy & Asthma

4:45 to 6:00 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderator: Brian P. Vickery, MD FAAAAI

4:45 **Allergic Respiratory Disease**
Hemant P. Sharma, MD MHS FAAAAI

5:00 **Food and Drug Allergies**
John M. Kelso, MD FAAAAI

5:15 **Immunologic Disorders**
Anne-Marie A. Irani, MD FAAAAI

5:30 **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.

4808 Recognizing Allergenic Plants in Your Area

4:45 to 6:00 pm
Convention Center, Level Three, Room 350 DEF
Credit: 1.25 CME / 1.50 CE
Moderator: Warren V. Filley, MD FAAAAI

Speakers will provide handouts with relevant plant photos that will be available for download.

4:45 **Common Hay Fever Trees**
Richard W. Weber, MD FAAAAI

5:00 **Allergy-Causing Weeds**
David R. Weldon, MD FAAAAI

5:15 **Grasses Causing Hay Fever**
Landon Bunderson, PhD

5:30 **Question & Answer**

Upon completion of this session, participants should be able to recognize and discuss the major allergenic plants in North America.

4809 Component Resolved Diagnosis: Can It Improve Management of Your Patient?

4:45 to 6:00 pm
Convention Center, Level Three, Room 351
Credit: 1.25 CME / 1.50 CE
Moderator: J. Andrew Bird, MD FAAAAI

This session will use interactive learning strategies.

4:45 **Overview of the Allergen-Specific IgE Detection Systems and General Overview of Component Resolved Diagnosis**
Robert G. Hamilton, PhD D.ABMLI FAAAAI

5:00 **Question & Answer**

5:10 **Role of Components in Diagnosing Environmental Allergy**
Joerg R. Kleine-Tebbe, MD FAAAAI

5:25 **Question & Answer**

5:35 **Role of Components in Diagnosing Food Allergy**
Julie Wang, MD FAAAAI

5:50 **Question & Answer**

Upon completion of this session, participants should be able to: Define the phenomenon of immunologic and clinical cross-reactivity and introduce allergenic components testing platforms; Discuss the role of components in diagnosing environmental allergy; Discuss the role of components in diagnosing food allergy.

4810 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 Three, Room 360 ABC
Credit: 1.25 CME / 1.50 CE
Moderator: Mary Beth Fasano, MD FAAAAI

This session requires pre-meeting reading, downloadable January 30th from the handout site.

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 Tell the Story Better**
Tao T. Le, MD MHS FAAAAI

5:50 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss strategies for developing and delivering effective and engaging PowerPoint presentations; Identify when tools other than or in addition to PowerPoint can be used to enhance learner engagement; Describe best practices for presenting visual data and graphics in scientific presentations.

4811 IL-17 and Asthma

4:45 to 6:00 pm
Convention Center, Level Three, Room 360 DEF
Credit: 1.25 CME / 1.50 CE
Moderator: Dorothy S. Cheung, MD FAAAAI

4:45 **Gender Regulation of Th17-Mediated Inflammation in Severe Asthma**
Dawn C. Newcomb, PhD

5:00 **IL-13 and IL-17 Dynamics in the Asthmatic Airway**
Stephen William Jones, PhD

5:15 **Traffic Pollution and IL-17**
Gurjit K. Khurana Hershey, MD PhD FAAAAI

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the mechanisms by which traffic pollution exposure is associated with increased IL-17A production and more severe asthma; Describe the role of female sex hormones on Th17 development in airway disease; Identify and determine the interactions by which there is cross regulation of IL-13 and IL-17 in asthmatic airways.

4812 ABAI: MOC: What You Don't Know and Are Afraid to Ask!

4:45 to 6:00 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderator: Stephen I. Wasserman, MD FAAAAI

4:45 **Overview of ABAI MOC Requirements**
Rayné Harrison

5:00 **Q&A**

5:10 **Overview of the ABAI Diplomate Web Portal**
Nicholas Van Kuren

5:25 **Q&A**

5:35 **How I Met My MOC Requirements**
Speaker to be announced.

5:50 **Q&A**

Upon completion of this session, participants should be able to: Discuss the MOC requirements, their relationship to quality of care outcomes and how to successfully complete them; Discuss the personal experience of a peer who completed MOC requirements; Discuss how the ABAI Web Portal can help you to manage your personal MOC program requirements.

4813 Food Allergens: What is New?

4:45 to 6:00 pm
Convention Center, Level Three, Room 362
Credit: 1.25 CME / 1.50 CE
Moderator: Thomas A.E. Platts-Mills, MD PhD FAAAAI

4:45 **Molecular Diagnosis of Protein Allergens**
Riccardo Asero, MD

5:00 **How Sugars Can Become Allergens**
Scott P. Commins, MD PhD

5:15 **Food Lipid Antigens**
Antonella Cianferoni, MD PhD FAAAAI

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Identify different types of food allergens; Identify how non-protein components of foods may trigger or favor allergic reaction; Discuss how to become familiar with different mechanisms of immune stimulation of food components.

4814 The Effects of Asthma and Asthma Medications on Pregnancy Outcomes

4:45 to 6:00 pm
Convention Center, Level Three, Room 370
Credit: 1.25 CME / 1.50 CE
Moderator: Michael Schatz, MD MS FAAAAI
This session will use interactive learning strategies.

4:45 **The Effects of Asthma and Asthma Medications on Pregnancy Outcomes: VAMPSS Prospective Cohort Data**
Christina Chambers, PhD MPH

5:00 **Question & Answer**

5:10 **The Effects of Asthma and Asthma Medications on Pregnancy Outcomes: VAMPSS Case-Control Data**
Carol Louik, ScD

5:25 **Question & Answer**

5:35 **Clinical Trials of the Management of Asthma During Pregnancy: Therapeutic Recommendations**
Jennifer A. Namazy, MD FAAAAI

5:50 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the recent VAMPSS prospective cohort data on the effects of asthma and asthma medications on pregnancy outcomes; Discuss the recent VAMPSS case-control data on the effects of asthma and asthma medications on pregnancy outcomes; Discuss and review recent clinical trials of asthma management during pregnancy and provide therapeutic recommendations.

4815 Mucosal Immune System Regulation of Chronic Rhinosinusitis

4:45 to 6:00 pm
Convention Center, Level Three, Room 371
Credit: 1.25 CME / 1.50 CE
Moderator: Anju T. Peters, MD FAAAAI

4:45 **Role of B-Cells in the Mucosal Immunity of Chronic Rhinosinusitis**
Kathryn E. Hulse, PhD

5:00 **Microbiome Profiling in Chronic Rhinosinusitis**
Susan V. Lynch, PhD

5:15 **Bitter Taste Receptors in Chronic Rhinosinusitis**
Noam A. Cohen, MD PhD

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Identify the role of B-cell biology in the pathogenesis of chronic rhinosinusitis; Discuss the role of specific microbial species in disease pathogenesis and treatment strategies; Discuss receptor mechanisms for detecting bacteria related to chronic rhinosinusitis.

4816 Update on Granulomatous Inflammation

4:45 to 6:00 pm
Convention Center, Level Three, Room 372
Credit: 1.25 CME / 1.50 CE
Moderator: Eveline Y. Wu, MD

4:45 **Granulomatous Polyangiitis: Clinical Spectrum and Update on Treatment**
Teresa K. Tarrant, MD FAAAAI

5:00 **Chronic Granulomatous Disease and Inflammatory Bowel Disease: Distinctions in Diagnosis and Treatment**
Steven M., Holland, MD

5:15 **CVID and GILD: Update on Treatment and Management**
John M. Routes, MD FAAAAI

5:30 **Question & Answer**

Upon completion of this session, participants should be able to: Identify the clinical spectrum of granulomatous polyangiitis (GPA) and discuss recent therapeutic advances; Describe the clinical spectrum and approaches for treatment of granulomatous disease in common variable immune deficiency (CVID); Describe the granulomatous manifestations of chronic granulomatous disease (CGD) and how therapeutic approaches may differ from Crohn's disease.

Seminars

4:45 to 5:45 pm
Pre-registration and ticket required. Fee: $40. Refreshments. Sessions and refreshments are limited to 30 people.
Credit: 1.00 CME / 1.20 CE

4821 Allergy and Asthma Medication Use in Older Adults

Alan P. Baptist, MD MPH FAAAAI
Paula J. Busse, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom B

Upon completion of this session, participants should be able to: Discuss the prevalence of asthma and allergic disease in older adults; Identify the challenges in the treatment of asthma and allergic diseases in older adults including drug interactions, adverse effects of medications, and the lack of drug trials that include older patients with allergic rhinitis and asthma; Discuss ways to overcome challenges in the treatment of asthma and allergic disease in older adults.

4822 When is Neutropenia a Sign of Primary Immunodeficiency?

Jack J.H. Bleesing, MD PhD
Alexandra F. Freeman, MD
Hilton Americas, Level Four, Lanier Grand Ballroom C

Upon completion of this session, participants should be able to: Discuss the work-up for Neutropenia; Discuss primary neutropenia syndromes; Discuss the different primary immunodeficiency disorders that can be associated with neutropenia.

4823 Update on 22q11.2 Deletion Syndrome

M. Louise Markert, MD PhD FAAAAI
Peter Mustillo, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom D

Upon completion of this session, participants should be able to: Discuss the current testing to diagnose 22q11.2 Deletion Syndrome; Discuss both the immunologic and non-immunologic findings associated with this diagnosis; Discuss and review current treatment options for children with significant immune abnormalities associated with the syndrome.

4824 Making the Most of Your Electronic Medical Record (EMR): Meeting Meaningful Use

Priya J. Bansal, MD FAAAAI
Melinda M. Rathkopf, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom A

Upon completion of this session, participants should be able to: Discuss the capabilities of EMR for quality measures and meeting proposed meaningful use targets; Discuss how EMR can help improve clinical and outcomes research activities; Discuss ways to optimize your current EMR.

4825 Wicked Problems in Indoor Environment: Do We Need to Change Our Mindset?

Donald H. Beezhold, PhD FAAAAI
Brett J. Green, PhD
Hilton Americas, Level Four, Lanier Grand Ballroom E

Upon completion of this session, participants should be able to: Discuss exposure and health risks in the indoor exposure environment to chemical agents, fine particles and microbes; Discuss the facts and myths related to water-damaged buildings and health outcomes; Describe the relevant indoor air health problems related to allergic diseases and those related to psychological concerns.

4826 Multiple Drug Allergies: Case-Based Discussion

Aleena Banerji, MD
David A. Khan, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom F

Upon completion of this session, participants should be able to: Identify and evaluate patients with multiple drug allergies; Discuss and understand the utility of skin testing and challenge in the management of patients with drug allergies.

4827 Oral Immunotherapy for Food Allergy

Jacqueline A. Pongracic, MD FAAAAI
Anne Marie Singh, MD
Hilton Americas, Level Four, Lanier Grand Ballroom G

Upon completion of this session, participants should be able to: Discuss published clinical trials of oral immunotherapy; Describe the proposed mechanisms of oral immunotherapy; Identify the risks of oral immunotherapy.

4828 Quality Improvement and Safety in Allergy Practice

Matthew A. Rank, MD FAAAAI
Michael S. Tankersley, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom H

Upon completion of this session, participants should be able to: Discuss the need for allergists to consider, plan and perform quality improvement projects; Discuss fundamental principles guiding quality improvement in the treatment of allergic/immunologic diseases in the United States; Discuss potential quality improvement opportunities that could positively influence the outcomes of allergy/immunology education, research and patient care.

4829 Experimental Models of Allergic Rhinitis: Evaluation and Utilization

Anne Ellis, MD MSc FAAAAI
Guy W. Scadding, MD
Hilton Americas, Level Four, Lanier Grand Ballroom I

Upon completion of this session, participants should be able to: Describe the commonly used methodologies utilized in Environmental Exposure Unit-type studies of allergic rhinitis; Describe the most commonly used methodologies for experimental nasal allergen challenge in the investigation of allergic rhinitis; Identify the advantages and disadvantages of both experimental models pertaining to the study of allergic rhinitis.

4830 Beyond Worms: Understanding the Evolutionary Roles of IgE and Th2 Immunity

Stephen J. Galli, MD
Duane R. Wesemann, MD PhD
Hilton Americas, Level Four, Lanier Grand Ballroom J

Upon completion of this session, participants should be able to: Discuss and understand physiological situations where Th2 responses are beneficial; Discuss and understand the evolutionary basis of Th2 immunity.

Annual Meeting Seminars

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Seminars

7:00 to 8:00 am
Pre-registration and ticket required. Fee: $40. Continental breakfast included. Sessions and meals are limited to 30 people.
Credit: 1.00 CME / 1.20 CE

5001 Allergen Immunotherapy or Omalizumab in Asthma: When to Use Which?

Thomas B. Casale, MD FAAAAI
Jonathan Corren, MD
Hilton Americas, Level Four, Lanier Grand Ballroom B

Upon completion of this session, participants should be able to: Discuss efficacy of Immunotherapy in asthma and safety of allergen immunotherapy in moderate-severe asthma; Discuss studies of omalizumab alone and in combination with allergen immunotherapy in asthma; Identify recommendations for individual use of these drugs and for combination use for asthma.

5002 So the Patient Has Eosinophilia: What Next?

Amy D. Klion, MD
Marianne Frieri, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom C

Upon completion of this session, participants should be able to: Discuss diagnosis of various hypereosinophilic syndromes; Describe identification of secondary eosinophilia; Discuss therapeutic approaches to hypereosinophilic syndrome.

5003 Monitoring and Managing Non-Infectious Complications of Common Variable Immune Deficiency

Ramsay L. Fuleihan, MD FAAAAI
Rima A. Rachid, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom D

Upon completion of this session, participants should be able to: Discuss the non-infectious complications of common variable immune deficiency; Discuss how to monitor and treat these complications.

5004 From Urticaria to Toxic Epidermal Necrolysis: Cutaneous Drug Eruptions for the Clinician

Jennifer S. Kim, MD FAAAAI
Peter A. Lio, MD
Hilton Americas, Level Four, Lanier Grand Ballroom A

Upon completion of this session, participants should be able to: Discuss and evaluate cutaneous drug eruptions and render a diagnosis with confidence; Identify and analyze evidence-based medicine and current therapeutic options for these conditions.

5005 The Evolution of Childhood Wheezing to Asthma

Leonard B. Bacharier, MD FAAAAI
Bradley E. Chipps, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom E

Upon completion of this session, participants should be able to: Discuss the diagnostic criteria for varied phenotypic expression of childhood asthma; Identify the progression of immunopathologic events in the development of childhood asthma; Discuss the implication for treatment given the varied immunopathologic and phenotypic expressions.

5006 Medical Management of Eosinophilic Esophagitis in Adults

Mark Holbreich, MD FAAAAI
Javed Sheikh, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom F

Upon completion of this session, participants should be able to: Discuss appropriate use of medications in EoE; Describe appropriate use of diet in EoE; Discuss appropriate use of dilation in EoE.

Plenary

5101 Dangerous Allergens: New Insights

8:15 to 9:45 am
Convention Center, Level Three, Exhibit Hall B3
Credit: 1.50 CME / 1.80 CE
Moderator: Joerg R. Kleine-Tebbe, MD FAAAAI

8:15 **Pollens and Oxidants: Dangerous Partners in the Epithelium**
Sanjiv Sur, MD

8:45 **Understanding Allergen-Encoded Signals that Initiate Immunity**
David B. Corry, MD

9:15 **Novel Approaches to Allergy Diagnostics**
Ronald Van Ree, PhD FAAAAI

Upon completion of this session, participants should be able to: Describe how structural biology is providing insights into allergenicity; Discuss beyond proteases: allergen-specific activation of innate immunity; Identify pollens and oxidants: a dangerous pro-allergic combination.

Posters

9:45 to 10:45 am
Convention Center, Level Three, Exhibit Hall A3
Credit: No CME / No CE
Refer to pages 84 – 158 for abstracts and authors.

5201 High-Risk Asthma Phenotypes and Asthma Exacerbations
5202 Asthma Barriers and Comorbidities
5203 Allergy and Asthma Potpourri
5204 Food Allergy II
5205 Atopic Dermatitis and Immune-Mediated Skin Diseases
5206 Sublingual Immunotherapy
5207 Rhinitis and Conjunctivitis
5211 Late Breaking Abstract

Symposia

5301 How Dendritic Cells Make the Body Become Allergic

10:45 am to 12:00 pm
Convention Center, Level Three, Room 310
Credit: 1.25 CME / 1.50 CE
Moderator: Mitchell H. Grayson, MD FAAAAI

10:45 **Dendritic Cells in Allergy**
Speaker to be announced.

11:05 **Recognition of Allergens by Dendritic Cells**
Edda Fiebiger, PhD

11:25 **Translating the Allergen to the Adaptive Immune System**
Patrick Holt, DSc

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how the immune system recognizes innocuous allergens; Discuss the dendritic cells and important sentinel cells in allergy; Identify the development of therapeutic agents that could fine tune the dendritic cell response to allergens.

Annual Meeting Seminars

Programmed by the AAAAI. Annual Meeting Seminars funded through an educational grant from Merck.

5302 From Viral Bronchiolitis to Asthma: The Importance of Viral and Host Factors

10:45 am to 12:00 pm
Convention Center, Level Three, Room 320
Credit: 1.25 CME / 1.50 CE
Moderator: Eva Kathryn Miller, MD

10:45 **Interactions Between Viruses and the Airway Bacterial Microbiome: Determinants of Progression from Bronchiolitis to Recurrent Wheezing and Asthma**
Avraham Beigelman, MD MSCI FAAAAI

11:05 **The Importance of the Host: Genetic Background and Patient Characteristics in Response to Viruses**
Tina V. Hartert, MD MPH

11:25 **The Role of Human Rhinoviral Disease: Specific Considerations for Infants, Children and Adults**
Daniel J. Jackson, MD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the role of human rhinovirus (HRV) in infants, children and adults and the current evidence suggesting different roles of respiratory syncytial virus (RSV) and rhinovirus in asthma inception; Discuss the potential role of the airway microbiome as a determinant of progression from viral bronchiolitis to recurrent wheezing and asthma; Discuss potential prevention modalities of early life viral infections and devise strategies for secondary prevention of wheezing and asthma following viral bronchiolitis; Identify potential prevention modalities of early-life viral infections and strategies for secondary prevention of wheezing and asthma following viral bronchiolitis.

5303 Endotyping in Upper and Lower Airway Disease: One Airway?

10:45 am to 12:00 pm
Convention Center, Level Three, Room 332
Credit: 1.25 CME / 1.50 CE
Moderator: Martin Wagenmann, MD FAAAAI

10:45 **Endotyping in Asthma**
Sally E. Wenzel, MD FAAAAI

11:05 **Endotyping in Chronic Rhinosinusitis**
Claus Bachert, MD PhD

11:25 **Synthesis of Upper and Lower Airway Endotyping**
Peter H. Howarth, MD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss endotyping and phenotyping in asthma; Discuss endotyping and phenotyping in chronic rhinosinusitis; Discuss the commonalities and differences in endotyping of the upper and lower airways.

5304 HAE and Other Nonhistaminergic Angioedema: What You Need to Know

10:45 am to 12:00 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderator: Michael M. Frank, MD FAAAAI

This session requires pre-meeting reading, downloadable January 30th from the handout site.

10:45 **Guideline-Based Approach to the Diagnosis of HAE**
Jonathan A. Bernstein, MD FAAAAI

11:05 **Novel Therapies for HAE and Other Nonhistaminergic Angioedema**
Aleena Banerji, MD

11:25 **New Diagnosis: HAE with Normal C1 Inhibitor**
Marco Cicardi, MD

11:45 Question & Answer

Upon completion of this session, participants should be able to: Discuss how to better use published guidelines in the management of patients with hereditary angioedema (HAE); Discuss how to diagnosis and treat HAE with normal C1 inhibitor.

5305 Translational Medicine in Allergy: The Microbiome and Probiotics

10:45 am to 12:00 pm
Convention Center, Level Three, Room 351
Credit: 1.25 CME / 1.50 CE
Moderator: Christina L. Nance, PhD

10:45 **Role of The Microbiome in Programming the Immune Phenotype**
Speaker to be announced.

11:05 **Using Microbiome Analysis to Guide the Next Generation of Probiotics for Prevention or Treatment of Food Allergy and Atopic Dermatitis**
Cecilia Berin, PhD

11:25 **Translational Model of Microbiome Associations in Allergy and Asthma**
Joseph Petrosino, PhD

11:45 **Question & Answer**

Upon completion of this session, participants should be able to: Describe at least two ways that the microbiome regulates the host's immune phenotype; Discuss ways that the microbial constituents of probiotics affect sensitivity to food allergy and atopic dermatitis; Assess the relationship of microbiome composition to allergy or asthma.

5306 Providing Quality Asthma Care to Underserved Children

10:45 am to 12:00 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderator: Stanley P. Galant, MD FAAAAI

10:45 **Fostering Provider-School Nurse Communication: The Easy Breathing Program**
Michelle M. Cloutier, MD

11:05 **Question & Answer**

11:10 **Using New Tools to Enhance Provider-Student Communication**
Giselle Mosnaim, MD MS FAAAAI

11:30 **Question & Answer**

11:35 **School-Centered Asthma Programs: The Building Bridges Program**
Stanley J. Szefler, MD FAAAAI

11:55 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the role that providers can play in enhancing communication to patients, families and schools to improve asthma care; Discuss new tools for communication that can be used to enhance medication adherence; Identify ways that schools can communicate information to providers in order to reduce school absences and reach optimal academic achievement.

5307 Asthma Management in Life's Transition Periods: Adolescence, Pregnancy and Old Age

10:45 am to 12:00 pm
Convention Center, Level Three, Room 362
Credit: 1.25 CME / 1.50 CE
Moderator: Alan P. Baptist, MD MPH FAAAAI

This session will use interactive learning strategies.

10:45 **Diagnostic and Management Challenges of Asthma in Adolescents**
Theresa W. Guilbert, MD MS

11:05 **Question & Answer**

11:10 **The Pregnant Woman with Asthma: Optimal Management Strategies**
Michael Schatz, MD MS FAAAAI

11:30 **Question & Answer**

11:35 **Asthma in Older Adults**
Paula J. Busse, MD FAAAAI

11:55 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss unique challenges to history taking, diagnosis and management of adolescent patients with asthma; Describe the changes in pulmonary physiology, safety of medications and optimal treatment strategies for asthma during pregnancy; Discuss the optimal management of asthma in older adults.

Course

5311 How to Apply for and Obtain a National Institutes of Health (NIH) Grant for the Junior Investigator

10:45 am to 1:45 pm
Convention Center, Level Three, Room 330
Pre-registration and ticket required. No fee.
Credit: 2.75 CME / 3.30 CE
Moderator: Larry Borish, MD FAAAAI

10:45 **Panel Discussion: NIH Funding Opportunities and Strategies for Success**
Panelists
Mike Minnicozzi, PhD
Alkis Togias, MD FAAAAI

11:15 **Question & Answer**

11:30 **Panel Discussion: Strategies for Writing a Fundable NIH Grant**
Panelists
Nora A. Barrett, MD FAAAAI
James E. Gern, MD FAAAAI
Gurjit K. Khurana Hershey, MD PhD FAAAAI
R. Stokes Peebles, Jr., MD FAAAAI

12:30 **Break**

12:45 **Panel Presentation: Review of Submitted Grant Proposals**
Panelists
Nora A. Barrett, MD FAAAAI
James E. Gern, MD FAAAAI
Gurjit K. Khurana Hershey, MD PhD FAAAAI
R. Stokes Peebles, Jr., MD FAAAAI

Upon completion of this session, participants should be able to: Discuss the various programs available at the NIH and elsewhere for funding research; Discuss how to write a hypothesis-driven series of specific aims for a grant designed to motivate and generate an enthusiastic response from the reviewer.

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 / 1.20 CE

5501 Inhibitory Receptors on Allergy Effector Cells: New Therapeutic Targets

Ariel Munitz, PhD
Bruce S. Bochner, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom A

Upon completion of this session, participants should be able to: Discuss the mechanisms of three different inhibitory receptors pertinent for asthma; Describe efforts to therapeutically target these receptors.

5502 How to Assess and Manage a Child with Multiple Positive Environmental and Food Allergy Tests

Sami L. Bahna, MD DrPH FAAAAI
Kirsi M. Jarvinen-Seppo, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom B

Upon completion of this session, participants should be able to: Discuss the prevalence of and difference between classic food allergies and pollen-food allergy syndrome; Describe the utility of skin prick testing, fresh food skin prick testing, serum specific IgE testing, component resolved diagnostics and oral food challenge in assessment of complex patients with multiple food and environmental sensitizations; Discuss the management of complex patients with multiple food and environmental sensitivities and/or allergies.

5503 Aspirin and Antibiotic Desensitization

Matthew A. Rank, MD FAAAAI
Roland Solensky, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom C

Upon completion of this session, participants should be able to: Describe what is needed to perform a desensitization in the office; Discuss the desensitization of aspirin-allergic patients; Discuss the desensitization of antibiotic-allergic patients.

5504 Update on Testing for Primary Immunodeficiency Diseases

Francisco A. Bonilla, MD PhD FAAAAI
Kathleen E. Sullivan, MD PhD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom D

Upon completion of this session, participants should be able to: Discuss and review novel testing for recurrent or unusual infections; Discuss genetic testing for primary immunodeficiency diseases; Discuss future testing for primary immunodeficiency.

5505 Getting Ready for ICD-10: Cracking the Code

Priya J. Bansal, MD FAAAAI
Marshall P. Grodofsky, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom E

Upon completion of this session, participants should be able to: Describe the differences between ICD-10 and ICD-9-CM; Discuss the impact of ICD-10 on billing and coding; Identify strategies for implementing ICD-10 in clinical practice.

5506 Advanced Coding for the Allergist

Teresa Thompson, CPC CMSCS CCC
Weily Soong, MD FAAAAI
Hilton Americas, Level Four, Lanier Grand Ballroom F

Upon completion of this session, participants should be able to: Discuss the use of codes pertinent to the allergy/immunology practice; Describe details of coding for patients' allergy testing and immunotherapy.

5507 Performing and Interpreting Spirometry: Understanding and Implementing the ATS/ERS Guidelines

James M. Quinn, MD FAAAAI
Kevin M. White, MD
Hilton Americas, Level Four, Lanier Grand Ballroom G

Upon completion of this session, participants should be able to: Identify the source and relevance of the ATS/ERS guidelines for lung function testing; Identify ATS/ERS recommendations for correct performance of spirometry; Discuss and utilize ATS/ERS guidelines to interpret spirometry and classify the severity of identified abnormalities.

5508 Performance of Oral Food Challenges in the Office Setting

S. Allan Bock, MD FAAAAI
Justin M. Skripak, MD
Hilton Americas, Level Four, Lanier Grand Ballroom H

Upon completion of this session, participants should be able to: Discuss how skin test and serum specific IgE test results can be used to determine which patients are appropriate candidates for food challenges; Describe the practical aspects of how to carry out a typical food challenge in the office; Discuss how to select patients for extensively heated milk and egg challenges, and how to perform those challenges.

Annual Meeting Seminars

Programmed by the AAAAI. Annual Meeting Seminars funded through an educational grant from Merck.

Pro/Con Debates

5521 A Preschool Child with Acute Viral Wheeze Should be Treated with Oral Corticosteroids

12:30 to 1:30 pm
Convention Center, Level Three, Room 310
Credit: 1.00 CME / 1.20 CE
Moderator: Nikolaos G. Papadopoulos, MD FAAAAI
Pro: *Theresa W. Guilbert, MD MS*
Con: *Avraham Beigelman, MD MSCI FAAAAI*

Upon completion of this session, participants should be able to: Describe the current treatment recommendations for acute wheeze in preschool children; Describe and evaluate whether the current evidence supports the utility of oral corticosteroids as a treatment for acute wheezing episodes in preschool children with a history of episodic wheezing; Discuss and outline the limitations of the current studies that have investigated the efficacy of oral corticosteroids as a treatment for acute wheeze in preschool children.

5522 Age Matters When Treating Asthma in Older Adults

12:30 to 1:30 pm
Convention Center, Level Three, Room 320
Credit: 1.00 CME / 1.20 CE
Moderator: Alan P. Baptist, MD MPH FAAAAI
Pro: *Carol A. Saltoun, MD FAAAAI*
Con: *Sharmilee M. Nyenhuis, MD FAAAAI*

Upon completion of this session, participants should be able to: Identify and describe the effects of co-morbidities and commonly used medications in asthma; Discuss and recognize the special issues with pharmacotherapy in older adults with asthma.

5523 Injectable Epinephrine Should be Prescribed to All Patients on Subcutaneous Allergen Immunotherapy

12:30 to 1:30 pm
Convention Center, Level Three, Room 332
Credit: 1.00 CME / 1.20 CE
Moderator: Michael R. Nelson, MD PhD FAAAAI
Pro: *David J. Fitzhugh, MD*
Con: *David I. Bernstein, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe the risk of delayed systemic allergic reactions to subcutaneous allergen immunotherapy; Discuss and examine strategies to minimize the risk of adverse outcomes from delayed systemic reactions to subcutaneous allergen immunotherapy; Identify and synthesize existing knowledge regarding the role of self-injectable epinephrine devices in preventing adverse outcomes associated with delayed systemic reactions.

Symposium

5524 Vaccines Play a Role in the Rise of Autoimmunity and Allergic Diseases

12:30 to 1:30 pm
Convention Center, Level Three, Room 371
Credit: 1.00 CME / 1.20 CE
Moderator: John M. Kelso, MD FAAAAI

12:30 **How World Health Organization (WHO) Casulaty Assessment Guidelines Should Influence Vaccine Safety Research**
Renata J.M. Engler, MD PhD FAAAAI

12:45 **Question & Answer**

12:50 **The Biologic Feasibility of Autoimmunity as an Adverse Event**
Yehuda Shoenfeld, MD MaACR

1:05 **Question & Answer**

1:10 **Vaccines: Their Safety and Efficacy and Possible Relevance to the Rise in Allergic Disease**
Thomas A.E. Platts-Mills, MD PhD FAAAAI

12:45 **Question & Answer**

Upon completion of this session, participants should be able to: Identify risk communication skills for vaccine healthcare; Discuss the relationship between vaccine administration and autoimmunity; Discuss the evidence, or lack thereof, linking vaccines to autism.

Pro/Con Debates

5525 Bronchial Thermoplasty Should be Utilized in Severe Asthma Management

12:30 to 1:30 pm
Convention Center, Level Three, Room 370
Credit: 1.00 CME / 1.20 CE
Moderator: Mark F. Sands, MD FAAAAI

This session will use interactive learning strategies.
Pro: *Mario Castro, MD MPH*
Con: *Elliot Israel, MD FAAAAI*

Upon completion of this session, participants should be able to: Describe indications and contraindications of bronchial thermoplasty (BT); Describe and discuss strengths and weaknesses of published studies on efficacy and safety; Describe where more data may be needed before BT can be incorporated into guidelines for asthma management.

5526 Food Oral Immunotherapy is Ready for Prime Time

12:30 to 1:30 pm
Convention Center, Level Three, Room 362
Credit: 1.00 CME / 1.20 CE
Moderator: Jonathan M. Spergel, MD PhD FAAAAI

This session will use interactive learning strategies.
Pro: *James W. Baker, MD FAAAAI*
Con: *Robert A. Wood, MD FAAAAI*

Upon completion of this session, participants should be able to: Discuss the current safety and efficacy data on oral immunotherapy for food allergy; Describe and discuss the risks and benefits of food oral immunotherapy; Discuss and appreciate the different perspectives on the appropriate outcome measures when considering reports of food oral immunotherapy.

Oral Abstracts

5601 Infectious Agents and Asthma: Microbiome and Viruses

2:00 to 3:15 pm
Convention Center, Level Three, Room 350 DEF
Credit: 1.25 CME / 1.50 CE
Moderators: Gisoo Ghaffari, MD FAAAAI
Sharmilee M. Nyenhuis, MD FAAAAI

2:00 **Increased Airways Hyperresponsiveness and Inflammation in Influenza-Induced Murine Model of Asthma**
Eu Kyoung Lee, MD

2:15 **Human Rhinovirus Species Induce Differential Antiviral and Inflammatory Responses in Peripheral Blood Mononuclear Cells**
Alalia W. Berry, MD

2:30 **Infant Gut Microbial Composition Alters IgE Response to Tetanus Toxoid Immunization**
Dennis R. Ownby, MD FAAAAI

2:45 **Association of the Infant Gastrointestinal Microbiome with Nocturnal Symptoms in Children with Asthma**
Albert M. Levin, PhD

3:00 **Decrease in Diversity of Nasal Microbiota during Wheezing Episodes in Preschool Children**
Gorka Alkorta-Aranburu, PhD

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

5602 Update on Immunodeficiency

2:00 to 3:15 pm
Convention Center, Level Three, Room 351
Credit: 1.25 CME / 1.50 CE
Moderators: Mark Ballow, MD FAAAAI
Ken Paris, MD MPH

2:00 **Cytokines Production, Expression of CD40/CD40L and Correlation with Immunoglobulins in Patients with Ataxia-Telangiectasia**
Camila T.M. Pereira, MD

2:15 **Multispecialty Prioritization of Evidence-Based Indications for Intravenous Immunoglobulin**
Jordan S. Orange, MD PhD FAAAAI

2:30 **Use of Enteral Immunoglobulin in NEMO Syndrome for Eradication of Persistent Symptomatic Norovirus Enteritis**
Shuya Wu, MD PhD

2:45 **Undetectable Serum IgE Is a Sensitive and Specific Marker of Common Variable Immunodeficiency (CVID)**
Monica G. Lawrence, MD

3:00 **Thirteen Cases of Sustained Post-Rituximab Hypogammaglobulinemia**
Whitney M. Rassbach, MD

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

5603 Dust and Diesel Exposures Alter Immune Responses

2:00 to 3:15 pm
Convention Center, Level Three, Room 360 ABC
Credit: 1.25 CME / 1.50 CE
Moderators: Robert K. Bush, MD FAAAAI
Perdita Permaul, MD

2:00 **Wheeze, Recurrent Wheeze, Nd Rhinovirus and Respiratory Syncytial Virus Infections during the First 5 Years of Life; Observations from a Birth Cohort in Rural Ecuador**
Andrea Arevalo

2:15 **Diesel Exhaust Particles Exacerbate Allergic Rhinitis in Mice By Disrupting the Nasal Epithelial Barrier**
Ayumi Fukuoka

2:30 **Inhalational Exposure to House Dust Conditions Pulmonary Conventional Dendritic Cells to Induce T Helper 2 Responses Against Innocuous Antigens**
Timothy P. Moran, MD PhD

2:45 **The Impact of Age in the Airway Inflammatory Response to Organic Dust Exposure in Mice**
Joel K. Van De Graaff, MD

3:00 **Characterization of the T Cell Response Targeting Timothy Grass Antigens in Allergic, Healthy and Specific Immunotherapy-Treated Patients**
Véronique M. Schulten

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

5604 New Developments in Angioedema

2:00 to 3:15 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderators: Timothy J. Craig, DO FAAAAI
William R. Lumry, MD FAAAAI

2:00 **Pathogenesis of Hereditary Angioedema with Normal C1 Inhibitor: Evidence for Abnormalities in Plasminogen Activator Inhibitors**
Kusumam Joseph, PhD

2:15 **The Icatibant Outcome Survey: Trigger Factors and Premonitory Symptoms of Angioedema Attacks in Patients with Hereditary Angioedema**
Teresa Caballero, MD PhD

2:30 **BCX4161, an Oral Kallikrein Inhibitor, Showed Significant Benefits on Reducing Disease Burden and Improving Quality of Life in Subjects with Hereditary Angioedema in the Opus-1 Study**
Markus Magerl, MD

2:45 **Subcutaneous Human C1-Inhibitor with Recombinant Human Hyaluronidase for the Prevention of Angioedema Attacks in Patients with Hereditary Angioedema: Results of a Randomized, Double-Blind, Dose-Ranging, Crossover Study**
Marc A. Riedl, MD MS

3:00 **The Icatibant Outcome Survey: Observational Data in Patients with Angioedema Due to Acquired C1 Inhibitor (C1-INH) Deficiency**
Hilary J. Longhurst, MD PhD

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

5605 FPIES from a HEDQ Perspective

2:00 to 3:15 pm
Convention Center, Level Three, Room 360 DEF
Credit: 1.25 CME / 1.50 CE
Moderators: Christopher D. Codispoti, MD PhD
Julie Wang, MD FAAAAI

2:00 **International Consensus Guidelines for Diagnosis and Management of Food Protein-Induced Enterocolitis Syndrome**
Jonathan M. Spergel, MD PhD FAAAAI

2:15 **Trends in Provider Management of Patients with Food Protein Induced Enterocolitis Syndrome**
J. Andrew Bird, MD FAAAAI

2:30 **A New Valid and Reliable Parent Proxy Questionnaire to Measure the Impact of Food Protein Enterocolitis Syndrome on Children: The Fpies Quality of Life Questionnaire, Parent Form**
Jonathan O. Hourihane, MD FAAAAI

2:45 **Assessment of Self-Efficacy in Food Protein Induced Enterocolitis Syndrome**
Audrey Dunn Galvin

3:00 **Caregiver Quality of Life in Food Protein Enterocolitis Syndrome**
Matthew J. Greenhawt, MD MBA MSc

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

5606 Allergic Rhinitis: Epidemiology and Immunotherapy

2:00 to 3:15 pm
Convention Center, Level Three, Room 370
Credit: 1.25 CME / 1.50 CE
Moderators: Tolly Epstein, MD MS
Michael R. Nelson, MD PhD FAAAAI

2:00 **Pre-Treatment Level of Specific Grass IgE Is Associated with Efficacy and Safety of a Timothy Grass Sublingual Immunotherapy Tablet**
Amarjot Kaur, PhD

2:15 **Epinephrine Use in Clinical Trials of Sublingual Immunotherapy Tablets for Treatment of Allergic Rhinitis with/without Conjunctivitis**
Jennifer M. Maloney, MD

2:30 **Allergen Sensitivity Profile of Subjects with Allergic Rhinitis with/without Conjunctivitis Participating in Clinical Trials of Timothy Grass and Short Ragweed Sublingual Immunotherapy Tablets**
David I. Bernstein, MD FAAAAI

2:45 **The Prevalence and Clinical Characteristics of Local Allergic Rhinitis in Thai Children**
Pichittra Buntarickpornpan, MD

3:00 **Predicting Acquisition of Sustained Unresponsiveness Following Peanut Oral Immunotherapy Using Skin Prick Test Size and Serum Levels of Immunoglobulins Specific to Peanut**
Lalita Jindal

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

5607 Mechanisms of Atopic Diseases: Inflammation

2:00 to 3:15 pm
Convention Center, Level Three, Room 371
Credit: 1.25 CME / 1.50 CE
Moderators: Angela Haczku, MD PhD FAAAAI
Hirohito Kita, MD

2:00 **Acute Systemic Reduction in Regulatory T Cells Is Associated with Atopic Airway Disease**
Heather Reichert

2:15 **Pre-Pregnancy Exposure to Diesel Exhaust Particles Predisposes Offspring to Asthma**
Magdalena M. Gorska, MD PhD

2:30 **The Adapter Protein Sprouty 2 (Spry 2) Differentially Regulates Lymphoid and Myeloid Cell Function and Is Important for Allergic Asthma**
Balachandra K. Gorentla, PhD

2:45 **Proteolytic Activity of per a 10 Cleaves Tight Junction Proteins and Increases TSLP Secretion**
Sagar L. Kale, MSc

3:00 **Association Between IL-13 -1112 C/T Promoter Polymorphism and Patterns of Allergen-Induced Asthmatic Response in House Dust Mite Allergic Patients**
Krzysztof Kowal, MD PhD

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

Late Breaking Oral Abstract

5611 Food Allergy, Innate Immunity and Genetics of Atopic Dermatitis

2:00 to 3:15 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderator: Lynda C. Schneider, MD FAAAAI

2:00 **Epicutaneous Immunotherapy (EPIT) is Effective and Safe to Treat Peanut Allergy: A Multi-National Double-Blind Placebo-Controlled Randomized Phase IIb Trial**
Hugh A. Sampson, MD FAAAAI

2:15 **Natural History of Peanut Allergy and Predictors of Persistence in the First 4 Years of Life: A Population-Based Assessment**
Rachel L. Peters, MPH

2:30 **Identifying Genetic Determinants of Atopic Dermatitis and Bacterial Colonization Using Whole Genome Sequencing**
Rasika A. Mathias, ScD

2:45 **Biased Agonism of Toll like Receptor 4 in Mediating the Immune System**
Hui-Ying Tung

3:00 **Aryl Hydrocarbon Receptor Regulates Cockroach Allergen Induced Lung Inflammation through Controlling the Recruitment and Function of Mesenchymal Cells**
Ting Xu, MD

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

Workshops

5801 Exercise-Induced Bronchoconstriction (EIB): Past, Present and Future

3:30 to 4:45 pm
Convention Center, Level Three, Room 310
Credit: 1.25 CME / 1.50 CE
Moderator: Nicholas Rider, DO
This session will use interactive learning strategies.
Panelists:
Timothy J. Craig, DO FAAAAI
Wayne Joseph Morgan, MD
William S. Silvers, MD FAAAAI

Upon completion of this session, participants should be able to: Discuss and understand the pathophysiology of exercise-induced bronchoconstriction (EIB); Identify appropriate diagnostic tools and treatments for EIB; Identify future laboratory and biomarker assessments for EIB.

5802 Cough and Dyspnea in the Older Adult

3:30 to 4:45 pm
Convention Center, Level Three, Room 320
Credit: 1.25 CME / 1.50 CE
Moderator: Mark F. Sands, MD FAAAAI

3:30 **Common Causes of Dyspnea and Cough in the Older Adult**
Sameer K. Mathur, MD PhD FAAAAI

3:45 **Work-Up of Dyspnea and Cough in the Older Adult**
Joram S. Seggev, MD FAAAAI

4:00 **Medication Considerations for Common Causes of Dyspnea and Cough in the Older Adult**
Sharmilee M. Nyenhuis, MD FAAAAI

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the common causes of dyspnea and cough in the older adult, focusing on both allergic and non-allergic causes; Develop an approach to the older adult with dyspnea/cough; Describe the optimal treatment strategies for common causes of cough and dyspnea in the older adult.

5803 Why Does Allergy Lag Behind Rheumatology in Approved Biotech Drugs?

3:30 to 4:45 pm
Convention Center, Level Three, Room 332
Credit: 1.25 CME / 1.50 CE
Moderator: Calman Prussin, MD FAAAAI

3:30 **Basic Science Perspectives**
Calman Prussin, MD FAAAAI

3:45 **Clinical Investigator Perspectives**
Thomas B. Casale, MD FAAAAI

4:00 **Biotech Pharma Perspectives**
David M. Essayan, MD FAAAAI

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss mechanistic approaches to allergic disease therapy; Develop insights into allergic disease drug discovery and development; Identify potential obstructions to the development of biotech drugs in allergy.

Annual Meeting Workshops

Programmed by the AAAAI. Annual Meeting Workshops funded through an educational grant from Merck.

5804 The Role of the Asthma and Allergy Specialist in the Era of the Affordable Care Act: A Matter of Access and Quality

3:30 to 4:45 pm
Convention Center, Level Three, Room 342
Credit: 1.25 CME / 1.50 CE
Moderator: Cheryl L. Walker-McGill, MD MBA FAAAAI

3:30 **The Potential Impact of the Affordable Care Act on the Allergy and Asthma Specialty Physician Workforce**
Thomas A. Scott, MD FAAAAI

3:45 **Key Policy Considerations for States Providing Care for High-Risk Patient Populations with Asthma**
Floyd J. Malveaux, MD PhD FAAAAI

4:00 **Potential Roles for Allergy and Asthma Specialists as We Transition from Volume to Value-Based Healthcare**
Michael B. Foggs, MD FAAAAI

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how the Affordable Care Act may impact the allergy and asthma provider workforce and patient population characteristics; Discuss key policy considerations for states that are faced with increasing demand for allergy and asthma care in high-risk patient populations; Discuss potential roles for allergy and asthma specialists in managing high-risk patient populations as we transition from volume to value based healthcare.

5805 Getting Worse at Work: New Agents and New Diseases

3:30 to 4:45 pm
Convention Center, Level Three, Room 350 DEF
Credit: 1.25 CME / 1.50 CE
Moderator: Leslie C. Grammer, MD FAAAAI

3:30 **New Occupational Diseases and Agents**
Jill A. Poole, MD FAAAAI

3:45 **Occupational Contact Dermatitis**
Dorothy Linn Holness, MD

4:00 **Work-Exacerbated Asthma and Rhinitis**
Susan M. Tarlo, MBBS FAAAAI

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss and apply new and updated knowledge of occupational diseases; Identify and discuss updated strategies for diagnosis and treatment of occupational diseases.

5806 Introducing Molecular Inhalant Allergens for Diagnosis and Therapeutic Decisions

3:30 to 4:45 pm
Convention Center, Level Three, Room 351
Credit: 1.25 CME / 1.50 CE
Moderator: Joaquin Sastre, MD PhD FAAAAI

3:30 **Allergen Protein Families, Nomenclature and Data Banks: How to Use This Information in the Office**
Ronald Van Ree, PhD FAAAAI

3:45 **Microarrayed Specific IgE to Allergen Components in Allergic Subjects from Different U.S. Regions: What Can We Learn from Their Sensitization Profiles?**
Robert G. Hamilton, PhD D.ABMLI FAAAAI

4:00 **Diagnostic Approaches Using Allergen-Specific IgE to Molecular Allergens: How to Identify Primary Sensitizations and Potential Cross-Reactions in Inhalant Allergies**
Joerg R. Kleine-Tebbe, MD FAAAAI

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the important protein families, nomenclature and data banks on allergenic molecules inducing inhalant allergies and how to use them properly; Discuss the allergen-specific IgE profiles in U.S.allergic patients from different regions applying multiplex testing with allergen components; Discuss the diagnostic approaches using molecular inhalant allergens to understand complex sensitization patterns.

5807 Mast Cells: From Origins to Effector Function

3:30 to 4:45 pm
Convention Center, Level Three, Room 360 ABC
Credit: 1.25 CME / 1.50 CE
Moderator: Zoulfia Allakhverdi, PhD FAAAAI

3:30 **Regulation of Mast Cell Development**
Hua Huang, MD PhD

3:45 **Acquisition of Mast Cell Effector Function**
Laurence E. Cheng, MD PhD FAAAAI

4:00 **A Unique Mast Cell Phenotype Associated with Severe Asthma**
Merritt L. Fajt, MD FAAAAI

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Describe the molecular cues and regulators of mast cell development and seeding to the peripheral tissues; Describe the processes by which mast cells acquire serum IgE and acquire the capacity to respond to allergens; Recognize that mast cell development and phenotype are altered in the lung with severe asthma.

5808 Novel Concepts in Immunoglobulin E (IgE)

3:30 to 4:45 pm
Convention Center, Level Three, Room 360 DEF
Credit: 1.25 CME / 1.50 CE
Moderator: Dorothy S. Cheung, MD FAAAAI

3:30 **Affinity Matters: FcεR1 Mediated Cellular Responses**
Ryo Suzuki, PhD

3:45 **Curb Your Enthusiasm: Restraining B cells to Limit IgE Production**
Christopher D.C. Allen, PhD

4:00 **Cleaning Up: Clearance of IgE**
Jeoung-Sook Shin, PhD

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss how affinity of FcεR1 stimulation affects cellular responses; Discuss how FcεR1 functions to clear IgE; Discuss how IgE(+) B cells can be regulated to limit the production of antigen specific IgE.

5809 How Molecules and Genes Can Give New Insights on Allergy Development, Tolerance and Immunotherapy

3:30 to 4:45 pm
Convention Center, Level Three, Room 361
Credit: 1.25 CME / 1.50 CE
Moderator: Désirée E.S. Larenas Linnemann, MD FAAAAI

3:30 **Fine-Tuning of Allergen Diagnosis: What Molecular Diagnosis Teaches About the Development of Allergy**
Christian Lupinek, MD

3:45 **Role of Immune Cells in the Skin: Balance Between Tolerance and Sensitization**
Mubeccel Akdis, MD PhD

4:00 **Beyond the New Forms of Immunotherapy: Immunization with Gene-Based Products**
Verena Niederberger, MD

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss what we have learned from a pan-European study using the MeDALL chip for molecular allergy diagnosis to explore the development of allergy in a large cohort; Identify mechanisms of action of epicutaneous immunotherapy; Discuss the results of phase 2 and 3 clinical trials of immunotherapy with recombinant hypoallergenic grass pollen and fish vaccines.

5810 EGID: Shining a Light on Eosinophils Below the Esophagus

3:30 to 4:45 pm
Convention Center, Level Three, Room 362
Credit: 1.25 CME / 1.50 CE
Moderator: David Mark Fleischer, MD

3:30 **Pathologist: Eosinophils in the Gut: What is Abnormal?**
Margaret Collins, MD

3:45 **Gastroenterologist: Recognition and Medical Management of EGIDs**
Mirna Chehade, MD MPH

4:00 **Allergist: Allergy Testing and Elimination Diets in EGIDs**
Dan Atkins, MD FAAAAI

4:15 **Question & Answer**

Upon completion of this session, participants should be able to: Discuss the clinical presentation and histopathologic findings associated with eosinophilic gastrointestinal diseases (EGIDs); List the differential diagnosis of eosinophilic inflammation in different areas of the gastrointestinal tract; Identify difficulties encountered in the clinical management of EGIDs.

Scientific Abstract Sessions

Therapeutics and Omalizumab

2201
Saturday, February 21st, 2015, 9:45 AM - 10:45 AM

1 **Perinatal Outcomes in Pregnant Women Exposed to Omalizumab: Interim Results from a Prospective, Observational Study**

Jennifer A. Namazy, MD, FAAAAI[1], Abdelkader Rahmaoui, MD[2], Michael D Cabana, MD, MPH[3], Angela E Scheuerle, MD[4], John M Thorp, MD[5], Gillis Carrigan, PhD[2] and Elizabeth B Andrews, PhD[6], [1]Scripps Clinic Medical Group, San Diego, CA, [2]Genentech, Inc., South San Francisco, CA, [3]University of California, San Francisco, CA, [4]Tesserae Genetics, Dallas, TX, [5]University of North Carolina, Chapel Hill, NC, [6]RTI Health Solutions, Research Triangle Park, NC

2 **Estimated Asthma Exacerbation Reduction from Omalizumab in an Severe Eosinophilic Asthma Population**

Thomas B. Casale, MD, FAAAAI[1], Theodore A. Omachi, MD, MBA[2], Benjamin Trzaskoma, MS[2], Shashidhar Rao[3], Willis Chou, MD[2], Benjamin Ortiz, MD[4], Volkan Manga, MD[3] and Ratko Djukanovic[5], [1]University of South Florida Morsani College of Medicine, Tampa, FL, [2]Genentech, Inc., South San Francisco, CA, [3]Novartis Pharma AG, [4]Novartis Pharmaceuticals Corporation, East Hanover, NJ, [5]University of Southampton, Southampton, United Kingdom

3 **Omalizumab Therapy in Patient Suffering from Severe Asthma and Concomitant Ulcerative Colitis**

Izabela R. Kuprys-Lipinska, MD, PhD, Department of Internal Medicine, Asthma and Allergy, Medical University of Lodz, Poland, Poland and Piotr Kuna, MD, PhD, Department of Internal Medicine, Asthma and Allergy, Medical University of Lodz, Poland

4 **Pulse Corticosteroids As an Omalizumab Enabling IgE Reduction Modality in an Asthmatic without Allergic Bronchopulmonary Aspergillosis**

Robert Y Lin, MD and Smita Joshi, MD, Weill Cornell Medical College, New York, NY

5 **Omalizumab: A Review of Efficacy in a Real-Life Pediatric Asthma Clinic Population**

Sayantani B. Sindher, MD, Rosemary Stinson, RN, MSN, CRNP and Sigrid Payne DaVeiga, MD, The Children's Hospital Of Philadelphia

6 **Measuring Total Immunoglobulin E Is Useful in Detecting Exacerbations and Monitoring Treatment in Patients with Allergic Bronchopulmonary Aspergillosis Treated with Omalizumab**

Irina Bobolea, MD, Consuelo Fernandez, Rocío Díaz Campos, Carlos Melero and Ramón Vives, Hospital 12 de octubre, Madrid, Spain

7 **Omalizumab Enrollment in a Tertiary Care Allergy and Asthma Clinic in Canada**

Hoang Pham, MD 2016, BSc, BA[1], Jodi Cameron, RPN[2], Jennifer Forgie, RN[2], Alicia Ring, RPN[2], Diana Pham[3], Stephanie Santucci, RN[2], Caroline Rizk, MD[4], John W. O'Quinn, MD[2] and William H. Yang, MD[1,2], [1]University of Ottawa Medical School, Ottawa, ON, Canada, [2]Allergy and Asthma Research Centre, Ottawa, ON, Canada, [3]University of Ottawa, Ottawa, ON, Canada, [4]Department of Clinical Immunology, McGill University, Montreal, QC, Canada

8 **Omalizumab Is Effective in the Treatment of Difficult-to-Treat Chronic Spontaneous Urticaria**

Jennifer Forgie, RN[1], Stephanie Santucci, RN[1], Diana Pham[2], Genevieve Gavigan, MASc, MD[3], Melanie Pratt, MD[4], Simone Fahim, MD[4], John W. O'Quinn, MD[1] and William H. Yang, MD[1,5], [1]Allergy and Asthma Research Centre, Ottawa, ON, Canada, [2]University of Ottawa, Ottawa, ON, Canada, [3]Division of Dermatology, University of Ottawa Medical School, Ottawa, ON, Canada, [4]Division of Dermatology, University of Ottawa, Ottawa, ON, Canada, [5]University of Ottawa Medical School, Ottawa, ON, Canada

9 **Omalizumab Treatment of Moderate to Severe Asthma in the Adolescent and Pediatric Population**

John W. O'Quinn, MD[1], Stephanie Santucci, RN[1], Diana Pham[2], Zave H. Chad, MD, FRCPC[3], Ian MacLusky, MD[3], Joseph Reisman, MD[3] and William H. Yang, MD[1,4], [1]Allergy and Asthma Research Centre, Ottawa, ON, Canada, [2]University of Ottawa, Ottawa, ON, Canada, [3]Department of Pediatrics, University of Ottawa, Ottawa, ON, Canada, [4]University of Ottawa Medical School, Ottawa, ON, Canada

Asthma Therapeutics

2202
Saturday, February 21st, 2015, 9:45 AM - 10:45 AM

10 **Effects of Serum Vitamin D Levels on Allergic Diseases in Korean Children and Adolescents : The Korea National Health and Nutrition Examinations Survey (KNHANES)**

Hae-Ran Lee, MD, PhD, Hallym University Sacred Heart Hospital, Anyang-si, Gyeonggi-do, South Korea, So Yeon Lee, MD, PhD, Department of Pediatrics, Hallym University College of Medicine, Seoul, South Korea, Hong Kyu Park, Hallym Sacred Heart hospital, Hallym University College of Medicine and You Hoon Jeon, MD, Hallym Sacred Heart Hospital, Hallym University College of Medicine, Dongtan

11 **The in Vivo Profile of CT133, a Potent, Well Tolerated, and Selective CRTH2 Antagonist for the Treatment of Allergic Asthma and Rhinitis**

Dan Guo, CSPC Pharmaceutical Group, Princeton and Liyun Liu, CSPC Pharmaceutical Group, Hebei Province, China

12 **Inhaled Salmeterol Induces Salivary Alpha Amylase Activity in Healthy Subjects**

Andrea A Pappalardo, MD[1,2], Sherlyana Surja, MD[3], Caitlin M Campion[2], Sarah J Aldrich[2] and James N Moy, MD[2,3], [1]Asthma and Allergy Center, Bloomingdale, IL, [2]Rush University Medical Center, Chicago, IL, [3]John H. Stroger Hospital of Cook County, Chicago, IL

13 **A New Look at an Old Drug**

Ronald A. Strauss, MD, Case Western Reserve University School of Medicine, Fairview Park, OH

14 **Effects of Doubling the Highest Indicated Dose of Budesonide/Formoterol (BUD/FM) on Lung Function and Symptoms in Moderate-to-Severe Asthma with Fixed Airflow Obstruction (FAO)**

Michael DePietro, MD[1], Donald P. Tashkin, MD[2], Bradley E. Chipps, MD, FAAAAI[3] and Frank Trudo, MD[1], [1]AstraZeneca LP, Wilmington, DE, [2]David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA, [3]Capital Allergy & Respiratory Disease Center, Sacramento, CA

15 **Effect of Fixed Airflow Obstruction (FAO) Status on Lung Function, Asthma Control Days (ACD), and Asthma Symptom Score (AS) Responses to Budesonide/Formoterol (BUD/FM) Treatment in Patients with Moderate-to-Severe Asthma**

Donald P. Tashkin, MD[1], Frank Trudo, MD[2], Michael DePietro, MD[2] and Bradley E. Chipps, MD, FAAAAI[3], [1]David Geffen

School of Medicine, University of California, Los Angeles, Los Angeles, CA, [2]AstraZeneca LP, Wilmington, DE, [3]Capital Allergy & Respiratory Disease Center, Sacramento, CA

16 **Evaluation of Efficacy of Flunisolide HFA (AEROSPAN) in Children 4 to 11 Years of Age: A Sub-Group Efficacy Analysis By Baseline Asthma Medication Use**

John Karafilidis, PharmD, Nancy Ruiz, MD and Alison G. Martens, BS RN, Meda Pharmaceuticals, Somerset, NJ

17 **Level of Asthma Control in Children after Subcutaneous Immunotherapy**

Maria Isabel Garcimartin, MD[1], Francisco Javier Ruano[2], Diana Perez Alzate[3], Natalia Blanca-López, MD, PhD[1], Maria Luisa Somoza, MD[1], Maria Vazquez De La Torre, MD[4], Ana Antón-Laiseca, MD[5] and Maria Gabriela Canto Diez[5], [1]Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, [2]Allergy Unit. Infanta Leonor University Hospital.Hospital Infanta Leonor, Madrid, Spain, [3]HU Infanta Leonor, [4]HU INFANTA LEONOR, Madrid, Spain, [5]HU INFANTA LEONOR

18 **Once-daily Tiotropium Respimat® Add-on to at Least ICS Maintenance Therapy Reduces Airflow Obstruction in Patients with Symptomatic Asthma, Independent of Allergic Status**

Kevin R. Murphy, MD[1], David S. Pearlman, MD, FAAAAI[2], Ronald Dahl, MD[3], Pierluigi Paggiaro, MD[4], Michael Engel, MD[5], Petra Moroni-Zentgraf[5], Reinhold Lühmann[6] and Huib A.M. Kerstjens, MD[7], [1]Boys Town National Research Hospital, Boys Town, NE, [2]Colorado Allergy and Asthma Centers, Denver, CO, [3]Odense University Hospital, Odense, Denmark, [4]University of Pisa, Pisa, Italy, [5]Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim Am Rhein, Germany, [6]Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Germany, [7]University Medical Center Groningen, University of Groningen, Groningen, Netherlands

19 **Dose-Ranging Study to Evaluate the Efficacy and Safety of Four Doses of Fluticasone Propionate/Salmeterol Multidose Dry Powder Inhaler (FS MDPI) Compared with Fluticasone Propionate (Fp) Mdpi and FS DPI in Subjects with Persistent Asthma**

Jonathan Steinfeld[1], Gloria Yiu[1] and S David Miller[2], [1]Teva Branded Pharmaceutical Products R & D, Inc, [2]North-East Medical Research Associates

20 **Characteristics of Complementary and Alternative Medicine (CAM) Use Among Older Adults with Asthma**

Claire E. Ward, MD and Alan P. Baptist, MD, MPH, FAAAAI, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI

Atopy

2203

Saturday, February 21st, 2015, 9:45 AM - 10:45 AM

21 **Changes in DNA Methylation from Age 18 to Early Pregnancy Suggest a Th2 Bias**

Sabrina Iqbal[1], Gabrielle A. Lockett, PhD[2], John W. Holloway, PhD[2], Syed H. Arshad, DM, FRCP[3,4] and Wilfried Karmaus, MD, DrMed, MPH[5], [1]University Of Memphis, memphis, TN, [2]University of Southampton, Southampton, United Kingdom, [3]The David Hide Asthma and Allergy Research Centre, United Kingdom, [4]University of Southampton, United Kingdom, [5]University of Memphis, Memphis, TN

22 **Evaluation of Two Different Activation Markers in the Basophil Activation Test to Quinolones**

Adriana Ariza, PhD[1], Tahia D. Fernandez, PhD[2], Maria J Torres, MD, PhD[3], María J Rodriguez[4], Maria Isabel Montañez, PhD[1,5], Maria Auxiliadora Guerrero[6], Miguel Blanca, MD, PhD[7] and Cristobalina Mayorga, PhD[8], [1]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Malaga, Spain, [2]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, [3]Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain, [4]Research Laboratory, IBIMA-Regional University Hospital-UMA, Málaga, Spain, [5]Andalusian Centre for Nanomedicine and Biotechnology, BIONAND, Malaga, Spain, [6]Allergy Unit, Regional University Hospital of Málaga, IBIMA, UMA, Málaga, Spain, [7]Allergy Service, IBIMA-Regional University Hospital of Malaga, Málaga, Spain, [8]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain

23 **Pattern of Sensitization of Tomato Seed Lipid Transfer Protein**

Miguel González, Research Laboratory, Carlos Haya Hospital-FIMABIS, Málaga, Spain, Laura Martin-Pedraza, University Complutense Madrid, Madrid, Spain, Maria Luisa Somoza, Infanta Leonor Hospital, Madrid, Spain, Natalia Blanca, Carlos Haya Hospital, Malaga, Spain, Mayte Villalba, PhD, Department of Biochemistry and Molecular Biology, Faculty of Chemistry, Madrid, Spain, Cristobalina Mayorga, PhD, Research Laboratory for Allergic Diseases, Hospital Regional Universitario de Malaga - FIMABIS-IBIMA, Malaga, Spain, Gabriela Canto, MD, PhD, Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, Maria J Torres, MD, PhD, Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain, Ana Molina, Hospital Civil-Fimabis, MÁLAGA, Spain and Miguel Blanca, MD, PhD, Allergy Service, IBIMA-Regional University Hospital of Malaga, Málaga, Spain

24 **Allergen Specific IgE Response Is Similar in HIV-1 Seropositive and Seronegative Adults: Implications for HAART Induced Th2 to Th1 Switching**

Mili Shum, MD[1], Ashlei Mathew, MD[2], Maja Nowakowski, PhD[3], Hamid Moallem, MD[4], Tamar A. Smith-Norowitz, PhD[3], Helen G. Durkin, PhD[5] and Rauno O. Joks, MD, FAAAAI[3], [1]State University of New York Downstate Medical Center, Brooklyn, NY, [2]Center for Allergy and Asthma Research, State University of New York Downstate Medical Center, Brooklyn, NY, [3]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, Brooklyn, NY, [4]SUNY Downstate Medical Center, Brooklyn, NY, [5]Center for Allergy and Asthma Research, SUNY Downstate, Brooklyn, NY

25 **Naturally Occurring Tolerance Acquisition to Foods in Children Previously Allergic to Egg and Peanut Is Characterized By Antigen Specificity and Associated with Increased Subsets of Regulatory T Cells**

Nashmia Qamar, DO, MSci[1], Anna B. Fishbein, MD, MSci[1], Kristin A. Erickson[2], Miao Cai, MS[1], Christine Szychlinski, MS, APN, CPNP[3], Paul Bryce, PhD[4], Robert P. Schleimer, PhD, FAAAAI[4], Ramsay L. Fuleihan, MD[1] and Anne Marie Singh, MD[1], [1]Division of Allergy & Immunology, Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, 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]Division of Allergy-Immunology, Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [4]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

26 **Analytical Performance Characteristics, Quality Assurance and Clinical Utility of Immunological Assays for Human IgE Antibodies of Defined Allergen Specificities. (CLSI-ILA20-A3)**

Robert G. Hamilton, PhD, D.ABMLI, FAAAAI, Johns Hopkins University School of Medicine, Baltimore, MD, Per N. Matsson, PhD, Thermo Fisher Scientific, Portage, MI, Debra L. Hovanec-Burns, PhD, Siemens Healthcare Diagnostics, Los Angeles, CA, Mark Van Cleve, PhD, Hycor Biomedical, Garden Grove, CA,

Sic Chan, PhD, FDA, Silver Spring, MD, Anita Kober, PhD, Thermo Fisher Scientific, Phadia AB, Uppsala, Sweden, Joerg R. Kleine-Tebbe, MD, FAAAAI, Allergy and Asthma Center Westend, Berlin, Germany, Harald Renz, MD, Phillipps University Marburg, Marburg, Germany, Carina Magnusson, PhD, Thermofisher Scientific, Uppsala, Sweden, Ron Quicho, Clinical Laboratory Standards Institute, Wayne, PA and N. Franklin Adkinson, Jr, MD, FAAAAI, Johns Hopkins Asthma and Allergy Center, Baltimore, MD

27 **Allergic Extracts Require TLR4 to Activate and Increase Expression of CD40, CD80 and CD86 on Bone Marrow-Derived Dcs**

Qian Sun, PhD, Koa Hosoki, MD, PhD, Istvan Boldogh, PhD and Sanjiv Sur, MD, University of Texas Medical Branch, Galveston, TX

28 **Biological Variability of Dendritic Cells and Regulatory T Cells in Peripheral Blood of Normal Adults**

Maleewan Kitcharoensakkul, MD[1], Leonard B. Bacharier, MD, FAAAAI[1], Dana Burgdorf[2], Huiqing Yin-Declue, PhD[2], Jonathan S Boomer, PhD[2], Brad Wilson[2], Kenneth Schectman[2] and Mario Castro, MD, MPH[2], [1]Department of Pediatrics, Washington University School of Medicine and St. Louis Children's Hospital, Saint Louis, MO, [2]Department of Medicine, Washington University School of Medicine, Saint Louis, MO

29 **Respiratory Syncytial Virus-Induced Host IFN Signaling Differs Between A549 and BEAS-2B Epithelial Cell Lines**

Philippa Hillyer[1], Rachel E Shepard[1], Megan Uehling[1], Faruk Sheik[2], Cindy Luongo[3], Ursula J Buchholz[3], Peter L Collins[3], Raymond P Donnelly[2] and Ronald L. Rabin[1], [1]CBER/USFDA, Silver Spring, MD, [2]CDER/USFDA, Silver Spring, MD, [3]NIAID/NIH, Bethesda, MD

30 **Immune Regulation and Tryptophan Metabolism in Asthma**

Colleen Adkins, Cara Schafer, Yong Wang, Jennifer Trevor, William Bailey, David Redden, Mark Dransfield and Jessy Deshane, University of Alabama at Birmingham, Birmingham, AL

31 **The Differential Relationship Between Regulatory T-Cells and Age in Children with Food Allergy**

Benjamin T Prince, MD[1], Kristin A Erickson[1], Christine Szychlinski, MS, APN, CPNP[2], Robert P. Schleimer, PhD, FAAAAI[3], Paul Bryce, PhD[3] and Anne Marie Singh, MD[1,2], [1]Division of Allergy-Immunology, Department of Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Division of Allergy-Immunology, Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [3]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

32 **Glutathione S-Transferase Mu 1 (GSTM1) Gene Associated with Allergic Rhinitis in a Food Allergy Cohort**

Sheva K. Chervinskiy, DO, Department of Pediatrics, University of North Carolina, Chapel Hill, NC, Lisa Smeester, Gillings School of Public Health, University of North Carolina, Chapel Hill, NC, Michael D. Kulis Jr, PhD, University of North Carolina School of Medicine, Chapel Hill, NC, David B. Peden, MD, MS, FAAAAI, Office #544, Campus Box 7310, University of North Carolina at Chapel Hill School Medicine, NC, Brian P. Vickery, MD, Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA and Rebecca C. Fry, PhD, Gillings School of Public Health, University of North Carolina, Chapel Hill NC

T Cells, Cellular, and Combined Immunodeficiencies

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33 **Disseminated Atypical Mycobacterial Infection in Three Patients with Complete Digeorge Anomaly**

Noah O. Agada, MD[1], Suellen M Yin, MD[2], Jonathan S Tam, MD[2], Matthew S Kelly, MD[1] and M. Louise Markert, MD, PhD, FAAAAI[1], [1]Duke University Medical Center, Durham, NC, [2]Children's Hospital Los Angeles, Los Angeles, CA

34 **Good's Syndrome Presenting As T-Cell Large Granular Lymphocyte Leukemia**

Caroline V. Caperton, MD, MSPH and Sudhir Gupta, MD, PhD, FAAAAI, Program in Primary Immunodeficiency and Aging, Division of Basic and Clinical Immunology, University of California School of Medicine, Irvine, CA

35 **Recurrent Human Papillomavirus Infection and Delayed Diagnosis of Idiopathic CD4 Lymphocytopenia**

Michelle Korah-Sedgwick, MD and Kenneth Paris, MD, MPH, LSU Health Sciences Center, New Orleans, New Orleans, LA

36 **The Success of Newborn Screening for Severe Combined Immunodeficiency, Our Hospital's Experience**

Catherine D. Kubiak, MD[1], Jessica R. Trotter, MA BS[2], Aleksandra Petrovic, MD[3] and Jennifer W. Leiding, MD[2], [1]University of South Florida, St Petersburg, FL, [2]University of South Florida, St. Petersburg, FL, [3]All Children's Hospital, St. Petersburg, FL

37 **Persistent T Cell Lymphopenia: An Algorithim for Follow up Care**

Pamella Abghari, MD, Children's Hospital of Michigan, Department of Allergy Immunology, Detroit, MI, 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 and Elizabeth A. Secord, MD, FAAAAI, Wayne State University School of Medicine, Detroit, MI; Children's Hospital of Michigan Department of Allergy Immunology, Detroit, MI

38 **Tubular Interstitial Nephritis, an Unusual Manifestation of T Cell-Associated Severe Chronic Active Epstein-Barr Virus Infection**

Joel L. Gallagher, MD, Medical College of Wisconsin, Milwaukee, WI, Michael Eckrich, MD, MPH, Levine Children's Hospital, Charlotte, NC, Jeffrey Cohen, MD, National Institutes of Health, Bethesda, MD and Niraj C. Patel, MD, Levine Children's Hospital at Carolinas Medical Center, Charlotte, NC

39 **Normal CD40L Expression in an Infant with X-Linked Hyper IgM Syndrome By Gene Sequencing**

Jeremy A Pickell, MD[1], Joel L. Gallagher, MD[2], Yenhui Chang, MD/PhD[3] and Niraj C. Patel, MD[1], [1]Levine Children's Hospital at Carolinas Medical Center, Charlotte, NC, [2]Medical College of Wisconsin, Milwaukee, WI, [3]All Children's Hospital, St. Petersburg, FL

40 **Newborn Screening for Severe Combined Immunodeficiency (SCID) Leads to Early Identification of Ataxia-Telangiectasia (AT) Complicated By Neutropenia: A Case Report**

Tara Shankar, MD[1], Xiaohua Chen, PhD[2], Paul Szabolcs, MD[2], Mark T. Vander Lugt, MD[2] and Hey J. Chong, MD, PhD[1], [1]Children's Hospital of Pittsburgh of UPMC, Division of Allergy and Immunology, Pittsburgh, PA, [2]Children's Hospital of Pittsburgh of UPMC, Division of Blood and Marrow Transplant and Cellular Therapies, Pittsburgh, PA

41 **Seventeen Month Old Child Presents with Plastic Bronchitis Associated with T Cell Lymphopenia, a Novel Case**

Neema Izadi, MD, Peck Y. Ong, MD, FAAAAI and Jonathan S Tam, MD, Children's Hospital Los Angeles, Los Angeles, CA

42 **Clinical Characteristics and Genetic Profiles of Severe Combined Immunodeficiency: A Single Center Experience in China**

YingYing Jin[1,2], Wei Zhao[3] and Tongxin Chen[1,2], [1]Department of Allergy and Immunology, Shanghai Children's Medical Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China, [2]Division of Immunology, Institute of Pediatric Translational Medicine, Shanghai Jiao Tong University School of Medicine, Shanghai, China, [3]Division of Allergy and Immunology, Department of Pediatrics, Virginia Commonwealth University

43 **Hemophagocytic Lymphohistiocytosis (HLH) in Noonan's Syndrome (NS) Successfully Treated with Anti-IL-1beta Therapy**
Bob Geng, MD[1], Maria Garcia-Lloret, MD, FAAAAI[2], Deborah McCurdy, MD[3], Eric Yen, MD[3] and Tanesha Moss[3], [1]UCLA, Los Angeles, CA, [2]Division of Allergy and Immunology, Department of Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, CA, [3]UCLA

44 **Nijmegen Breakage Syndrome Detected By Newborn Screening for T Cell Receptor Excision Circles (TRECs)**
Jay Patel, MD[1], Jennifer M. Puck, MD[2], Kunal Kundu[3], Uma Sunderam[3], Christina Brown[4], Rajgopal Srinivasan, PhD[3], Steven E. Brenner, PhD[5], Richard A. Gatti, MD[4] and Joseph A. Church, MD, FAAAAI[6], [1]Division of General Pediatrics, Children's Hospital of Los Angeles, Los Angeles, CA, [2]Department of Pediatrics, University of California San Francisco and UCSF Benioff Children's Hospital, San Francisco, CA, [3]TCS Innovation Labs Hyderabad, [4]Departments of Human Genetics and Pathology & Laboratory Medicine, University of California Los Angeles School of Medicine, [5]Department of Plant and Microbial Biology, University of California Berkeley, [6]Division of Clinical Immunology, Children's Hospital of Los Angeles, Keck School of Medicine, University of Southern California, Los Angeles, CA

45 **Newborn Screening for Severe Combined Immunodeficiency in Delaware: Results of the First 3 Years**
Stacey Galowitz, DO[1,2], Stephen J. McGeady, MD, FAAAAI[1,2], Louis Bartoshesky, MD, MPH[3] and Magee L DeFelice, MD[1,2], [1]Thomas Jefferson University Hospital, Philadelphia, PA, [2]Nemours/AI duPont Hospital for Children, Wilmington, DE, [3]Christiana Care Health Care System, Newark, DE

46 **A Case of Leaky SCID with Variable Presentation in Two Siblings Identified By Newborn Screening**
Elena Crestani, MD, MS, Division of Allergy/Immunology, Boston Children's Hospital, Harvard Medical School, Boston, MA, Catherine M. Biggs, MD, Division of Immunology - Children's Hospital Boston, Boston, MA, Anne M Comeau, UMass Medical School - New England Newborn Screening Program, Janaica Plain, MA, Sung-Yun Pai, MD, Division of Hematology/Oncology - Children's Hospital Boston, Boston, MA and Luigi D. Notarangelo, MD, Division of Immunology, Boston Children's Hospital, Harvard Medical School, Boston, MA

47 **Profoundly Low Immunoglobulins, Lymphopenia, Thymoma and No Infections**
Jason R. Catanzaro, MD, Alfred I. Lee, MD and Christina C. Price, MD, Yale University School of Medicine, New Haven, CT

48 **Novel Mutation in a Patient with MHC Class II Deficiency**
Aisha Ahmed, MD, UCSF, San Francisco, CA, Walter Reith, PhD, University of Geneva, Switzerland and Laurence E. Cheng, MD, PhD, University of California, San Francisco Medical Center, San Francisco, CA

49 **Individual Cytidine Deaminase and Adenosine Deaminase Variations in a Highly Immunologically Homogenous Group of Healthy Belarussian Adults**
Leonid P. Titov, MD, PhD, Republican Scientific and Practical Center for Epidemiology and Microbiology, Minsk, Minsk, Belarus; Belarusian State Medical University, Minsk, Belarus, K. I. Pavlov, The Republican Research and Practical Center for Epidemiology and Microbiology (RRPCEM), Minsk, Belarus, Minsk, Belarus, Andrei Y. Hancharou, Republican Scientific and Practical Center for Epidemiology and Microbiology,Minsk, Minsk, Belarus and Lawrence M. DuBuske, MD, FAAAAI, George Washington University School of Medicine, Washington, DC

50 **Pediatric Thymic Development of T Cells and Tregs**
Shannon Moree[1], Charlotte H Rivas[1] and Dat Q. Tran, MD[2], [1]University of Texas Medical School, Houston, TX, [2]University of Texas Medical School at Houston, Houston, TX

51 **Newborn Screening for Severe Combined Immunodeficiency (SCID) in Ohio: Using Algorithms to Standardize Follow-up Limits the Number of False Positive Results**
Rebecca Scherzer, MD, FAAAAI[1], Kimberly A. Risma, MD, PhD, FAAAAI[2], Peter Mustillo, MD, FAAAAI[1], Ram Chandrasekar[3], Sharon Linard[3], Sherman Alter[4], Jack J.H. Bleesing, MD, PhD[2], Alexandra H. Filipovich, MD[2], Leigh A. Kerns, MD[5], Rebecca A. Marsh, MD[2], Velma Paschall[6], Nancy Wasserbauer, DO[7] and Rosemary Hage[3], [1]Nationwide Children's Hospital, Columbus, OH, [2]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [3]Ohio Department of Health, [4]Dayton Children's Hospital, Dayton, OH, [5]Rainbow Babies and Childrens Hospital, Cleveland, OH, [6]Cleveland Clinic, Cleveland, OH, [7]Westshore Primary Care

52 **Site Specific Gene Correction of Defects in CD40 Ligand Using the Crispr/Cas9 Genome Editing Platform**
Caroline Y. Kuo, MD, Division of Allergy and Immunology, Department of Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, CA, Megan D. Hoban, MS, University of California, Los Angeles, Los Angeles, CA, Alok V. Joglekar, PhD, Department of Microbiology, Immunology, and Molecular Genetics, University of California, Los Angeles, Los Angeles, CA and Donald B. Kohn, MD, Department of Pediatrics and Department of Microbiology, Immunology, and Molecular GeneticsUniversity of California, Los Angeles, Los Angeles, CA

53 **Rapidly Generated Viral-Specific T Lymphocytes for Treatment of Viral Infections in Primary Immunodeficiency**
Michael Keller, MD[1], Patrick Hanley, PhD[2], Catherine Bollard, MD[2], Conrad R Cruz, MD, PhD[2] and Sarah McCormack, BSc[2], [1]Allergy/Immunology, Children's National Medical Center, Washington, DC, [2]Children's National Medical Center

Mold: Characteristics and Measurements of Exposure

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54 ***Alternaria alternata* Fungal Exposure Associated with Increased Fractional Exhaled Nitric Oxide Among Children in New York City**
Nitzan Soffer, PhD[1], Brett J Green, PhD[2], Luis M. Acosta, MD[1], Adnan Divjan[1], Edward Sobek, PhD[3], Merissa McGraw-Boitnotte[3], Angela R Lemons[2], Rachel Miller, MD[4], Andrew Rundle, DrPH[5], Judith Jacobson, DrPH[5], Inge Goldstein, DrPH[5] and Matthew S. Perzanowski, PhD[1], [1]Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, New York, NY, [2]CDC/NIOSH/ACIB, Morgantown, WV, [3]Assured Bio Labs, Oak Ridge, TN, [4]Division of Pulmonary, Allergy and Critical Care Medicine, Columbia University, New York, NY, [5]Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY

55 **Dustborne Fungal Diversity in Middle-Income Homes in New York City and Determinants for Domestic Exposure**
Luis M. Acosta, MD[1], Nitzan Soffer, PhD[1], Adnan Divjan[1], Merissa McGraw-Boitnotte[2], Edward Sobek, PhD[2], Angela R Lemons[3], Matthew S. Perzanowski, PhD[4] and Brett J Green, PhD[3], [1]Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, New York, NY, [2]Assured Bio Labs, Oak Ridge, TN, [3]CDC/NIOSH/ACIB, Morgantown, WV, [4]Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, New York City, NY

56 **Fungal Viability Is Essential in Modulating of Adaptive Immune Responses in Mice**
Brett J Green, PhD[1], Ajay P Nayak, PhD[1], Tara L Croston, PhD[1], Angela R Lemons[1], Nikki B Marshall, PhD[1], W.Travis Goldsmith[2],

Michael Kashon, PhD[3], Brandon F Law[1], Lauren M Wagner, PhD[1], Carrie M Long[1], Dori M Germolec, PhD[4] and Donald H Beezhold, PhD, FAAAAI[1], [1]CDC/NIOSH/ACIB, Morgantown, WV, [2]CDC/NIOSH/PPRB, Morgantown, WV, [3]CDC/NIOSH/BEB, Morgantown, WV, [4]NTP/NIEHS, Research Triangle Park, NC

57 Comparison of Outdoor Ground Level Airborne Fungal Spore Concentrations with Those of a Roof Mounted Regional Collector

Minati Dhar, PhD[1], Freddy Pacheco, MS[2], Jay M. Portnoy[3] and Charles S Barnes, PhD[2], [1]Children's Mercy Hospital & Clinics, Kansas City, MO, [2]Children's Mercy Hospital, Kansas City, MO, [3]Department of Pediatric Allergy & Immunology, Children's Mercy Hospital & Clinics, Kansas City, MO

58 A Fifteen Year Study of Airborne Alternaria Spores in Tulsa, Oklahoma

Meghana Rao, University of Tulsa, Claudia Owens, MS, University of Tulsa, Tulsa and Estelle Levetin, PhD, FAAAAI, University of Tulsa, Tulsa, OK

59 Characterization of Antigen Presenting Cells in a Murine Subchronic Fungal Exposure Model

Ajay P Nayak, PhD[1], Brett J Green, PhD[1], Tara L Croston, PhD[1], Angela R Lemons[1], Nikki B Marshall, PhD[1], W.Travis Goldsmith[2], Michael Kashon, PhD[3], Brandon F Law[1], Lauren M Wagner, PhD[1], Carrie M Long[1], Dori M Germolec, PhD[4] and Donald H Beezhold, PhD, FAAAAI[1], [1]CDC/NIOSH/ACIB, Morgantown, WV, [2]CDC/NIOSH/PPRB, Morgantown, WV, [3]CDC/NIOSH/BEB, Morgantown, WV, [4]NTP/NIEHS, Research Triangle Park, NC

60 Comparison of Year Round Outdoor and Indoor Fungal Spore Count in Kansas City

David A. Jara, MD[1], Jay M. Portnoy[2], Minati Dhar, PhD[3] and Charles S. Barnes, PhD[1], [1]Children's Mercy Hospital, Kansas City, MO, [2]Department of Pediatric Allergy & Immunology, Children's Mercy Hospital & Clinics, Kansas City, MO, [3]Children's Mercy Hospital & Clinics, Kansas City, MO

61 Seasonal and Daily Distribution of Allergic Epicoccum Spores in Ambient Air in Vinnitsa, Ukraine

Viktoria Rodinkova[1], E S Bilous[2], I Motruk[1], K. V. Musatova[2], L V Slobodyanyuk[2] and Lawrence M. DuBuske, MD, FAAAAI[3], [1]Vinnitsa National Pirogov Memorial Medical University, Vinnitsa, Ukraine, [2]Seasonal and daily distribution of allergic Epicoccum spores in the ambient air of Vinnitsa, Ukraine, Vinnitsa, Ukraine, [3]George Washington University School of Medicine, Washington, DC

62 Outdoor Fungal Spore Exposure in the Midwestern United States

Margaret R. Bozarth, MD[1,2], Charles S. Barnes, PhD[2] and Paul J. Dowling, MD, FAAAAI[3], [1]University of Missouri-Kansas City School of Medicine, Kansas City, MO, [2]Children's Mercy Hospitals and Clinics, Kansas City, MO, [3]Children's Mercy Hospital, Kansas City, MO

63 Measurements of B-Cell Activating Factor (BAFF) of Tumor Necrosis Factor Family in Patients with Allergic Bronchopulmonary Aspergillosis (ABPA) and Asthma

David A. Nayak, MD, Paul A. Greenberger, MD, FAAAAI and Donna M. Watkins, Northwestern University - Feinberg School of Medicine, Chicago, IL

64 An Unusual Cause of Wheezing in a 57 Year Old Female

Andrew D. Collins, MD, Washington University, St. Louis, MO

65 TH2 Type Immune Responses in Patients with Chronic Progressive Pulmonary Aspergillosis

Kohta Itahashi, MD[1], Yoshio Sakamoto, MD, PhD[2], Sayaka Arakawa, MD[2], Yuki Shinno, MD[2], Saki Nagoshi, MD[2], Yugo Okabe, MD[2], Yuko Nakase, MD, PhD[2], Masaki Kawakami, MD, PhD[2] and Masaru Suzuki, MD, PhD[2], [1]Tokyo University, Tokyo, Japan, [2]Kanto Central Hospital, Tokyo, Japan

Allergy to Furry Animals and Asthma

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66 Predictors of Bedroom Allergen Exposures in U.S. Homes

Paivi M. Salo, PhD[1], Renee Jaramillo, MStat[2], Kathryn M. Rose, PhD[2], Agustin Calatroni, MA MS[3], Herman Mitchell, PhD[3] and Darryl C. Zeldin, MD[1], [1]Environmental Cardiopulmonary Diseases Group, Immunity, Inflammation & Disease Laboratory, Division of Intramural Research, NIEHS/NIH, Research Triangle Park, NC, [2]Social & Scientific Systems, Inc., Durham, NC, [3]Rho, Inc., Chapel Hill, NC

67 Mouse Sensitivity Is an Independent Risk Factor for Rhinitis in Children with Asthma

Ahmad R. Sedaghat, MD, PhD, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA, Elizabeth C. Matsui, MD, MHS, Johns Hopkins University School of Medicine, Baltimore, MD, Matthew S. Perzanowski, PhD, Department of Environmental Health Sciences, Columbia University, New York, NY, Mary E. Bollinger, DO, Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD, Rachel Miller, MD, Division of Pulmonary, Allergy and Critical Care Medicine, Columbia University, New York, NY and Wanda Phipatanakul, MD, MS, Boston Children's Hospital, Boston, MA

68 IgE to Furry Animal Allergen Components Was Associated with Asthma in a Population-Based Study of Adults

Sigrid Sjolander[1], Anders Bjerg, MD, PhD[2], Linda Ekerljung, PhD[3], Otti Bengtsson-Gref[1], Magnus Borres, MD, PhD, FAAAAI[4], Eva Ronmark, PhD[5], Jan Lotvall, MD, PhD[3] and Bo Lundback, MD, PhD[3], [1]ImmunoDiagnostics, Thermo Fisher Scientific, Uppsala, Sweden, [2]Krefting Research Centre, University of Gothenburg, Gothenburg, Sweden, [3]Krefting Research Centre, University of Gothenburg, Sweden, [4]Department of Women's and Children's Health, Uppsala University, Sweden, Uppsala, Sweden, [5]Department of Public Health and Clinical Medicine, The OLIN Unit, Umea University, Umea, Sweden

69 IgE Antibodies to Mammalian Allergens Are a Major Risk Factor for Prevalence, Severity, and Persistence of Asthma in Northern Sweden

Hayley R. James, BS[1], Matthew S. Perzanowski, PhD[2], Eva Ronmark, PhD[3], Linnea Hedman[3], Anders Bjerg, MD, PhD[4], Alexander J. Schuyler, BS, BA[1], Lisa J. Workman, BA[5], Bo Lundback, MD, PhD[4] and Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[5], [1]Department of Medicine, Division of Asthma, Allergy and Immunology, University of Virginia, Charlottesville, VA, [2]Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, New York, NY, [3]Department of Public Health and Clinical Medicine, The OLIN Unit, Umea University, Umea, Sweden, [4]Krefting Research Centre, University of Gothenburg, Gothenburg, Sweden, [5]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA

70 Association of Sensitization to Specific Pet Allergen Components with Asthma Symptoms in School Children

Malin Berthold, PhD[1], Anders Bjerg, MD, PhD[2,3], Anna Winberg, MD[3,4], Lars Mattsson[1], Magnus Borres, MD, PhD, FAAAAI[1,5] and Eva Ronmark, PhD[3,6], [1]Thermo Fisher Scientific, Uppsala, Sweden, [2]Krefting Research Centre, University of Gothenburg, Gothenburg, Sweden, [3]Obstructive Lung Disease in Northern Sweden (OLIN) studies, Norrbotten county council, Luleå, Sweden, [4]Umea University Hospital, Umea, Sweden, [5]Department of Women's and Children's Health, Uppsala University, Sweden, Uppsala, Sweden, [6]Department of Public Health and Clinical Medicine, The OLIN Unit, Umea University, Umea, Sweden

Food Allergy I

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71 **Recommendation of Nutritional Alternatives for Children Between 1 and 2 Years of Age with Cow's Milk Allergy**

Erica J. Glancy, MD, Fouseena Pazheri, MD and Brian C. Schroer, MD, Cleveland Clinic, Cleveland, OH

72 **Impact of Clinical Reactions on IgE Concentrations to Egg, Milk and Peanut in the Observational Cohort of the Consortium for Food Allergy Research (COFAR)**

Scott H. Sicherer, MD[1], Robert A. Wood, MD[2], Stacie M. Jones, MD[3], Tamara T. Perry, MD[3], Brian P. Vickery, MD[4], A. Wesley Burks, MD[5], Andrew H Liu, MD, FAAAAI[6], Donald Y.M. Leung, MD, PhD, FAAAAI[6], Robert W. Lindblad, MD[7], Peter Dawson, PhD[7], Beth Blackwell, PhD[7] and Hugh A. Sampson, MD[8], [1]Icahn School of Medicine at Mount Sinai, 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, [5]University of North Carolina at Chapel Hill, Chapel Hill, NC, [6]National Jewish Health, Denver, CO, [7]The EMMES Corporation, Rockville, MD, [8]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

73 **Predicting Symptoms during Build-up and Maintenance Phases during Treatment with Peanut Oral Immunotherapy (PN-OIT)**

Jeffrey M. Factor, MD, FAAAAI[1], Louis M. Mendelson, MD, FAAAAI[1], Jason Lee, MD, FAAAAI[1], Glenda Nouman, DO[1], Jessica E. Shui, MD[2] and Marie de Alwis, MD[2], [1]New England Food Allergy Treatment Center, West Hartford, CT, [2]Connecticut Children's Medical Center

74 **Quality of Life and Challenges with Peanut Consumption after OIT**

Jennifer S. LeBovidge, PhD, Sara C. Spielman, BS, Sara V. Little, BA, Ashley Deleon, BA, Rima A. Rachid, MD, FAAAAI and Lynda C. Schneider, MD, FAAAAI, Boston Children's Hospital, Boston, MA

75 **Basophil Hyporesponsiveness Following Six Months of Peanut Oral Immunotherapy (OIT) Is Associated with Suppression of Syk Phosphorylation**

Michael D. Kulis Jr, PhD[1], Caitlin Burk[1], Xiaohong Yue, MS[1], Huamei Zhang[1], Pamela H. Steele, MSN, CPNP, AE-C[1], Deanna K. Hamilton, RN[1], Ayeshia Beavers, BS[1], Benjamin L. Wright, MD[1,2], Soman N. Abraham, PhD[2], Brian P. Vickery, MD[1] and A. Wesley Burks, MD[1], [1]University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Duke University Medical Center, Durham, NC

76 **Peanut Component Analysis Predicts Response to Ara h 2-Dominant Oral Immunotherapy**

Alice E.W. Hoyt, MD[1], Alexander J. Schuyler, BS, BA[2], Julia A. Cronin, MD[1], Eva-Maria King, PhD[3], Martin D. Chapman, PhD, FAAAAI[3] and Scott P. Commins, MD, PhD[1], [1]University of Virginia, Charlottesville, VA, [2]Department of Medicine, Division of Asthma, Allergy and Immunology, University of Virginia, Charlottesville, VA, [3]Indoor Biotechnologies, Inc., Charlottesville, VA

77 **Double Oral Milk and Egg Immunotherapy**

Gabriela A. Zambrano Ibarra[1], Rocío Mourelle[2], Celia Pinto Fernandez[3], Lydia Zapatero, MD[4], Victoria Fuentes-Aparicio, MD[5] and Elena Alonso-Lebrero, PhD[4], [1]HGUG Marañon, Madrid, Spain, [2]HU Puerta De Hierro, Madrid, Spain, [3]Gregorio Marañón Universitary Hospital, Madrid, Spain, [4]Hospital Materno Infantil Gregorio Marañón, Pediatric Allergy Department, Madrid, Spain, [5]Hospital Clínico San Carlos.Allergy Department.IdiSSC, Madrid, Spain

78 **Long Term Follow-up of Patients Successfully Completing Oral Immunotherapy for IgE-Mediated Cow's Milk Allergy**

Yitzhak Katz, MD, FAAAAI[1,2], Michael Y Appel[3], Michael R Goldberg, MD, PhD[1], Arnon Elizur, MD[1,2], Liat Nachshon, MD[1] and Michael B. Levy, MD, FAAAAI[1], [1]Assaf Harofeh, Zerifin, Israel, [2]Tel-Aviv University, Tel-Aviv, Israel, [3]Assaf Harofeh, Israel

79 **Influence of Wheat on the Outcome of Oral Food Challenge (OFC) to Baked Egg**

Bruce J. Lanser, MD, Anna Faino, MS, Erwin W. Gelfand, MD, FAAAAI and Pia J. Hauk, MD, National Jewish Health, Denver, CO

80 **Evaluation of Plasma Chemokines and Cytokines in the Setting of Egg Oral Immunotherapy (OIT)**

Stephanie Albin, MD[1], Kezhen Fei, MS[1], Robert A. Wood, MD[2], David M Fleischer, MD[3], Scott H. Sicherer, MD[4], Robert W. Lindblad, MD[5], Brian P. Vickery, MD[6], Andrew H Liu, MD, FAAAAI[7], Amy M. Scurlock, MD[8], A. Wesley Burks, MD[9], Stacie M. Jones, MD[10], Hugh A. Sampson, MD[11] and Cecilia Berin, PhD[4], [1]The Icahn School of Medicine at Mount Sinai, New York, NY, [2]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [3]Department of Pediatrics, National Jewish Health, Denver, Colorado, USA, [4]Icahn School of Medicine at Mount Sinai, New York, NY, [5]The EMMES Corporation, Rockville, MD, [6]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, [7]National Jewish Health, Denver, CO, [8]Slot 512-13, UAMS/AR Children's Hospital, Little Rock, AR, [9]University of North Carolina at Chapel Hill, Chapel Hill, NC, [10]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR, [11]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

81 **Baked Egg Oral Immunotherapy (OIT) for Baked Egg (BE) Allergic Children**

Maryam Saifi, MD[1], April Clark, RD, CSP, LD[2], Amy Arneson, RN[2], Matthew Feldman, MD[3] and J. Andrew Bird, MD, FAAAAI[3], [1]University of Texas Southwestern Medical Center, Dallas, [2]Children's Medical Center, Dallas, TX, [3]UT Southwestern Medical Center, Dallas, TX

82 **Web-Based Reporting Increases Reporting Compliance during the Home Treatment Phase of OIT**

Liat Nachshon, MD[1], Michael R Goldberg, MD, PhD[1], Arnon Elizur, MD[1,2], Michael B. Levy, MD, FAAAAI[1], Naama Schwartz, MA[3] and Yitzhak Katz, MD, FAAAAI[1,2], [1]Assaf Harofeh, Zerifin, Israel, [2]Tel-Aviv University, Tel-Aviv, Israel, [3]School of public health, university of Haifa, Haifa, Israel

83 **Humoral and Cellular Immune Responses in Milk-Allergic Children on an Extensively-Heated (baked) Milk-Containing Diet**

Hugh A. Sampson, MD[1], Madhan Masilamani, PhD[2], Jacob D. Kattan, MD[2], Beth D. Strong, RN CCRC[3], Kaitie Fernandez[4], Tee Bahnson, BS, MPH[5] and Anna H. Nowak-Wegrzyn, MD, FAAAAI[2], [1]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [2]Icahn School of Medicine at Mount Sinai, New York, NY, [3]Icahn School of Medicine at Mount Sinia, New York, NY, [4]Rho Federal Systems Division, Inc., Chapel Hill, NC, Chapel Hill, NC, [5]Rho Federal Systems Division, Inc., Chapel Hill, NC

84 **Long Term Follow-up of Patients Requiring Injectable Epinephrine Following Completion of Oral Immunotherapy for IgE-Cow's Milk Allergy**

Arnon Elizur, MD[1,2], Michael R Goldberg, MD, PhD[2], Michael B. Levy, MD, FAAAAI[2], Liat Nachshon, MD[2], Moshe Appel[3] and Yitzhak Katz, MD, FAAAAI[1,2], [1]Tel-Aviv University, Tel-Aviv, Israel, [2]Assaf Harofeh, Zerifin, Israel, [3]Asaf Harofeh Medical Center, Israel

85 **Single Practice Six-Year Experience Treating Food Allergy with Oral Immunotherapy**

Dena M. Pence, RT, Angela R. Hague, PA-C, Richard L. Wasserman, MD, PhD, FAAAAI, Robert W. Sugerman, MD, FAAAAI and Stacy K. Silvers, MD, DallasAllergyImmunology, Dallas, TX

86 **Safety of Specific Oral Tolerance Induction (SOTI) with Partially Hydrolyzed Cereals in Correlation to Wheat-Protein IgE**

Philippe A. Eigenmann, MD[1], Roger Lauener, MD[2], Andreas Jung, MD[3], Sophie Pecquet, PhD[4], Sophie Nutten, PhD[5], Yvonne Vissers, PhD[5], Sigrid Sjolander, PhD[6] and Jacqueline Wassenberg, MD[7], [1]Geneva University Hospitals, Geneva, Switzerland, [2]Children Hospital of Eastern Switzerland, St Gallen, Switzerland, [3]Hochgebirgsklinik Davos, Davos, Switzerland, [4]Nestlé Clinical Development Unit, Vevey, Switzerland, [5]Nestlé Research Center, Lausanne, Switzerland, [6]Thermo Fisher Scientific, Uppsala, Sweden, [7]AllergoPed, Vevey, Switzerland

87 **Tolerance to Allergenic Foods Following Food Oral Immunotherapy (FOIT)**

Angela R. Hague, PA-C, Richard L. Wasserman, MD, PhD, FAAAAI, Robert W. Sugerman, MD, FAAAAI and Stacy K. Silvers, MD, DallasAllergyImmunology, Dallas, TX

88 **Memory B Cells Are Necessary for the Adoptive Transfer of Murine Peanut Allergy**

Daphne Moutsoglou, BS and Stephen C. Dreskin, MD, PhD, FAAAAI, University of Colorado Denver, Aurora, CO

89 **Recombinant Probiotic Bacillus Subtilis Spores with Surface Expression of Ara h2 Reduce Peanut-Induced Anaphylaxis in Mice**

Zhenwen Zhou, PhD[1,2], Ying Song, MD[1], Chaoyi Mao, MD[3,4], Kamal D. Srivastava, PhD[1], Changda Liu, PhD[1], Nan Yang, PhD[1], Zhigang Liu, PhD[5] and Xiu-Min Li, MD, MS[1], [1]Pediatric Allergy and Immunology, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Guangzhou Women and Children's Medical Center, Guangzhou, People's Republic of China, [3]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, New York, [4]China Academy of Chinese Medicine Science, Beijing, P.R.China, [5]Medicine school of Shenzhen University, Shenzhen, P.R.China

90 **Evaluating the Potential Allergenicity of Dietary Proteins Using Model Allergenic and Weak/Non-Allergenic Proteins in Germ-Free Mice**

Nathan L. Marsteller[1,2], Kwame Andoh-Kumi[1], Daniel A. Peterson, MD/PhD[3], Richard E. Goodman, FAAAAI[1] and Joe L. Baumert, PhD[1], [1]Food Allergy Research and Resource Program, University of Nebraska-Lincoln, Lincoln, NE, [2]School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, NE, [3]Johns Hopkins School of Medicine, Baltimore, MD

91 **Acute Anti-IgE Effect of Topical Application of Formulation of Herbal Extracts in a Peanut Allergic Murine Model**

Chaoyi Mao, MD[1,2], Ying Song, MD[3], Zhenwen Zhou, PhD[4,5], Changda Liu, PhD[6], Kamal D. Srivastava, PhD[6], Farid Jahouh, PhD[7], Rong Wang, PhD[7], Xiaoping Yan[8] and Xiu-Min Li, MD, MS[6], [1]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, New York, [2]China Academy of Chinese Medicine Science, Beijing, P.R.China, [3]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, [4]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [5]Women and Children's Medical Center, Guangzhou, China, [6]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [7]Department of Genetics and Genomic Sciences, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [8]Pharmaceutical Research and Manufacturing Institute, Xi Yuan Hospital, China Academy of Chinese Medicine Science, Beijing, China

92 **Clinical Analysis of Immediate Hypersensitivity to Hydrolyzed Wheat Proteins in Soap**

Akiko Yagami[1], Masashi Nakamura[1,2], Kayoko Suzuki[3], Akiyo Sano[1], Masaru Arima[1], Yohei Iwata[1], Tsukane Kobayashi[1], Kazuhiro Hara[2] and Kayoko Matsunaga[1], [1]Department of Dermatology, Fujita Health University School of Medicine, Aichi, Japan, [2]General Research and Development Institute, Hoyu Co., Ltd., Aichi, Japan, [3]Department of Dermatology, Kariya Toyota General Hospital, Aichi, Japan

93 **The Frequency of Food Allergens in Pet Foods**

Michael H. Land, MD, FAAAAI, Allergy, Southern California Permanente Medical Group, San Diego, CA, Noah J. Friedman, MD, FAAAAI, Kaiser Permanente, San Diego, CA and Robert S. Zeiger, MD, PhD, FAAAAI, Kaiser Permanente Southern California, San Diego, CA

94 **Predicting Oral Food Challenges to Baked Egg**

Maaria Syed, MD[1,2], Kristin A Erickson[3], Ashleigh A. Olson, MD[1,2], Christine Szychlinski, MS, APN, CPNP[4], Miao Cai, MS[3] and Anne Marie Singh, MD[3,4], [1]Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [2]Department of Pediatrics, 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

95 **Factors Resulting in Deferral of Diagnostic Oral Food Challenges**

Natalie F. Davis[1], Maureen Egan, MD[2] and Scott H. Sicherer, MD[2], [1]Jaffe Food Allergy Institute, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Icahn School of Medicine at Mount Sinai, New York, NY

96 **Description and Outcomes of Oral Food Challenges in a Tertiary Paediatric Allergy Clinic in South Africa**

Talita A. Ferreira-van Der Watt, MBChB (UFS), FCPaeds (SA), MMED Paeds (UStell), DCH (SA)[1], Michael E. Levin, MBChB, FCPaed, Dip Allergology, MMed(Paeds), PhD, EAACI allergy exam (UEMS), Certificate Allergology, FAAAAI[2,3] and Wisdom Basera, MPH[3], [1]Red Cross Children's Hospital/University of Cape Town, Cape Town, South Africa, [2]Red Cross War Memorial Children's Hospital, Cape Town, South Africa, [3]University of Cape Town, Cape Town, South Africa

97 **What Is the Role of Component IgE Analysis By Immunocap and Microarray Compared to Food-Specific IgE in Peanut and Egg Allergy?**

Maya K Nanda, MD[1], Amal H. Assa'ad, MD, FAAAAI[2], Jane Khoury, PhD[3] and Michelle B. Lierl, MD, FAAAAI[2], [1]Allergy/Immunology, Children's Mercy Hospital, Kansas City, MO, [2]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [3]Cincinnati Children's Hospital Medical Center, Division of Epidemiology and Biostatistics, Cincinnati, OH

98 **Epitope Mapping the Peanut Panallergen Ara h 8**

Barry K. Hurlburt, PhD[1], Hsiaopo Cheng, MS[1], Lesa Offermann[2], Maksymilian Chruszcz, PhD[2], Alexandra F. Santos, MD, MSc[3], Gideon Lack, MD[3] and Soheila J. Maleki, PhD[1], [1]USDA-ARS-SRRC, New Orleans, LA, [2]University of South Carolina, Columbia, SC, [3]King's College London, London, United Kingdom

99 **Comparison of IgE Epitope Mapping By Peptide Microarray and a Novel Luminex-Based Peptide Assay**

Gustavo Gimenez[1], Cansin Sackesen, MD[2,3], Stephanie Schmidt, BSc[4], Robert C. Getts, PhD[4], Jim Kadushin, PhD[4], Jing Lin, PhD[2], George N. Konstantinou, MD, PhD MSc[5], Ebru Arik Yilmaz, MD[3], Ozlem Cavkaytar, MD[3], Ozge Soyer, MD[3], Galina Grishina, MSc[2] and Hugh A. Sampson, MD[6], [1]Icahn School of Medicine at Mount Sinai, [2]Icahn School of Medicine at Mount Sinai, New York, NY, [3]Hacettepe University School of Medicine, Ankara, Turkey, [4]Genisphere, LLC, PA, [5]424 General Military Training Hospital, Thessaloniki, Greece, [6]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

100 **Identification of the Epitopes That Cause Cross-Reactions Between Peanuts and Tree Nuts**

Soheila J. Maleki, PhD[1], Merima Bublin, PhD[2], Maksymilian Chruszcz, PhD[3], Tysheena Charles, PhD[4], Casey C Grimm, PhD[4],

Hsiaopo Cheng, MS[4], Suzanne S. Teuber, MD, FAAAAI[5], Barry K. Hurlburt, PhD[4], Heimo Breiteneder, PhD[2] and Catherine Schein, PhD[6], [1]Tulane University Medical School, New Orleans, LA, [2]Medical University of Vienna, Vienna, Austria, [3]University of South Carolina, Columbia, SC, [4]USDA-ARS-SRRC, New Orleans, LA, [5]UC Davis School of Medicine, Davis, CA, [6]Foundation for Applied Molecular Evolution, Gainesville, FL

101 Marked Increase in Basophil Activation during Non-Anaphylactic Allergic Reactions to Peanut in Man

Paul J. Turner, FRACP, PhD[1], Orla McMahon[1], Amy Switzer[1], Andrew Clark, MRCPCH MD[2], Robert J. Boyle, MBChB, PhD[1], Stephen R. Durham, MA, MD, FRCP[3,4] and Mohamed H. Shamji, PhD, FAAAAI[1], [1]Imperial College London, United Kingdom, [2]Cambridge University Hospitals NHS Foundation Trust, United Kingdom, [3]Royal Brompton and Harefield Hospitals NHS Trust, London, United Kingdom, [4]Medical Research Council and Asthma UK Centre for Allergic Mechanisms of Asthma, Imperial College London, London, United Kingdom

102 Identification and Characterization of a New Oil Body Fraction Peanut Allergen

Marta M. Ferrer, MD, PhD, FAAAAI[1], Carmen M. Damelio, MD[2], M Jose Goikoetxea, PhD, MD[1], Gabriel Gastaminza, MD, PhD[3], Maria L Sanz, MD, PhD[3], Olga Vega, MD[4], Amalia Bernad, MD[4] and Fernando Pineda, PhD[5], [1]Department of Allergy, Clinica Universidad de Navarra, Pamplona, Spain, [2]Departament of Allergy Clinica Universidad de Navarra, PAMPLONA, Spain, [3]Department of Allergy, Clinica Universidad de Navarra, Spain, [4]Department of Allergy Clinica Universidad de Navarra, Pamplona, Spain, [5]Diater Laboratorios, Madrid, Spain

103 Making Peanut Allergens Indigestible: A Model System for Reducing or Preventing an Allergic Reaction

Si-Yin Chung, PhD and Shawndrika Reed, USDA-ARS, New Orleans, LA

104 Co-Sensitization Patterns to Tree Nuts in a Pediatric Population

Brooke I. Polk, MD[1], Chitra Dinakar, MD, FAAAAI[1], Charles S Barnes, PhD[1], Jodi A. Shroba, MSN, RN, CPNP[1], Katherine A. Preston, PhD[2], Jeanne L.D. Osnas, PhD[3], Alison L. Humphrey, MD[1], David A. Jara, MD[1], Jill R. Hanson, MD[1], Neha N. Patel, MD[1] and Christina E. Ciaccio, MD, FAAAAI[1], [1]Children's Mercy Hospital, Kansas City, MO, [2]Stanford University, Palo Alto, CA, [3]Purdue University, West Lafayette, IN

105 Mirabel Project: Description of a French Population of 785 Peanut Allergic or Sensitized Patients

Anne D. Moneret-Vautrin, MD, Lorraine University Nancy, France, Nancy, France, Antoine Deschildre, Pediatric Allergy and Pulmonology Unit, Hopital Jeanne de Flandre, Lille, France, Jocelyne Just, MD, PhD, Allergology department, Trousseau hospital AP-HP–UPMC Paris 6, France, Olivier Bruyère, University Hospital, Liege, Belgium, Xavier van Der Brempt, Clinic Saint Luc, Namur, Belgium, Etienne Beaudouin, Allergy Department Hopital Durkheim, Epinal, France, Fabrice Elegbede, French Agency for Food Environmental Occupation Health Safety, Paris, France and Amelie Crepet, French Angency for Food Environemental Occupational Health Safety, Paris, France

106 Comparison of Human IgE Binding to Protein Extracts from a Genetically Modified Soybean and Five Non-Transgenic Soybean Lines

Yuan Jin, Food Allergy Research and Resource Program, University of Nebraska, Lincoln, NE, Bonnie Hong, Pioneer Hi-Bred International, Ankeny, IA, Gregory S. Ladics, PhD, DuPont-Pioneer, Wilmington, DE and Richard E. Goodman, FAAAAI, Food Allergy Research and Resource Program, University of Nebraska-Lincoln, Lincoln, NE

107 Soy Reactivity May be Better Identified By Component Testing with Gly m 8 Than Traditional Testing Methods

Jacob D. Kattan, MD, Icahn School of Medicine at Mount Sinai, New York, NY and Hugh A. Sampson, MD, Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

108 Assessment of IgE Binding Profiles of Lentil Allergic Children; Similarity and Potential Cross-Reactivity Between Dal Proteins

Doerthe A. Andreae, MD, The Icahn School of Medicine at Mount Sinai, New York, NY, Galina Grishina, MSc, Icahn School of Medicine at Mount Sinai, New York, NY, Cansin Sackesen, MD, Hacettepe University School of Medicine, Ankara, Turkey, Maria Dolores Ibañez, Hospital Niño Jesus and Hugh A. Sampson, MD, Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

109 Hypoallergenicity of a New Extensively Hydrolyzed 100% Whey-Based Formula Containing Probiotics

Laura Czerkies, MS, RD, Nestle Nutrition, Florham Park, NJ, Barbara Collins, BSc, PhD, Clinipace Worldwide, Anna H. Nowak-Wegrzyn, MD, FAAAAI, Icahn School of Medicine at Mount Sinai, New York, NY and Jose Saavedra, MD, Nestle Nutrition, Vevey, Switzerland

110 A New Luminex-Based Peptide Assay to Identify Different Degrees of Milk Allergic Reactivity

Cansin Sackesen, MD[1,2], Jing Lin, PhD[1], Stephanie Schmidt, BSc[3], Robert C. Getts, PhD[3], Jim Kadushin, PhD[3], Gustavo Gimenez, MSc[1], Ebru Arik Yilmaz, MD[2], Ozlem Cavkaytar, MD[2], Ozge Soyer, MD[2], Galina Grishina, MSc[1], Ludmilla Bardina, MSc[1] and Hugh A. Sampson, MD[4], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Hacettepe University School of Medicine, Ankara, Turkey, [3]Genisphere, LLC, PA, [4]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

111 Variability of Repeat Egg Sige Levels

Tricia D. Lee, MD[1], Manish Ramesh, MD, PhD[2], Jacob D. Kattan, MD[3] and Julie Wang, MD, FAAAAI[3], [1]Icahn School of Medicine at Mount Sinai, [2]Mount Sinai School of Medicine, New York, NY, [3]Icahn School of Medicine at Mount Sinai, New York, NY

112 Comparison of Unicap and Immulite Serum Specific IgE Assays for the Assessment of Egg Allergies

François Graham, MD, MSc[1], Louis Paradis, MD, FRCPC, FAAAAI[1], Jonathan Lacombe Barrios, MD[2], Jean Paradis, MD, FRCPC[3] and Anne Des Roches, MD, FRCPC, FAAAAI[1], [1]Centre Hospitalier Universitaire Sainte-Justine, Montreal, QC, Canada, [2]Allergy Service, Sainte-Justine University Hospital Center, Montreal, QC, Canada, [3]CHUM, Hôpital Notre-Dame, Montreal, QC, Canada

113 Specific IgE Ordering Patterns at a Pediatric Reference Laboratory

Erin Kempe[1], Amy Leber[2], David Thornton[2] and Rebecca Scherzer, MD, FAAAAI[3], [1]Ohio State University Medical Center, Columbus, OH, [2]Nationwide Childrens Hospital, Columbus, OH, [3]Nationwide Children's Hospital, Columbus, OH

114 Alpha-Gal IgE Sensitization in the United States; Surveillance Update

Michelle L. Altrich, PhD[1], Sharlene P Blum[2] and Shannon M Foster[2], [1]Viracor-IBT Laboratories, Lee's Summitt, MO, [2]Viracor-IBT Laboratories

115 Differential Skin Test Reactivity to Pollens in Pollen Food Allergy Syndrome Versus Allergic Rhinitis

Von A. Ta, MD[1], John M. Kelso, MD, FAAAAI[2], Andrew A. White, MD, FAAAAI[1], David R. Scott, MD[3], William K. Chin, MD[4] and Nathan Wineinger, PhD[5], [1]Scripps Clinic Medical Group, San Diego, CA, [2]Scripps Clinic, San Diego, CA, [3]Allergy and Asthma Center of Western Colorado, Grand Junction, CO, [4]Navy Medical Center San Diego, San Diego, CA, [5]Scripps Translational Science Institute

116 Progression, Prediction and Prognosis of Food Allergy from Early Childhood through Adolescence

Jennifer LP Protudjer, PhD[1,2], Magnus Carl Wickman, MD, PhD[2], Eva Östblom, MD, PhD[2], Gunilla Hedlin, MD, PhD[2,3],

Marianne van Hage, MD, PhD[2], Mirja Vetander, MD, PhD[2,4] and Anna Bergstrom, PhD[2], [1]Institute for Environmental Medicine, Karolinska Institutet, Stockholm, Sweden, [2]Centre for Allergy Research, Karolinska Institutet, Stockholm, Sweden, [3]Department of Women's and Children's Health, Karolinska Institutet, Stockholm, Sweden, [4]Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden

117 Prevalence of Sensitisation to Food and Aero-Allergens and Challenge Proven Food Allergy Amongst 11-Year-Old Children on the Isle of Wight

Carina Venter, PhD RD[1,2], Veeresh Patil[3,4], Jane Grundy[1], Gill Glasbey[1], Syed H. Arshad, DM, FRCP[1,5] and Taraneh Dean[1,2], [1]The David Hide Asthma and Allergy Research Centre, United Kingdom, [2]University of Portsmouth, United Kingdom, [3]The David Hide Asthma and Allergy Centre, Newport, United Kingdom, [4]University of Southampton, Southampton, United Kingdom, [5]University of Southampton, United Kingdom

118 Food Allergy, Prevalence, Knowledge and Behavioral Trends Among College Students- a 5- Year Comparison

Marilyn R Karam, MD, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI, MI, 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

119 Egg-Specific IgA and IgA2 Are Associated with Sustained Unresponsiveness to Egg Following Oral Immunotherapy

Benjamin L. Wright, MD[1,2], Michael D. Kulis Jr, PhD[1], Kelly Orgel, BS[1], A. Wesley Burks, MD[1], Peter Dawson, PhD[3], Stacie M. Jones, MD[4], Robert A. Wood, MD[5], Scott H. Sicherer, MD[6], Robert W. Lindblad, MD[3], Don Stablein, PhD[3], Andrew H Liu, MD, FAAAAI[7], Donald Y.M. Leung, MD, PhD, FAAAAI[7], Brian P. Vickery, MD[8] and Hugh A. Sampson, MD[9], [1]University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Duke University, Durham, NC, [3]The EMMES Corporation, Rockville, MD, [4]University of Arkansas for Medical Sciences, Little Rock, AR, [5]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [6]Icahn School of Medicine at Mount Sinai, New York, NY, [7]National Jewish Health, Denver, CO, [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, USA

Eosinophilic Gastrointestinal Disorders and FPIES

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Saturday, February 21st, 2015, 9:45 AM - 10:45 AM

120 Eosinophilic Esophagitis (EoE) Histologic Changes More Strongly Associate with Treatment Status Than Peak Eosinophil Count (PEC)

Margaret H Collins, MD[1], Eileen S Alexander, PhD[2,3], Lisa J. Martin, PhD[1] and Marc E. Rothenberg, MD, PhD[4], [1]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [2]Cincinnati Children's Hospital Medical Center, [3]Xavier University, Cincinnati, OH, [4]Children's Hospital Medical Center, Cincinnati, OH

121 Mucosal Biopsy Microarray Analysis Revealed Elevated Thymic Stromal Lymphopoietin (TSLP) in Infantile Eosinophilic Gastroenteritis

Ichiro Nomura, MD, PhD[1,2], Tetsuo Shoda, MD, PhD[2], Akio Matsuda, PhD[2], Kanami Orihara, PhD[3], Hideaki Morita, MD, PhD[2], Katsuhiro Arai, MD[4], Hirotaka Shimizu, MD[4], 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 Immunology, National Research Institute for Child Health and Development, Tokyo, Japan, [3]Waseda Institute for Advanced Study, Waseda University, Japan, [4]Division of Gastroenterology, National Center for Child Health and Development, Tokyo, Japan

122 Phenotypic Characterization of the Eosinophilic Esophagitis (EoE) Population in the Consortium of Food Allergy Research (CoFAR)

Mirna Chehade, MD, MPH[1], Stacie M. Jones, MD[2], Robbie D. Pesek, MD[2], A. Wesley Burks, MD[3], Robert A. Wood, MD[4], Donald Y.M. Leung, MD, PhD, FAAAAI[5], Robert W. Lindblad, MD[6], Peter Dawson, PhD[6], J. Pablo Abonia, MD[7], Joseph D. Sherrill, PhD[8], Hugh A. Sampson, MD[9] and Marc E. Rothenberg, MD, PhD[10], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]University of Arkansas for Medical Sciences, Little Rock, AR, [3]University of North Carolina at Chapel Hill, Chapel Hill, NC, [4]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [5]National Jewish Health, Denver, CO, [6]The EMMES Corporation, [7]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [8]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, OH, [9]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [10]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA

123 Adult Eosinophilic Oesophagitis: A UK Based Case Series

Efrem Eren, MBBS, MRCP, FRCPath, PhD[1], Tak Chin[2], William Rae, BSc, BM, MRCP[3], Syed H. Arshad, DM, FRCP[4,5], Peter H Howarth, MD[6], Anthony Williams[7], Elena Salagean, SpR[6], Bryan N. Fernandes, MD[8], Ramesh Kurukulaaratchy[7] and Carina Venter, PhD RD[9,10], [1]Southampton General Hospital, UK, Southampton, United Kingdom, [2]Southampton, [3]University Hospital Southampton, Southampton, United Kingdom, [4]The David Hide Asthma and Allergy Research Centre, United Kingdom, [5]University of Southampton, United Kingdom, [6]Southampton General Hospital, Southampton, United Kingdom, [7]University of Southampton, [8]University Hospital of NHS Foundation Trust, United Kingdom, [9]University of Southampton, Southampton, United Kingdom, [10]University of Portsmouth, United Kingdom

124 Shared Genetic Etiology Between Eoe and Other Allergic Diseases

Leah Claire Kottyan, PhD[1,2], Joelle A. Rothenberg[2], Rahul J. D'Mello[2,3], Thomas T. Quan[2], Joseph D. Sherrill, PhD[4], Benjamin P. Davis, MD[2], Mirna Chehade, MD, MPH[5], Robert A. Wood, MD[6], Robbie D. Pesek, MD[7], Brian P. Vickery, MD[8], David M Fleischer, MD[9], Robert W. Lindblad, MD[10], Hugh A. Sampson, MD[11] and Marc E. Rothenberg, MD, PhD[2,3], Center for Autoimmune Genomics and Etiology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, Cincinnati, OH, [2]Division of Allergy and Immunology, 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]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, OH, [5]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, New York, USA, [6]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [7]Department of Pediatrics, University of Arkansas for Medical Sciences and Arkansas Children's Hospital, Little Rock, Arkansas, USA, [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]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

125 Ruminating over Refractory Eosinophilic Esophagitis

Shahrooz Shayegan, MD[1], Kirk H. Waibel, MD, FAAAAI[2], Cory A. Lundberg, DO[3] and Cecilia Mikita, MD, MPH, FAAAAI[3], [1]Walter Reed National Military Medical Center, Besthesda, MD, [2]Landstuhl RMC, [3]Walter Reed National Military Medical Center, Bethesda, MD

126 Strong Association of Eosinophilic Esophagitis and Food-Pollen Syndrome; Evidence Suggestive of Oral Route of Sensitization to Common Food-Pollen Allergens

Mahboobeh Mahdavinia, MD, PhD, Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, chicago, IL; Allergy/Immunology section, Department of Immunology and Microbiology, Rush University Medical Center, chicago and Anne M. Ditto, MD, FAAAAI, Northwestern University Feinberg School of Medicine, Chicago, IL

127 Seasonal Exacerbation of Esophageal Eosinophilia in Children with Eosinophilic Esophagitis and Allergic Rhinitis

Juhee Lee, MD, Gita S. Ram, MD, Michele Shuker, MS, RD, LD, Megan T. Ott, MSN CRNP, Terri F. Brown-Whitehorn, MD, Chris A. Liacouras, MD and Jonathan M. Spergel, MD, PhD, FAAAAI, The Children's Hospital of Philadelphia, Philadelphia, PA

128 Prevalence of Eosinophilic Esophagitis in a Population-Based Cohort from Southern California

Susan J. Kim, MD[1], Steven Kim, DO[2] and Javed Sheikh, MD, FAAAAI[1], [1]Kaiser Permanente Los Angeles Medical Center, Los Angeles, CA, [2]Kaiser Permanente Los Angeles Medical Center

129 Prospective Analysis of Eosinophilic Esophagitis (EoE) in Pediatric Patients Living in Rural, Southeastern United States

Robbie D. Pesek, MD[1,2], Troy Gibbons, MD[1,2], Amy M. Scurlock, MD[3], Mallikarjuna Rettiganti, PhD[1,2], Erin O'Brien[1,2], Caroline Daniel[4], Maria Melguizo Castro[1,2], C Luo[1,2], Peggy L. Chandler, APN[2], Audrey Fendley, RD[2], Tamara T. Perry, MD[1,2], Matthew C. Bell, MD[1,2], Josh L. Kennedy, MD[1] and Stacie M. Jones, MD[5], [1]University of Arkansas for Medical Sciences, Little Rock, AR, [2]Arkansas Children's Hospital, Little Rock, AR, [3]Slot 512-13, UAMS/AR Children's Hospital, Little Rock, AR, [4]Arkansas Children's Hospital Research Institute, Little Rock, AR, [5]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR

130 Celiac Disease and Immune Disorders in Patients with Eosinophilic Esophagitis

Rafael Firszt, MD, MBA, Pediatrics, Department of Pediatrics, University of Utah, Salt Lake City, UT and Kathryn Peterson, MD, University of Utah, Salt Lake City, UT

131 Significance of Food Skin Prick Testing in Adult Eosinophilic Esophagitis Patients

Ashleigh A. Olson, MD[1], David M. Manthei[1], Chloe Kim[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

132 The Relationship of Eosinophilic Esophagitis and Food Allergy: Evaluating the Spectrum of Eosinophilic Esophagitis

Barry J. Pelz, MD[1], Joshua B. Wechsler, MD[2], Rebecca Krier-Burris, MS[3], Barry Wershil, MD[2], Amir F. Kagalwalla, MD[2] and Paul Bryce, PhD[4], [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]Division of Allergy & Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [4]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

133 Use of Food Allergy Testing Beyond the Six Common Food Allergies in Eosinophilic Esophagitis

Marissa A. Love, MD, Osama F. Almadhoun, MD and Selina A. Gierer, DO, University of Kansas, Kansas City, KS

134 Serum IgE Levels and Response to Cow's Milk Elimination Diet in Patients with Eosinophilic Esophagitis

Elizabeth A Erwin, MD[1], Patrice Kruszewski[2], John Russo, MD[3], Lisa J. Workman, BA[4] and Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[4], [1]Division of Allergy & Immunology, Nationwide Children's Hospital, Columbus, OH, [2]Nationwide Children's Hospital, [3]Nationwide Children's Hospital, Columbus, OH, [4]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA

135 Impact of Swallowed Topical Steroid Treatment on Growth in Children with Eosinophilic Esophagitis

Chih-Yin Yeh, Morehouse School of Medicine, Atlanta, GA

136 Eosinophilic Esophagitis (EoE): Individualizing a Long-Term Treatment Plan

Lyvia Leigh, MD, New York University School of Medicine, Internal Medicine Residency Program, New York, NY, Elizabeth Sterrett Rothstein, PA-C, Allergy & Asthma Care of New York, New York, NY and Clifford W. Bassett, MD, FACAAI, FAAAAI, NYU School of Medicine, New York, NY; Allergy and Asthma Care of NY, New York, NY

137 Characteristics Associated with Treatment Choice in Pediatric Eosinophilic Esophagitis

Melanie M. Makhija, MD, MS[1,2], Katie Amsden, MPH[1,3], Samuel Wing, MPH[1,3], Kristin Johnson, BS[1,3] and Amir F. Kagalwalla, MD[4,5], [1]Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Division of Allergy and Immunology, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [3]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [4]Division of Gastroenterology, Hepatology, and Nutrition, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern University Feinberg School of Medicine, Chicago, IL, [5]John H. Stroger Hospital of Cook County, Chicago, IL

138 Esophageal Eosinophilia Associated with Congenital Esophageal Atresia/Stenosis and Its Responsiveness to Proton Pump Inhibitor

Yoshiyuki Yamada, MD, PhD[1], Akira Nishi, MD[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, Japan

139 Esophageal Stricture and Eosinophilic Esophagitis in a Nine-Month Old Girl

Maria A. Slack, MD[1,2], Sylvia Ofei[1], Steven Erdman[1] and Elizabeth A Erwin, MD[3], [1]Nationwide Children's Hospital, [2]Ohio State University Wexner Medical Center, [3]Division of Allergy & Immunology, Nationwide Children's Hospital, Columbus, OH

140 Efficacy of an Online Educational Module to Improve Knowledge of Eosinophilic Disorders for Caregivers and Clinicians

A S Lumsdaine, BA, Brett Slajus, Angel Valladeras, MPH, Adriana Diaz-Marinelarena, BS, Kelsey Thome, Megan E. Jensen, BA and Harvey L. Leo, MD, FAAAAI, Center for Managing Chronic Disease, University of Michigan, Ann Arbor, MI

141 The Impact of Pediatric Eosinophilic Esophagitis on Bone Metabolism

Agnes Linglart, MD, PHD[1], Anya Rothenbuhler, MD, PHD[1], Catherine Adamsbaum, MD[1], Diana Colson[2], Pascale Soulaines[3] and Christophe Dupont, MD, PhD[3], [1]Hôpital de Bicêtre, Le Kremlin-Bicêtre, France, [2]Nutricia Nutrition Clinique, Saint Ouen, France, [3]Hopital Necker Enfants Malades, Paris, France

142 **Gene Expression Profiles of Mucosal Biopsy Specimens from Children with Eosinophilic Gastritis**
Tetsuo Shoda, MD, PhD[1], Ichiro Nomura, MD, PhD[1,2], Akio Matsuda, PhD[1], Kyoko Futamura, MD, PhD[1], Kanami Orihara, PhD[3], Hideaki Morita, MD, PhD[1], Katsuhiro Arai, MD[4], Hirotaka Shimizu, MD[4], Yoshiyuki Yamada, MD, PhD[5], Masami Narita, MD, PhD[2], Yukihiro Ohya, MD, PhD[2], Hirohisa Saito, MD, PhD[1] and Kenji Matsumoto, MD, PhD[1], [1]Department of Allergy and Immunology, National Research Institute for Child Health and Development, Tokyo, Japan, [2]Division of Allergy, National Center for Child Health and Development, Tokyo, Japan, [3]Waseda Institute for Advanced Study, Waseda University, Japan, [4]Division of Gastroenterology, National Center for Child Health and Development, Tokyo, Japan, [5]Gunma Children's Medical Center, Shibukawa, Japan

143 **Eosinphilic Gastroenteritis: A Case Series Highlighting Manifestations and Response to Therapy in 20 Pediatric Patients**
Melanie A. Ruffner, MD, PhD, Terri F. Brown-Whitehorn, MD, Chris A. Liacouras, MD, Michele Shuker, MS, RD, LD and Jonathan M. Spergel, MD, PhD, FAAAAI, The Children's Hospital of Philadelphia, Philadelphia, PA

144 **Severe Food Protein Induced Enterocolitis Syndrome (FPIES) in the Pediatric Intensive Care Unit (PICU): A Retrospective Chart Review**
Tamar Weinberger[1], Elizabeth Feuille, MD[1], Anna H. Nowak-Wegrzyn, MD, FAAAAI[2] and Cecilia Thompson, Physician[3], [1]Icahn School of Medicine at Mount Sinai, [2]Icahn School of Medicine at Mount Sinai, New York, NY, [3]One Gustave L Levy Place Box 1202 B, Icahn School of Medicine at Mount Sinai, New York, NY

145 **Food Induced Gastroenterocolitis Syndrome(FPIES): A Case Series of 51 Children**
Liseth Villafana, MD, Soledad Terrados Cepeda, MD, Nuria Perez, MD, Belen De La Hoz, MD, PhD and Emilio Alvarez-Cuesta, MD, PhD, Hospital Universitario Ramon y Cajal, Madrid, Spain

146 **Safety of Performing Oral Food Challenges to Food Protein-Induced Enterocolitis Syndrome Patients in the Outpatient Clinic**
Andrew T Dang, MD and Irene Mikhail, MD, Nationwide Children's Hospital, Columbus, OH

147 **Atypical Food Protein-Induced Enterocolitis Syndrome (FPIES)**
Christopher P. Parrish, MD[1], Andrew K. Wong, MD[2], Salima A. Thobani, MD[1], Lyne G. Scott, MD[1] and Marilyn Li, MD[1], [1]University of Southern California, [2]University of Southern California, Los Angeles, CA

Asthma

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148 **The Burden of Asthma in the United States: Updated Nationally Representative Estimates of the Cost of Asthma**
Patrick W. Sullivan, PhD, Regis University and Vahram Ghushchyan, PhD, American University of Armenia

149 **Digitalized Tracking of Developmental Information on Maternal and Baby Care (eBABY) – Taiwan Experience**
Su Boon Yong, Show Chwan Memorial Hospital

150 **Evaluation of MDI Inhaler Technique Using a New Training Device**
Michael J. Welch, MD, FAAAAI[1], Nancy K. Ostrom, MD, FAAAAI[1], Alexander N. Greiner, MD, FAAAAI[1], Susan Stefanac Laubach, MD, FAAAAI[1] and Mark Sanders[2], [1]Allergy and Asthma Medical Group & Research Center, San Diego, CA, [2]Clement-Clarke International, Harlow, Essex, United Kingdom

151 **Applied Multiple "Umbrella" Shaped Visual Analogue Scale for Respiratory Allergy – Preliminary Study**
Norbert Lukan[1], Anna Chmelarova[2] and Jozefina Petrovicova[2], [1]Safarik University Kosice, Kosice, Slovakia, [2]Safarik University Kosice

152 **Improving the Assessment of Overweight/Obesity in Asthmatic Pediatric Patients in a Quality Improvement Project**
Anthony P. Nguyen, DO[1,2] and Jennifer A. Shih, MD[1,2], [1]Children's Healthcare of Atlanta, Atlanta, GA, [2]Emory University, Atlanta, GA

153 **Cost-Effectiveness of Bronchial Thermoplasty in Patients with Poorly Controlled, Severe, Persistent Asthma**
John B. Cox, MD[1], Michael J. Cangelosi, MA, MPH[2], Jesse D Ortendahl, MS[3], Lisa M Meckley, PhD[2,4], Tanya GK Bentley, PhD[5], Kelly Shriner, BS[2] and John Fox, MD, MHA[6], [1]Mount Nittany Physicians Group, State College, PA, [2]Boston Scientific, Marlborough, MA, [3]Partnership for Health Analytic Research, LLC, Beverly Hills, CA, [4]Trinity Partners, Waltham, MA, [5]Partnership for Health Analytic Research, LLC, Beverly Hills, MA, [6]Priority Health, Grand Rapids, MI

154 **Improvement in Asthma Control in Asthmatic Children Following Asthma Camp Attendance**
Jonathan A. Olsen, DO[1], Mark E Stevens, MD[1], Patrick Foster, BS[2] and Russell Hopp, DO, FAAAAI[1], [1]Creighton University School of Medicine, Omaha, NE, [2]American Lung Association, Omaha, NE

155 **Texting Medication Reminders for Better Asthma Control in Children and Teens: An Update**
Humaa M. Bhatti, DO[1], Wafa Alame, RN[1], Joseph Adams[2], Jenny M. Montejo, MD[1], Milind V. Pansare, MD, FAAAAI[1], Pavadee Poowuttikul, MD[3] and Elizabeth A. Secord, MD, FAAAAI[3], [1]Children's Hospital of Michigan, Detroit, MI, [2]Wayne State University, Detroit, MI, [3]Children's Hospital of Michigan Department of Allergy Immunology, Detroit, MI

156 **Effect of Educational Intervention on Adherence Estimator™ Scores and Asthma Control in Pediatric Patients**
Suzanne Burke-McGovern, MD, SUNY-Downstate Medical Center, Brooklyn, Hilal Sekizkardes, MD, SUNY Downstate Medical Center, Brooklyn, Edan Sarid, MD, SUNY Downstate, NY and Rauno Joks, MD, Center for Allergy and Asthma Research, SUNY Downstate, Brooklyn, NY

157 **Insurance Barriers in the Management of Uncontrolled Asthma in an Inner-City Population**
Naveen Nannapaneni, MD[1], Roula H Daher, MD[1] and Elizabeth A. Secord, MD, FAAAAI[2,3], [1]Wayne State University/ Detroit Medical Center, [2]Children's Hospital of Michigan Department of Allergy Immunology, Detroit, MI, [3]Wayne State University School of Medicine, Detroit, MI

158 **Are We Doing Enough to Protect Asthmatic Patients from Pneumococcal Disease?**
Martin A. Smith, MD[1], Alexei Gonzalez-Estrada, MD[2] and Roxana I. Siles, MD[1], [1]Cleveland Clinic Foundation, Cleveland, OH, [2]Respiratory Institute, Cleveland Clinic

159 **Allergy and Asthma Medication Use in US Older Adults: Insights from the National Social Life, Health, and Aging Project**
Gaurav S Ajmani, MS[1], Kristen E Wroblewski, MS[1], Robert M. Naclerio, MD, FAAAAI[2], Fuad M. Baroody, MD, FAAAAI[2] and Jayant M. Pinto, MD[2], [1]The University of Chicago, [2]The University of Chicago, Chicago, IL

160 **Evaluation of a Quality Improvement Tool to Initiate Referral of Hospitalized Asthmatics to Specialist Care**
Shauna Tarsi, DO, Women and Children's Hospital of Buffalo, Buffalo, NY; SUNY Buffalo and Heather K. Lehman, MD, SUNY Buffalo, Buffalo, NY; Women & Children's Hospital of Buffalo, Buffalo, NY

Immunotherapy

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161 Skin Testing Practices Survey
Larisa Buyantseva, MD, MS, Penn State University, Hershey, PA and Timothy J. Craig, DO, FAAAAI, Penn State University College of Medicine, Hershey, PA

162 Physician-Patient Communication Concerning Allergen Immunotherapy: Impact on Treatment Acceptance and Compliance
Moises A. Calderon, MD, PhD[1], Henri Farina[2], Sandrina Duniau[2] and Pascal M. Demoly, MD, PhD[3,4], [1]Imperial College London, London, United Kingdom, [2]STETHOS International, Sèvres, France, [3]Arnaud de Villeneuve Hospital, Montpellier, France, [4]Sorbonne Universités, Paris, France

163 Grass Pollen Exposure in the Continental United States: Species Prevalence and Population Patterns
Richard K. Lankow, PhD, Greer Laboratories, Inc., Murielle Escalmel, Pharm. D., Stallergenes, SA, Robert S. Jacobson, Independent, Sue C. Hocker, The Lindyn Group and Terrance Coyne, MD, Greer Laboratories, Inc., Lenoir, NC

164 Developing and Pilot Testing an Electronic Medical Record (EMR)-Based Allergen Immunotherapy Template
Jaryn Henner, MD[1], Keshav Achar, MD[2], David L. Rosenstreich, MD, FAAAAI[3] and Sunit Jariwala, MD[3], [1]Albert Einstein/Montefiore Medical Center, [2]Albert Einstein College of Medicine, NY, [3]Albert Einstein/Montefiore Medical Center, NY

165 Allergic Response to IgE and Skin Prick Test Varies By Ethnicity
Raheem Remtullah, Tara Sadoway, MSc, Justin Buck, BSc, Anne Marie Salapatek, PhD and Piyush Patel, MD, FRCP, Inflamax Research, Mississauga, ON, Canada

166 Characterization of Allergen Immunotherapy at "Big 10" University Health Services
Georgiana M. Sanders, MD, MS, FAAAAI, University of Michigan, Ann Arbor, MI, Kiela Samuels, PharmD, University of Michigan Health System, Ann Arbor, MI, Christine L. Holland, MD, The University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI and Marilyn R Karam, MD, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI, MI

Chronic Rhinosinusitis

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167 Th2 Cytokines Orchestrate the Secretion of MUC5AC and MUC5B in Chronic Rhinosinusitis with Nasal Polyps
Yu Zhang[1,2], Lara Derycke[2], Luo Zhang[1,3], Gabriele Holtappels[2], Xiangdong Wang[1,3], Nan Zhang[2] and Claus Bachert, MD, PhD[2], [1]Department of Otolaryngology Head and Neck Surgery, Beijing Tongren Hospital, Capital Medical University, Beijing, China, [2]Upper Airway Research Laboratory (URL), Ghent University Hospital, Ghent, Belgium, [3]Beijing Institute of Otolaryngology, Beijing, China

168 Natural Killer Cells Regulate Eosinophilic Inflammation in Chronic Rhinosinusitis
JI Heui KIM and Yong Ju Jang, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea

169 Natural Killer Cell Deficit Aggravates Eosinophilic Chronic Rhinosinusitis in a Murine Model
Yong Ju Jang and JI Heui KIM, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea

170 Immunomodulatory Property of Vitamin D in Allergic Fungal Rhinosinusitis
Aravind Yadav, MD[1], Caroline J. Padro, PhD[2], Paul Porter, PhD[3], Ryan P. Drake[2], Evan D. Corning[2], Ameerah Wishahy[2], Faramarz Ashoori, MD[1], Samer Fakhri, MD[1], Martin Citardi, MD[1], David B. Corry, MD[3] and Amber U. Luong, MD, PhD[1], [1]University of Texas Health Science Center at Houston, Houston, TX, [2]University of Texas Health Science Center at Houston, [3]Baylor College of Medicine, Houston, TX

171 The Roles of Type 2 Innate Lymphoid Cells (ILC2) in Chronic Rhinosinusitis (CRS)
Keisuke Uno[1], Yoshinori Matsuwaki, MD, PhD[1], Kazuhiro Omura[1], Eika Hayashi[1], Hirohito Kita, MD[2], Nobuyoshi Otori, MD[1] and Hiromi Kojima, MD[1], [1]Department of Otorhinolaryngology, The Jikei University School of Medicine, Tokyo, Japan, [2]Departments of Immunology and Internal Medicine, Mayo Clinic, Rochester, MN

172 Changes in Sinus Bacterial Culture Following Mupirocin Treatment in Surgically Recalcitrant Chronic Rhinosinusitis
Jennifer L. Hill, MD, University of Arizona Department of Internal Medicine, Tucson, AZ, Alexander G. Chiu, MD, University of Arizona, Department of Otolaryngology, Tucson, AZ and Tara F. Carr, MD, Arizona Respiratory Center, University of Arizona, Tucson, AZ; University of Arizona Medical Center, Division of Pulmonary, Allergy, Critical Care and Sleep Medicine, Tucson, AZ

173 Pediatric Nasal Polyp : How Do They Manifest and Respond to Endoscopic Sinus Surgery
Young Min Ahn, MD, Department of Pediatrics, South Korea

174 Omalizumab for the Treatment of Chronic Rhinosinusitis: A Multi-Disciplinary Practice Review
Shaun Kilty, MD, FRCSC[1,2], Andrea Lasso[1], Stephanie Santucci, RN[3] and William H. Yang, MD[3,4], [1]Ottawa Hospital Research Institute, Ottawa, ON, Canada, [2]Division of Otolaryngology-Head and Neck Surgery, The University of Ottawa, The Ottawa Hospital, Ottawa, ON, Canada, [3]Allergy and Asthma Research Centre, Ottawa, ON, Canada, [4]University of Ottawa Medical School, Ottawa, ON, Canada

175 Systematic Review of Omalizumab for the Treatment of Chronic Rhinosinusitis
Adrian Tsang[1], Chris Hong[1], Jason Quinn[2], James Bonaparte[3], Adrienne Stevens[1,4] and Shaun Kilty, MD, FRCSC[5,6], [1]University of Ottawa, Ottawa, ON, Canada, [2]Department of Pathology. Dalhousie University, Halifax, NS, Canada, [3]Department of Otolaryngology-Head and Neck Surgery, The University of Ottawa, The Ottawa Hospital, Ottawa, ON, Canada, [4]Centre for Practice-Changing Research Ottawa Hospital Research Institute, Ottawa, ON, Canada, [5]Ottawa Hospital Research Institute, Ottawa, ON, Canada, [6]Division of Otolaryngology-Head and Neck Surgery, The University of Ottawa, The Ottawa Hospital, Ottawa, ON, Canada

176 Symptom Based Clustering in Chronic Rhinosinusitis Reveals Phenotypic Heterogeneity
Rohit D Divekar, MBBS, PhD[1], Erin O'Brien[1], Jay Jin, MD, PhD[1], Neil S Patel[1], Matthew A. Rank, MD, FAAAAI[2], John B. Hagan, MD, FAAAAI[1] and Hirohito Kita, MD[3], [1]Mayo Clinic, Rochester, MN, [2]Mayo Clinic, Scottsdale, AZ, [3]Departments of Immunology and Internal Medicine, Mayo Clinic, Rochester, MN

177 Sinonasal Outcome Test Questionnaire Does Not Predict Pathological Diagnosis of Chronic Sinus Disease
Anna R Smith, MD, University of Virginia, Charlottesville, VA, John W. Steinke, PhD, FAAAAI, Asthma and Allergic Disease Center, Carter Center for Immunology Research, University of Virginia, Charlottesville, VA, Spencer Payne, MD, University of Virginia Department of Otolaryngology, Division of Rhinology and Endoscopic Sinus Surgery, Charlottesville, VA and Larry Borish, MD, FAAAAI, University of Virginia, Department of Medicine, Division of Asthma, Allergy and Immunology, Charlottesville, VA

178 **Action Plans for Managing of Chronic Rhinosinusitis Exacerbations: A Patient Interview Study**
Brittany T Hines, MD[1], Matthew A. Rank, MD, FAAAAI[1] and Devyani Lal[2], [1]Mayo Clinic, Scottsdale, AZ, [2]Mayo Clinic, Phoenix, AZ

Allergen Extracts and Diagnostics

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179 **Allergen Sensitization in Thai Children with Ocular Allergy**
Rasamee Jongvanitpak, MD[1], Pakit Vichyanond, MD, FAAAAI[2], Jittima Veskitkul, MD[3], Orathai Jirapongsananuruk, MD[2], Nualanong Visitsunthorn, MD[2] and Punchama Pacharn, MD[2], [1]Siriraj hospital, Bangkok, Thailand, [2]Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicines, Siriraj Hospital, Mahidol University, Bangkok, Thailand, Bangkok, Thailand, [3]Bangkoknoi, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicines, Siriraj Hospital, Mahidol University, Bangkok, Thailand, Bangkok, Thailand

180 **Allergen Specific IgE Detection Performance of Allergyq® System in Korean Allergy Patients**
Jae-Hyun Lee[1,2], Kyung-Hee Park[2], Kyoung-Yong Jeong[3], Hye Jung Park[2] and Jung-Won Park[2], [1]Department of Internal Medicine, Yonsei University College of Medicine, [2]Division of Allergy and Clinical Immunology, Department of Internal Medicine, Yonsei University College of Medicine, Seoul, South Korea, [3]Institute of Allergy, Yonsei University College of Medicine, Seoul, South Korea

181 **Development of ELISA Assays for Measurement of Can f 1 and Can f 3 in Dog Allergen Extracts**
Taruna Khurana, PhD, CBER FDA, Philip Young, CBER/FDA and Jay E. Slater, MD, FDA/CBER/OVRR/DBPAP, Silver Spring, MD

182 **Comparison Between Intradermal Skin Testing and Serum Specific Immunoglobulin E in Detecting Allergic Sensitization in Patients with Negative Skin Prick Tests**
Denisa Ferastraoaru, MD, Montefiore Medical Center, Bronx, NY, Maria Shtessel, MD, Montefiore Medical Center, Golda Hudes, MD, PhD, Albert Einstein/ Montefiore Medical Center, New York, NY and Gabriele De Vos, M., Albert Einstein College of Medicine, Bronx, NY

183 **A Comparative Analysis of Skin Prick Testing, Specific IgE Levels and Total Nasal Symptom Scores in the Environmental Exposure Unit (EEU)**
Daniel Adams, BSc[1], Lisa Steacy, BSc[1], Terry J Walker, BA[1], Barnaby Hobsbawn[1] and Anne 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

184 **Validation of an E-Source Data Collection System in the Environmental Exposure Unit (EEU)**
Lisa Steacy, BSc[1], Terry J Walker, BA[1], Barnaby Hobsbawn[1], Daniel Adams, BSc[1] and Anne Ellis, MD, MSc, FAAAAI[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

185 **Multiple Cumulative Allergen Concentration Delivery for Nasal Allergen Challenge – a Refinement of the Allergic Rhinitis Clinical Investigator Collaborative (AR-CIC) Protocol**
Mena Soliman, MBChB[1,2], Daniel Adams, BSc[1], Lisa Steacy, BSc[1], Louis-Philippe Boulet, MD[3], Paul Keith, MD, FAAAAI[4], Harissios Vliagoftis, MD[5], Susan Waserman, MD, FAAAAI[4], Helen Neighbour[6] and Anne Ellis, MD, MSc, FAAAAI[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, [3]Institut Universitaire de Cardiologie et de Pneumologie de Québec, Quebec City, QC, Canada, [4]Department of Medicine, McMaster University, Hamilton, ON, Canada, [5]Pulmonary Research Group, University of Alberta, Edmonton, AB, Canada, [6]Firestone Institute for Respiratory Health, McMaster University, Hamilton, ON, Canada

186 **How Stable Are Allergenic Extracts?**
Greg A. Plunkett, PhD, ALK-Abelló, Inc, Round Rock, TX and Brad Mire, ALK-Abello, Round Rock, TX

187 **Characterization of Depigmented-Polymerized Pollen Extracts for Allergen Immunotherapy: Presence of Relevant Allergens and Molecular Size Consistency**
Jerónimo Carnés, María Morales, Raquel Moya, M. Angeles López Matas, Tamara Aranda, Beatriz Rojas, Beatriz Martinez, José Ramón Leonor, Victor M Iraola and M[a] Teresa Gallego, Laboratorios LETI, Tres Cantos, Spain

188 **Relative Potency in SPT of Solution and Tablet SLIT Allergen Extracts of Timothy Grass Pollen from 2 European Manufacturers Compared to a US Reference Extract**
Désirée E.S. Larenas Linnemann, MD, FAAAAI[1], Robert E. Esch, PhD, FAAAAI[2], Jaswinder Singh[3], Juan Jose Matta, MD[4], Nelson A. Rosario, MD, PhD, FAAAAI[5], Jorge F. Maspero, MD[6], Alexandra Michels, PhD[7] and Ralph Mosges, MD, FAAAAI[3], [1]Hospital Medica Sur, Mexico D.F., Mexico, [2]Greer Laboratories, Inc., Lenoir, NC, [3]Institute of Medical Statistics, Informatics and Epidemiology (IMSIE), Cologne, Germany, [4]Centro Médico Nacional, Siglo XXI, México DF, Mexico, [5]Federal University of Paraná, Curitiba, Brazil, [6]Fundación CIDEA, Buenos Aires, Argentina, [7]Center of investigation and statistics, Cologne, Germany

Mechanisms of Allergic Inflammation

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Saturday, February 21st, 2015, 9:45 AM - 10:45 AM

189 **(1) Using Omalizumab in Patients with Asthma and Eosinophilic Colitis – 3 Case Reports**
Christian Hentschel, Psychotherapist and Allergologist, Specialist in General Medicine, Düsseldorf, Germany and Kristin Lerche, Novartis Pharma GmbH, Nuremberg, Germany

190 **The Role of Ivermectin in Patients with Co-Existing Allergies and Strongyloides Stercoralis Infection**
Ratika Gupta, MD[1], Lahari Rampur, MD[2], David L. Rosenstreich, MD, FAAAAI[3], Golda Hudes, MD, PhD[4] and Sunit Jariwala, MD[3], [1]Albert Einstein College of Medicine, Bronx, NY, [2]Albert Einstein/Children's Hospital at Montefiore, Bronx, NY, [3]Albert Einstein/Montefiore Medical Center, NY, [4]Albert Einstein/ Montefiore Medical Center, New York, NY

191 **Serum Zinc and Secretory IgA Levels Are Important Factors in Children with Food Allergy**
Yosuke Baba, MD, PhD[1,2], Reina Yokota, MD[1], Hiromi Yagisawa, MD[1], Susumu Yamazaki, MD[1], Asuka Ishida, MD[1], Eisuke Inage, MD, PhD[1], Mari Mori, MD, PhD[1], Yoshikazu Ohtsuka, MD, PhD[1] and Toshiaki Shimizu, MD, PhD[1], [1]Department of Pediatrics and Adolescent Medicine, Juntendo University Faculty of Medicine, Tokyo, Japan, [2]Department of Pediatrics, Juntendo University Shizuoka Hospital, Shizuoka, Japan

192 **Up-Regulation of CysLT2 Receptor Expression and Cysteinyl Leukotrienes-Induced Calcium Signaling By Th2 Cytokines in Human Endothelial Cells**
Hideaki Shirasaki, MD, PhD[1], Etsuko Kanaizumi[2], Tetsuo Himi[2] and Manabu Fujita[3], [1]Sapporo Medical University, Sapporo, Japan, [2]Sapporo Medical University, [3]Ono Pharmaceutical CO., LTD

193 **Regulation of Glucocorticoid Receptor (GR) Translocation of Airway Smooth Muscle Cells (ASM) By Pparγ Agonist Rosiglitazone and Insulin**
Qura Tul Ain Rashid, MBBS[1], Lata Kaphalia, PhD[2] and William J. Calhoun, MD, FAAAAI[1], [1]Allergy And Immunology, University of Texas Medical Branch, Galveston, TX, [2]University of Texas Medical Branch

194 **Tape Stripping of Stratum Corneum Reduces Airway Eosinophilic Inflammation in a Murine Asthma Model**
Yusuke Suzuki[1,2], Shizuko Kagawa[1,3], Katsunori Masaki[2], Takae Tanosaki[2], Koichi Fukunaga[2], Tomoko Betsuyaku[2], Masayuki Amagai[1,4] and Koichiro Asano[1,5], [1]MSD Endowed Program for Allergy Research, Tokyo, Japan, [2]Keio University School of Medicine, Tokyo, Japan, [3]Division of Pulmonary Medicine, Department of Medicine, Keio University School of Medicine, Tokyo, Japan, [4]Department of Dermatology, Keio University School of Medicine, Tokyo, Japan, [5]Tokai University School of Medicine, Kanagawa, Japan

195 **Airway Sensory Neuronal TRPA1 Does Not Mediate OVA Induced Allergic Asthma**
Mayur J Patil, MS, UTHSCSA, San Antonio, TX, Edward G. Brooks, MD, Univ. Texas Health Science Center San Antonio, San Antonio, TX and Armen Akopian, PhD, UTHSCSA, San Antonio, TX

196 **IgE and IgA Produced in B Cells with Mast Cells Are Inhibited By Both Anti-CD40 and Anti-OX40L Abs in Mouse Allergic Asthma**
Jai Youl Ro, PhD[1], Gwan Ui Hong[2], Nam Goo Kim[2] and Young Min Ahn, MD[3], [1]Sungkyunkwan University School of Medicine, suwon, South Korea, [2]Sungkyunkwan University School of Medicine, [3]Department of Pediatrics, South Korea

197 **Bordetella Pertussis Whole-Cell Vaccine Inhibits Specific IgE, Inflammation and Airway Remodeling in a Murine Model of Asthma**
Marcelo Vivolo Aun, MD[1], Fernanda Arantes-Costa[2], Beatriz Mangueira Saraiva-Romanholo[2], Francine Maria Almeida[2], Thayse Regina Brüggermann[2], 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

198 **Experimental Asthma Induced By Tropomyosins from Cockroach and Shrimp: Insights into in Vivo Cross-Reactivity**
Thalita Freitas Martins, Marina M Dias, Chem, Rafael Q Prado, Thamires Milani, Adriana S Moreno, PhD, Luana Delcaro, BSc, Vânia Bonato, Simone Ramos, Marcos Borges, MD, PhD and Luisa Karla P. Arruda, MD, PhD, FAAAAI, Ribeirao Preto Medical School - University of Sao Paulo, Ribeirao Preto, Brazil

199 **Induction of Epithelial-Mesenchymal Transition in House Dust Mite, Ragweed, and Alternaria Sensitized and Challenged Mice**
Kimberly D Fischer, Creighton University, Omaha, NE and Devendra K. Agrawal, Department of Medical Microbiology & Immunology and Center for Clinical & Translational Science, Creighton University School of Medicine, Omaha, NE

200 **Functional Inhibition of PAR2 Prevents Inflammation and Tissue Remodelling in a Long-Term Model of Cockroach-Mediated Allergic Airway Inflammation**
Harissios Vliagoftis, MD[1], Muhammad Asaduzzaman, PhD[2] and Courtney Davidson, MSc[2], [1]Pulmonary Research Group, University of Alberta, Edmonton, AB, Canada, [2]University of Alberta, Edmonton, AB, Canada

Dendritic Cell, Mast Cell, Basophil, and IgE-Mediated Mechanisms of Disease

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201 **The Absence of Purinergic G Protein-Coupled Receptor 6 on Dendritic Cells Amplifies Antigen-Induced Pulmonary Inflammation**
Laura B. Fanning, MD, Harvard Medical School; Brigham and Women's Hospital, Boston, MA, Denise Garofalo, Brigham and Women's Hospital and Joshua A. Boyce, MD, FAAAAI, Harvard Medical School, Brigham and Womens Hospital, Boston, MA

202 **Rhinovirus Modulation of Dendritic Cell Phenotype and Function**
Aoife Cameron, Jaideep Dhariwal, MD, Sebastian L. Johnston, MD, PhD and Ross P. Walton, PhD, Imperial College London, London, United Kingdom

203 **Impact of Sublingual and Oral Immunotherapy for Peanut Allergy on Blood Dendritic Cells**
Mark Gorelik, MD[1], Satya Narisety, MD[2], Kristin Chichester, MS[2], Anthony Guerrerio, MD, PhD[3], Anja P. Bieneman, BS[4], Corinne Keet, MD, PhD[3], Robert G. Hamilton, PhD, D.ABMLI, FAAAAI[3], Robert A. Wood, MD[5], John T. Schroeder, PhD[4] and Pamela Frischmeyer Guerrerio, MD, PhD[6], [1]Johns Hopkins Medical Institute, Baltimore, MD, [2]Johns Hopkins University School of Medicine, [3]Johns Hopkins University School of Medicine, Baltimore, MD, [4]Johns Hopkins University, Baltimore, MD, [5]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [6]National Institute of Allergy and Infectious Diseases, Bethesda, MD

204 **Clinically Relevant Allergen Mixture Induces Robust Immune Response By Increasing CD11c+CD11b+MHCIIhiCD103int Lung Dendritic Cells**
Sannette C. Hall, Bachelor of Sciences, Creighton University, Omaha, NE and Devendra K. Agrawal, Departments of Biomedical Sciences and Internal Medicine, and Center for Clinical and Translational Science, Creighton University School of Medicine, Omaha, NE

205 **Bradykinin Generation in Acute Allergic Reactions and Angioedema: Roles of Mast Cell Tryptase and Chymase**
Xiaoying Zhou, PhD, University of Southampton, Southampton General Hospital, Southampton, United Kingdom; University of Changzhou, Jiangsu, Changzhou, China, Efrem Eren, MBBS, MRCP, FRCPath, PhD, Southampton General Hospital, UK, Southampton, United Kingdom, William Rae, BSc, BM, MRCP, University Hospital Southampton, Southampton, United Kingdom and Andrew F. Walls, PhD, FAAAAI, University of Southampton, Southampton General Hospital, Southampton, United Kingdom

206 **Activated Mast Cells Produce Soluble ST2, a Decoy Receptor for IL-33**
Geethani Bandara, PhD[1], Michael A Beaven, PhD[2], Ana Olivera, PhD[1], Alasdair M. Gilfillan, PhD[1] and Dean D. Metcalfe, MD[1], [1]Laboratory of Allergic Diseases, NIAID, NIH, Bethesda, MD, [2]Laboratory of Molecular Immunology, NHLBI, NIH, Bethesda, MD

207 **Long-Chain n-3 Polyunsaturated Fatty Acids Inhibit Fcε Receptor I-Mediated Mast Cell Activation**
Marianna Kulka, PhD, University of Alberta, Edmonton, AB, Canada

208 **The Mechanisms Involved in IL-2 Production By Regulatory Mast Cells in Chronic Allergic Dermatitis**
Alon Hershko, MD, PhD[1], Itay Moshkovits[2], Ariel Munitz, PhD[3], Yoseph A. Mekori, MD, FAAAAI[4] and Pazit Salamon, PhD[1], [1]Meir Medical Center, Kfar Saba, Israel, [2]Department of Clinical

Microbiology and Immunology, The Sackler School of Medicine, Tel-Aviv University, Tel Aviv, Israel, [3]Tel Aviv University, Israel, [4]Meir Hospital, Kfar-Saba, Israel

209 **A New Disease Cluster: Mast Cell Activation Syndrome, Postural Orthostatic Tachycardia Syndrome, and Ehlers-Danlos Syndrome**

Ingrid Cheung and Peter Vadas, MD, PhD, St. Michael's Hospital, Toronto, ON, Canada

210 **Microbiome Effects on Hematopoietic Eosinophil/Basophil Progenitor Phenotype: Implications for the Pathogenesis of Allergic Inflammation**

Elli Rosenberg, MD, PhD[1], Pia Reece, PhD[1], Michael G Surette, PhD[2], Paul Poayyedi, MD[2] and Judah A Denburg, MD, FRCPC, FAAAAI[1], [1]Division of Clinical Immunology and Allergy, Department of Medicine, McMaster University, Hamilton, ON, Canada, [2]Farncombe Family Digestive Health Research Institute, McMaster University, Hamilton, ON, Canada

211 **Exploring the Impact of Basophil Surface IgE Density on Histamine Release Curve in Response to Anti-IgE**

Alireza Sadegh Nejad, MD, PhD and Donald W. Macglashan, MD, PhD, JHAAC, Baltimore, MD

212 **Epithelial Cell-Dependent Activation of Human Basophils**

John T. Schroeder, PhD, Anja P. Bieneman, BS, Chuanxi Chen, MD and Li Gao, MD, PhD, Johns Hopkins University, Baltimore, MD

213 **Correlation Between Serum IgE Concentration and Anti-IgE Mediated Histamine Release from Peripheral Blood Basophils in Allergic Rhinitis and Asthma Patients**

Pawel Bielecki, Bialystok Medical University, Bialystok, Poland, Ilona V DuBuske, IRINE, Gardner, MA, Krzysztof Kowal, MD, PhD, Medical University of Bialystok, Bialystok, Poland and Lawrence M. DuBuske, MD, FAAAAI, George Washington University School of Medicine, Washington, DC

214 **Substance P (subP) and Minocycline Suppress Induction of Human Ragweed Specific Memory IgE Responses By Different Mechanisms**

Charles J. Kim, BS[1], Bryan McCarthy, BS[1], Seto M Chice, MS[1], Maja Nowakowski, PhD[1], Jonathan Silverberg, MD, PhD, MPH[2], Stephan A. Kohlhoff, MD[1], Rauno O. Joks, MD, FAAAAI[1,3], Tamar A. Smith-Norowitz, PhD[1,4] and Helen G Durkin, PhD[1,5], [1]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, Brooklyn, NY, [2]Department of Dermatology, Northwestern University School of Medicine, Chicago, IL, [3]Department of Medicine, SUNY Downstate Medical Center, Brooklyn, NY, [4]Department of Pediatrics, State University of New York Downstate Medical Center, Brooklyn, NY, [5]Department of Pathology at SUNY Downstate Medical Center, Brooklyn, NY

215 **Microbial Regulation of IgE Production in Early Life**

Ana Belen Blazquez, PhD, Ichan School of Medicine at Mount Sinai, NY, Jeremiah J Faith, Ichan School of Medicine at Mount Sinai, New York, NY, Hugh A. Sampson, MD, Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA and Cecilia Berin, PhD, Icahn School of Medicine at Mount Sinai, New York, NY

216 **Human Rhinovirus C Specific IgE Is Detectable in High Risk Children**

Jared I. Darveaux, MD[1], Yury Bochkov, PhD[1], Christopher J. Tisler, MT[1], Michael D. Evans, MS[1], James E. Gern, MD, FAAAAI[1], Robert F. Lemanske Jr, MD, FAAAAI[1] and Daniel J. Jackson, MD[2], [1]University of Wisconsin School of Medicine and Public Health, Madison, WI, [2]Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, WI

217 **Production of Naturally Occurring Human Allergen Specific IgE Monoclonal Antibodies (MAbs)**

Yasmin W. Khan, MD, Vanderbilt University, Nashville, TN and Scott A. Smith, MD, PhD, Infectious Diseases; Department of Medicine; Vanderbilt University School of Medicine, Nashville, TN

218 **2-Methyl-1, 3, 6-Trihydroxy-9, 10-Anthraquinone Isolated from Rubia Cordifolia L Inhibits IgE Production**

Nayab Khan[1], Changda Liu, PhD[2], Janaki Patel[1], Nan Yang, PhD[2] and Xiu-Min Li, MD, MS[2], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Pediatric Allergy and Immunology, Icahn School of Medicine at Mount Sinai, New York, NY

219 **Essential Role of B-Cell-Intrinsic MyD88-Signaling in IgE Responses in Lungs**

Kazufumi Matsushita[1] and Tomohiro Yoshimoto[1,2], [1]Laboratory of Allergic Diseases, Institute for Advanced Medical Sciences, Hyogo College of Medicine, [2]Department of Immunology and Medical Zoology, Hyogo College of Medicine

Allied Health Saturday Poster Session

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Saturday, February 21st, 2015, 9:45 AM - 10:45 AM

220 **Role of Patient Education in the Management and Control of Asthma in the Adult Population**

Anil M Patel, MD and Joseph S Yusin, MD, FAAAAI, VA Greater Los Angeles Health Care System, Los Angeles, CA

221 **Medication Actuations Calculated from Remaining Doses in Discarded Metered Dose Inhalers of Asthmatic Children**

Vorapan - Engchuan, MD, Prince of Songkla University, Hatyai, Thailand

222 **Analysis of Open Oral Food Challenges Performed in a Pediatric Allergy Clinic**

Jodi A. Shroba, MSN, RN, CPNP, Dolores Suenram, RN CPN AE-C, Cindy Bandelier, RN BSN and Chitra Dinakar, MD, FAAAAI, Children's Mercy Hospital, Kansas City, MO

223 **Resident Knowledge Regarding Use and Interpretation of Diagnostic Testing for Food Allergies**

Irene Mikhail, MD, Nationwide Children's Hospital, Columbus, OH, Maya Gharfeh, Nationwide Children's Hospital and Tala Schwindt, Sinai Urban Health Institute

224 **Twitter As a New Medium for Public Health Advocacy: Asthma, Food Allergy and Allergic Rhinitis**

Cheryl A. Steiman, MD, University of Chicago Medical Center, Chicago, IL, Ves Dimov, MD, MC 0729, C-150B, Cleveland Clinic Florida, Weston, FL and Frank J. Eidelman, MD, FAAAAI, Cleveland Clinic Florida, Weston, FL

225 **The Role of AHPCO Technology in Reducing Allergic Rhinitis Cases As Air Purifier, Surface Sterilizer and Ice Maker Sterilizer**

Nabarun K. Ghosh, PhD[1], Constantine K. Saadeh, MD, FAAAAI[2], Jeff Bennert, PhD CTN[3] and Griselda Estrada, MS[1], [1]West Texas A&M University, Canyon, TX, [2]Allergy ARTS ACCR, Amarillo, TX, [3]AIR OASIS, Amarillo, TX

226 **Correlation of Development of Allergic Disease to Parental History of Cancer in Chinese Immigrant Populations Residing in Brooklyn**

Irina Katayeva, MD[1], Maria-Anna Vastardi, MD[1], Haijun Yao, MD[2], Jonathan Silverberg, MD, PhD, MPH[3,4], Emanuela Taioli[5], Helen G Durkin, PhD[6] and Rauno O. Joks, MD, FAAAAI[7], [1]Lutheran Medical Center, Brooklyn, NY, [2]Lutheran Medical Center, [3]suny downstate, [4]Department of Dermatology, Northwestern University School of Medicine, Chicago, IL, [5]SUNY Downstate, [6]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, Brooklyn, NY, [7]SUNY Downstate Medical Center, Center for Allergy and Asthma Research, Brooklyn, NY

Allied Health Professional Assembly Business Meeting and Oral Abstract Session

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Saturday, February 21st, 2015, 12:15 PM - 1:45 PM

227 **Association Between Asthma Prevalence and Environmental Tobacco Smoke (ETS) Exposure in Schoolchildren from the Pittsburgh Region**
Najwa Al-Ghamedi, PharmD[1], Jennifer Elliott, PharmD[1], Paige E. Dewhirst, MPH[2], Tricia Morphew, PhD[3], David P. Skoner, MD[2] and Deborah A. Gentile, MD[2], [1]Duquesne University, Pittsburgh, PA, [2]Allegheny Singer Research Institute, Pittsburgh, PA, [3]Morphew Consulting, LLC, CA

228 **Consuming a Cows' Milk Exclusion Diet during Infancy Affects Eating Behavior and Liking for Dairy Products 10 Years Later**
Kate Maslin, MSc, RD[1,2], Taraneh Dean[1,2], Jane Grundy[2], Gill Glasbey[2], Syed H. Arshad, DM, FRCP[2,3] and Carina Venter, PhD RD[1,2], [1]University of Portsmouth, United Kingdom, [2]The David Hide Asthma and Allergy Research Centre, United Kingdom, [3]University of Southampton, United Kingdom

229 **Pilot Study Demonstrates High Prevalence of Asthma in Inner-City Schoolchildren from Pittsburgh Region**
Paige E. Dewhirst, MPH[1], Jennifer Elliott, PharmD[2], David P. Skoner, MD[1], Tricia Morphew, PhD[3] and Deborah A. Gentile, MD[1], [1]Allegheny Singer Research Institute, Pittsburgh, PA, [2]Duquesne University, Pittsburgh, PA, [3]Morphew Consulting, LLC, CA

230 **Trends in the Workforce of Certified Asthma Educators (AE-Cs) in New York State (NYS) & Relationship to State Funding Support**
Mary E. Cataletto, MD, Asthma Coalition of Long Island, Brookville, NY, Claudia Guglielmo, MPA, AE-C, Asthma Coalition of Queens, Hauppauge, NY, Jennifer Mane, MSW, NYS Department of Health, Bureau of Community Chronic Disease Prevention and Anne Little, MPH, AE-C, Asthma Coalition of Long Island, Hauppauge, NY

231 **Preliminary Results of the Teen Food Allergy Education Survey**
Claire Unruh, BSc., Children's Allergy and Asthma Education Centre, Winnipeg, MB, Canada

Genetics and Epigenetics of Asthma

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Saturday, February 21st, 2015, 2:00 PM - 3:15 PM

232 **Interaction of Leptin Genetic Variants and DNA Methylation Influences Lung Function and Asthma at 18 Years of Age**
Nandini Mukherjee[1], Susan L. Ewart, DVM, PhD[2], Syed H. Arshad, DM, FRCP[3,4], Gabrielle A. Lockett, PhD[5], John W. Holloway, PhD[5] and Wilfried Karmaus, MD, DrMed, MPH[1], [1]University of Memphis, Memphis, TN, [2]Michigan State University, East Lansing, MI, [3]The David Hide Asthma and Allergy Research Centre, United Kingdom, [4]University of Southampton, United Kingdom, [5]University of Southampton, Southampton, United Kingdom

233 **Epigenome Wide Study Identifies DNA Methylation Sites Associated with Cord Blood IgE**
Akhilesh Kaushal[1], Hongmei Zhang, PhD[1] and Shu-Li Julie Wang, PhD[2], [1]University of Memphis, Memphis, TN, [2]National Health Research Institutes, Zhunan, Miaoli County, Taiwan

234 **IFNγ and Foxp3 Methylation, Expression in Buccal Mucosa in Inner-City Children with Allergic Asthma**
Emily Happy Miller[1], Hanjie Zhang[2], Mariangels De Planell Saguer[2], Stephanie Lovinsky-Desir[3], Matthew S. Perzanowski, PhD[4], Wanda Phipatanakul, MD, MS[5], Elizabeth C. Matsui, MD, MHS[6] and Rachel Miller, MD[2,7], [1]Department of Medicine, Columbia University, New York, NY, [2]Division of Pulmonary, Allergy and Critical Care Medicine, Department of Medicine, Columbia University, New York, NY, [3]Division of Pulmonary, Department of Pediatrics, Columbia University, New York, NY, [4]Department of Environmental Health Sciences, Columbia University, New York, NY, [5]Division of Pediatric Allergy/Immunology, Boston Children's Hospital, Harvard University School of Medicine, Boston, MA, [6]Division of Pediatric Allergy/Immunology, Johns Hopkins School of Medicine, Baltimore, MD, [7]Division of Allergy, Immunology, and Rheumatology and Division of Pulmonary, Department of Pediatrics, Columbia University, New York, NY

235 **Sophora Flavescens Alkaloid-Rich Fraction Induction of IL-10 Production and Prevention of Dexamethasone Suppression of Asthma Patient PBMC IL-10 Production Is Associated with Altered DNA Methylation at foxp3 Gene Promoter**
Ying Song, MD[1], Li Xin Wang[1,2], Changda Liu, PhD[1], Lauren Lisann[1], David Weir[3], Ching-feng Huang[1,4], Paula J Busse, MD, FAAAAI[3] and Xiu-Min Li, MD, MS[1], [1]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Shanghai Municipal Hospital of Traditional Chinese Medicine affiliated with Shanghai TCM University, China, [3]Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY, [4]Department of Pediatrics,Tri-Service General Hospital, National Defense Medical Center, Taiwan

236 **Early-Onset Asthma Is Associated with a Specific Polymorphisms of TLR-4 (Asp299Gly) in Ukrainian Adults**
Yuri Bisyuk[1], A.I. Kurchenko[2], V.a. Beloglazov[3], A.I. Dubovyi[4], L.K. Znamenska[4] and Lawrence M. DuBuske, MD, FAAAAI[5], [1]Bogomolets National Medical University, Kyiv, Ukraine, Kyiv, Ukraine, [2]National Medical University, Kiev, Kiev, Ukraine, [3]Crimean State Medical University, semferopol, Ukraine, [4]Crimean State Medical University, Ukraine, [5]George Washington University School of Medicine, Washington, DC

Mechanisms in Atopy

2602
Saturday, February 21st, 2015, 2:00 PM - 3:15 PM

237 **DNA Methylation Modifies the Effect of Genotype on Atopy Risk**
Gabrielle A. Lockett, PhD[1], Nelís Soto-Ramírez, PhD[2], Sanjay K. Lal[1], Susan L. Ewart, DVM, PhD[3], Hasan Arshad, DM, FRCP[1],4, Hongmei Zhang, PhD[2], Wilfried Karmaus, MD, DrMed, MPH[2] and John W. Holloway, PhD[1], [1]University of Southampton, Southampton, United Kingdom, [2]University of Memphis, Memphis, TN, [3]Michigan State University, East Lansing, MI, [4]The David Hide Asthma and Allergy Research Centre, Newport, United Kingdom

238 **Oral Tolerance and Unresponsiveness to Allergen Challenge after Immunotherapy Are Not Associated with a Change in B10 Cell Number in Mice**
Kelly Orgel, BS, Benjamin L. Wright, MD, Rishu Guo, PhD, Michael D. Kulis Jr, PhD and A. Wesley Burks, MD, University of North Carolina at Chapel Hill, Chapel Hill, NC

239 **Allergic Disease-Related Phenotypic Differences Emerges in Type 2 Immune Responses**
Erik R. Wambre, PhD/MBE[1], Veronique Bajzik[2], Amedee Renand, PhD[3], Eddie A. James, PhD[4], David Robinson, MD[5] and William W. Kwok, PhD[4], [1]Benaroya Research Institute, Seattle, WA, [2]Benaroya Research Institute, Seattle, [3]Benaroya research institute, Seattle, WA, [4]Benaroya Research Institute at Virginia Mason, Seattle, WA, [5]Virginia Mason Medical Center

240 **Variations in the Heat Shock Protein 90 Gene Are Associated with Asthma in Populations of African Ancestry**
Li Gao, MD, PhD[1], Nicholas M. Rafaels[1], Rasika A. Mathias, ScD[1], Terri H Beaty, PhD[2] and Kathleen C. Barnes, PhD, FAAAAI[1], [1]Division of Allergy and Clinical Immunology, Department of Medicine, Johns Hopkins University, Baltimore, MD, [2]Johns Hopkins University School of Public Health, Baltimore, MD

241 **Negative Regulation of Eosinophil Production By TLR2**
David W. Morris, MD, Allergy and Immunology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, Kaila L. Schollaert, MA, Division of Allergy and Immunology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH and Patricia C. Fulkerson, MD, PhD, Allergy and Immunology, Division of Allergy and Immunology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

Allergy and Respiratory Disease in the Military and Civilian Workplace

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242 **Peak TMA Specific IgG Responses May Predict the Likelihood of TMA Exposed Workers Developing TMA Specific IgE Responses**
Corey Davis Clay, MD, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, Debajyoti Ghosh, PhD, University of Cincinnati College of Medicine, Cincinnati, OH, Umesh Singh, University of Cincinnati, Cincinnati, OH and Jonathan A. Bernstein, MD, FAAAAI, Division of Immunology Allergy & Rheumatology, University of Cincinnati Medical Center, Cincinnati, OH

243 **New Studies on Dust from Middle East Deployment Areas**
Mark B. Lyles, MA, MS, DMD, PhD, US Naval War College, Newport, RI

244 **The Cardiac Protein Alpha-T-Catenin Contributes to the Pathogenesis of Occupational Asthma**
Stephen S Folmsbee and Cara J Gottardi, PhD, Northwestern University, Chicago, IL

245 **Occupational Asthma Due to Mold: Myth or Reality?**
Catherine Lemiere, MD[1], Mariam Ghabour[2] and André Cartier, MD, FAAAAI[1], [1]Hopital du Sacre-Coeur de Montreal, Montreal, QC, Canada, [2]Université de Montréal

246 **The Potential of a Low-Cost Particle Counter to Quantify Airborne Particulate Matter in a Laboratory Animal Facility**
Meinir Jones[1], Sean Semple[2], Susie Schofield[1], Susan Bahaduri[1], Johanna Feary[1] and Paul Cullinan, MD[1], [1]Imperial College, London, United Kingdom, [2]Aberdeen University, Aberdeen, United Kingdom

New Insights into Eosinophilic Esophagitis

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247 **Functional Analysis of Calpain-14 in Eosinophilic Esophagitis**
Benjamin P. Davis, MD, Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, Leah Claire Kottyan, PhD, Center for Autoimmune Genomics and Etiology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA, Cincinnati, OH, Emily Stucke, BA, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, Joseph D. Sherrill, PhD, Children's Hospital Medical Center, Cincinnati, OH and Marc E. Rothenberg, MD, PhD, Children's Hospital Medical Center, Cincinnati, OH

248 **TRAIL Signalling Is Pro-Inflammatory in Eosinophilic Esophagitis**
Adam M Collison, PhD[1], Leon A Sokulsky[1], Joseph D. Sherrill, PhD[2], Scott Nightingale, FRACP[3], Luke Hatchwell[1], Nicholas J Talley, MD, PhD[1], Marjorie M Walker, FRCPath[1], Marc E. Rothenberg, MD, PhD[2] and Joerg Mattes, MD, PhD[1], [1]University of Newcastle, [2]Children's Hospital Medical Center, Cincinnati, OH, [3]John Hunter Children's Hospital

249 **Active Eosinophilic Esophagitis Is Characterized By Epithelial Barrier Defects and Eosinophil Extracellular Trap Formation**
Dagmar Simon, MD[1], Susanne Radonjic-Hösli[2], Alex Straumann, MD[3], Shida Yousefi, PhD[2] and Hans-Uwe Simon, MD, PhD, FAAAAI[4], [1]Department of Dermatology, University Hospital Bern, Bern, Switzerland, [2]Institute of Pharmacology, University of Bern, Bern, Switzerland, [3]Chairman Swiss EoE Research Network, Olten, Switzerland, [4]University of Bern, Bern, Switzerland

250 **Salivary Microrna As a Biomarker for Monitoring Response to Treatment in Eosinophilic Esophagitis**
Theodore E. Kelbel, MD[1], Gisoo Ghaffari, MD[1], Maria Sena[2] and Faoud T. Ishmael, MD, PhD, FAAAAI[3], [1]Penn State Hershey Medical Center, Hershey, PA, [2]SUNY - Jamestown, NY, [3]Penn State University College of Medicine, Hershey, PA

251 **Transcriptome Analysis of PPI-Responsive Esophageal Eosinophilia Reveals the Presence of an Eosinophilic Esophagitis Transcriptome Reversible By PPI Mono-Therapy and the Identification of PPI-Response Predictor Genes**
Ting Wen, PhD, Cincinnati Children's Hospital Medical Center, Blue Ash, OH, Evan Dellon, MD, University of North Carolina School of Medicine, Center for Esophageal Diseases and Swallowing, Chapel Hill, NC, Fouad J Moawad, Walter Reed National Military Medical Center, Glenn Furuta, MD, Children's Hospital Colorado, Aurora, CO, Seema Sharma Aceves, MD, PhD, FAAAAI, Pediatrics, University of California San Diego, La Jolla, CA and Marc E. Rothenberg, MD, PhD, Children's Hospital Medical Center, Cincinnati, OH

Asthma in the Underserved

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252 **Asthma Coach Intervention to Reduce Emergency Department Visits and Inpatient Hospitalizations**
Beth Roehm, MSN, RN, CPNP-PC, AE-C, St. Louis Children's Hopsital, St. Louis, MO and Catherine M Rains, MPH, St. Louis Children's Hospital, Saint Louis, MO

253 **(1) Asthma Needs Assessment on the Navajo Indian Reservation**
Aaron K. Kobernick, MD, MPH[1,2], Sara Swoboda, MD[2] and Bruce G. Bender, PhD, FAAAAI[3], [1]University of North Carolina, Chapel Hill, NC, [2]Indian Health Service, Chinle, AZ, [3]National Jewish Health, Denver, CO

254 **Electronic Asthma Self-Management Program Can Improve Asthma Control and Quality of Life in Young, African Americans**
Christopher E. Couch, MD, Aimee L. Speck, MD and Alan P. Baptist, MD, MPH, FAAAAI, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI

255 **Characteristics of Symptomatic Children Undiagnosed with Asthma and Known Asthmatics in Inner-City Schools**
Margee Louisias, MD[1,2], Carter Petty, MA[1] and Wanda Phipatanakul, MD, MS[1], [1]Boston Children's Hospital, Boston, MA, [2]Brigham and Women's Hospital, Boston, MA

256 **Characteristics of Inner City Children with Life-Threatening Asthma**
Mary E. Bollinger, DO[1], Arlene Butz, ScD, CRNP[2], Cassie Lewis-Land, MS[2], Francesca DiPaula, BS[2] and Shawna Mudd,

DNP, CRNP[3], [1]Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD, [2]Johns Hopkins University School of Medicine, Baltimore, MD, [3]Johns Hopkins University School of Nursing, Baltimore, MD

Molecular Mechanisms at Respiratory Epithelial Level

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257 Regulation of Tissue Plasminogen Activator Expression in Human Epithelial Cells
Masafumi Sakashita, MD[1], Tetsuya Homma, MD[2], James E Norton, BSc[3], Lydia Suh, BSc[2], Roderick G. Carter, BSc[2], Atsushi Kato, PhD[4] and Robert P. Schleimer, PhD, FAAAAI[2], [1]Northwestern university, Chicago, IL, [2]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Northwestern University, [4]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

258 Oncostatin M Is Elevated in Mucosal Disease and May Mediate Epithelial Barrier Dysfunction in Vivo
Kathryn L. Pothoven[1,2], James E. Norton, MS[1], Lydia Suh, BSc[1], Roderick G. Carter, BSc[1], Kathryn E. Hulse, PhD[1], Erin Rocci, BS[3], Nirmala Gonsalves, MD[4], Mark C. Liu, MD, FAAAAI[5], Anju T. Peters, MD, FAAAAI[1,4], Kathleen E. Harris, BSc[1], Stephanie Shintani Smith[6], David B. Conley, MD[6], Leslie C. Grammer, MD, FAAAAI[1], Atsushi Kato, PhD[1], Robert C. Kern, MD[6], Paul Bryce, PhD[1], Bruce Tan, MD[6] and Robert P. Schleimer, PhD, FAAAAI[7], [1]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Driskill Graduate Program, Northwestern University, Chicago, IL, [3]Loyola University Stritch School of Medicine, Chicago, IL, [4]Northwestern University - Feinberg School of Medicine, Chicago, IL, [5]Johns Hopkins Asthma and Allergy Center, Baltimore, MD, [6]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL, [7]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

259 Staphyloccoccus Aureus Induces a Th2 Response Via TSLP and IL-33 Release in Human Airway Mucosa
Feng Lan, MD[1], Nan Zhang[1], Gabriele Holtappels[1], Natalie De Ruyck[1], Nikolaos G. Papadopoulos, MD, FAAAAI, EAACI President[2], Sebastian L. Johnston, MD, PhD[3] and Claus Bachert, MD, PhD[1,4], [1]Upper Airway Research Laboratory (URL), Ghent University Hospital, Ghent, Belgium, [2]Allergy Research Center, Athens, Greece, [3]Imperial College London, London, United Kingdom, [4]Division of ENT Diseases, Karolinska Institute, Stockholm, Sweden

260 Omeprazole Has Anti-Inflammatory Effects on Type 2 Cytokine-Stimulated Human Airway Epithelial Cells
Jin Young Min, MD, PhD[1], Robert C. Kern, MD[1], Christopher J. Ocampo, MD, PhD[2], Tetsuya Homma, MD[2], David B. Conley, MD[1], Stephanie Shintani-Smith, MD[1], He Huang, MS[1], Lydia Suh, BSc[2], James E. Norton, MS[2], Kathryn E. Hulse, PhD[2], Atsushi Kato, PhD[2], Robert P. Schleimer, PhD, FAAAAI[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

261 Withdrawn

Mechanisms of Atopic Diseases: Lymphocytes

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262 Deficiency of Thymic Stromal Lymphopoietin (TSLP) Receptor Signaling Reduced IL-33 Protein Expression and the Number of Lung Group 2 Innate Lymphoid Cells (ILC2) Following Alternaria Extract-Challenge
Shinji Toki, PhD[1], Kasia Goleniewska[1], Sara Reiss, MS[1], Baohua Zhou, PhD[2] and R. Stokes Peebles Jr, MD, FAAAAI[1], [1]Vanderbilt University School of Medicine, Nashville, TN, [2]Indiana University School of Medicine, Indianapolis, IN

263 Epithelial IL-33 and TSLP Elicit Innate Lymphoid Cell Responses to Mediate Ozone-Induced Airway Inflammation and Hyperresponsiveness
Qi Yang, PhD[1], Moyar Q. Ge[1], Stephanie Kubala[1], Zhilong Jiang[1], Imre G Redai[1], Monica Soni[1], Bei Chen, MD[1], Noam A. Cohen, MD, PhD[2], Avinash Bhandoola, MBBS PhD[3] and Angela Haczku, MD, PhD, FAAAAI[4], [1]University of Pennsylvania, Philadelphia, PA, [2]Dept. of Otorhinolaryngology: Head and Neck, Philadelphia, PA, [3]NCI, NIH, [4]University of California at Davis, Davis, CA

264 Frequency of Type 2 Innate Lymphoid Cells (ILC2) in Bronchoalveolar Lavage (BAL) and Their Contribution to Type 2 Cytokine Production in Human Asthma
Christina Christianson, PhD, Chaoyu Irvin, MS, Iram Zafar, MS, Yingfang Song, MD, Weimin Liu, James Good, MD, Donald Rollins, MD, Magdalena M. Gorska, MD, PhD, Richard Martin, MD and Rafeul Alam, MD, PhD, FAAAAI, National Jewish Health, Denver, CO

265 A Bell-Shaped Dose-Dependent Induction of Allergen-Specific Tetramer+ CD4 T Cells and Activated Lung ILC2s Following Epicutaneous Allergen Sensitization in HLA-DR4 Transgenic Mice
Christopher D Rudulier, PhD[1,2], Daniel M. Moldaver[1,2], Tarandeep Singh[1,2], Ivan Nayve[1,2], Jennifer Wattie[1,2], Marianne van Hage, MD, PhD[3,4], Eddie A. James, PhD[5], William W. Kwok, PhD[6] and Mark Larché, PhD[1,2], [1]McMaster University, Hamilton, ON, Canada, [2]Firestone Institute for Respiratory Health, Hamilton, ON, Canada, [3]Karolinska Institutet, Department of Medicina Solna, Clinical Immunology and Allergy Unit, Stockholm, Sweden, [4]Centre for Allergy Research, Karolinska Institutet, Stockholm, Sweden, [5]Benaroya Research Institute at Virginia Mason, [6]Benaroya Research Institute at Virginia Mason, Seattle, WA

266 Rapamycin Preferentially Inhibits IL5+ Th2 Cell Proliferation through the mTORC1/S6 Kinase Pathway
Yuzhi Yin, MD/PhD and Calman Prussin, MD, FAAAAI, NIAID/NIH, Bethesda, MD

Severe Asthma and Asthma Phenotypes

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267 Roles of Fungal Sensitization in Severe Asthmatic Patients
Katsunori Masaki[1], Koichi Fukunaga[1], Takashi Kamatani[1], Kengo Ohtsuka[1], Takae Tanosaki[1], Masako Matsusaka[1], Hiroki Kabata[1], Soichiro Ueda[1], Yusuke Suzuki[1], Koichiro Asano[2], Tomoko Betsuyaku[1] and Takao Mochimaru[1], [1]Keio University School of Medicine, Tokyo, Japan, [2]Tokai University School of Medicine, Kanagawa, Japan

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268 **Oral Corticosteroid Use and Health Outcomes in Patients with Severe or Difficult-to-Treat Asthma**
Bradley E. Chipps, MD, FAAAAI[1], Tmirah Haselkorn[2], Dave P. Miller, MS[3], David R Mink, MS[3] and Theodore A. Omachi, MD, MBA[2], [1]Capital Allergy & Respiratory Disease Center, Sacramento, CA, [2]Genentech, Inc., South San Francisco, CA, [3]ICON Clinical Research

269 **Increased Serum Levels of Inflammatory Cytokines in Severe Childhood Asthma**
Jon Konradsen, MD, PhD[1], Ingrid Dahlbom, PhD[1], Bjoern Nordlund, PhD[2], Hans Grönlund, PhD[1] and Gunilla Hedlin, MD, PhD[3,4], [1]Karolinska Institutet, [2]Karolinska Institutet, Bromma, Sweden, [3]Centre for Allergy Research, Karolinska Institutet, Stockholm, Sweden, [4]Department of Women's and Children's Health, Karolinska Institutet, Stockholm, Sweden

270 **Airway Collapse Presenting As Severe Persistent Asthma**
Maria A. Barcena Blanch, MD, Roxana I. Siles, MD and Sumita Khatri, MD, Cleveland Clinic Foundation, Cleveland, OH

271 **Chronic Eosinophilia Associated with Strongyloides Infection, Severe Asthma, and Central Bronchiectasis**
Meera P. Bhardwaj[1], Denisa Ferastraoaru, MD, MSc[2], David L. Rosenstreich, MD, FAAAAI[2] and Sunit Jariwala, MD[2], [1]Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA, [2]Division of Allergy and Immunology, Department of Medicine, Montefiore Medical Center, Bronx, NY

272 **Distinct Phenotypes of Childhood Asthma: Cluster Analysis in a Longitudinal Birth Cohort**
Kristin A. Schimdlin, MD[1], Cole Brokamp[1], Grace K. LeMasters, PhD[1], David I. Bernstein, MD, FAAAAI[1], James E. Lockey, MD, MS, FAAAAI[1], Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[2] and Patrick Ryan, PhD[2], [1]University of Cincinnati College of Medicine, Cincinnati, OH, [2]Cincinnati Children's Hospital Medical Center, Cincinnati, OH

273 **Relationship Between Asthma Phenotypes and Hypersensitivity Vasculitis**
Khrystyna Lischuk-Yakymovych, Danylo Halytskyy Lviv national medical university, Department of Clinical Immunology and Allergology, Lviv, Ukraine, Lviv, Ukraine, Roman Pukalyak, Danylo Halytskyy Lviv National Medical University, Lviv, Ukraine and Lawrence M. DuBuske, MD, FAAAAI, George Washington University School of Medicine, Washington, DC

Epidemiology and Asthma Ancestry

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274 **Pediatric Asthma Deaths in North Carolina, 1999-2012**
Katherine C. Gilbert, MD[1], Maria C Mirabelli, PhD[2], Krista Ragan, MA[3], Emily W Gower, PhD[1], Nicklaus P Ashburn, BS[1] and William A Gower, MD[1], [1]Wake Forest School of Medicine, Winston Salem, NC, [2]Rollins School of Public Health, Atlanta, GA, [3]North Carolina Office of the Chief Medical Examiner, Raleigh, NC

275 **Impact of Self-Identified Race and Genetic Ancestry on Airway Inflammation in Asthma**
Sharmilee M. Nyenhuis, MD, FAAAAI[1], Steven J. Ackerman, PhD[2], Jian Du, MD[2], Jerry A. Krishnan, MD, PhD[2] and Rick A Kittles, PhD[3], [1]MC 719, University of Illinois at Chicago, Chicago, IL, [2]University of Illinois at Chicago, Chicago, IL, [3]University of Arizona, Tucson, AZ

276 **A Review of Autopsied Pediatric Asthma Fatalities at a Tertiary Care Center: 1987-2014**
Malika Gupta, MD, and Sigrid Payne DaVeiga, MD, The Children's Hospital Of Philadelphia

277 **Asthma Severity in Korean Children Assessed By the 12 Pediatric Allergists Working at Different Hospitals**
Dong In Suh, MD, Department of Pediatrics, Seoul National University College of Medicine, Seoul, Seoul, South Korea, DaeHyun Lim, Inha University, Incheon, South Korea, Hyeon Jong Yang, MD, Soonchunhyang University Hospital, Seoul, Bong-Seong Kim, MD, Department of Pediatrics, Gangneung Asan Hospital, University of Ulsan College of Medicine, Youn Ho Shin, Gangnam CHA hospitatl, Seoul, South Korea, So-Yeon Lee, Department of Pediatrics, Hallym University College of Medicine, Geunhwa Park, Gwanghye general hospital, Woo Kyung Kim, MD, PhD, Department of Pediatrics, Seoul Paik Hospital, Inje University College of Medicine, Seoul, South Korea, Hyo-Bin Kim, MD, PhD, Department of Pediatrics,Inje University Sanggye Paik Hospital, Seoul, South Korea, Heysung Baek, MD, PhD, Department of Pediatrics, Hallym University College of Medicine, Seoul, South Korea, 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 and Ja-Kyoung Kim, Kangwon National University Hospital

278 **Relationship Between Breast-Feeding and Wheeze Risk in Early Childhood in Korean Children: Based on the Fifth Korea National Health and Nutrition Examination Survey 2010–2012**
Yeong-Ho Rha, MD, PhD, Kyung Hee University Hospital, Seoul, South Korea, Kyung Suk Lee, MD, PhD, Kyung Hee University Hospital and Sun Hee Choi, MD, PhD, Kyung Hee University Hospital at Gangdong, Seoul, South Korea

279 **Association Between Asthma-Related Emergency Department Visits, Meteorological Measurements, and Air Quality Concentrations in the Bronx (2001-2008)**
Ryan Abraham[1], Jennifer Toh, MD[2], Tulsi Desai[3], Mili Shum, MD[4], Priyank Patel[3], David L. Rosenstreich, MD, FAAAAI[5] and Sunit Jariwala, MD[5], [1]Albert Einstein College of Medicine, [2]Albert Einstein/Montefiore Medical Center, Bronx, NY, [3]Albert Einstein College of Medicine, Bronx, NY, [4]Montefiore Medical Center, Bronx, NY, [5]Albert Einstein/Montefiore Medical Center, NY

280 **Two Pathways Leading to Bronchial Asthma from Cough Variant Asthma Characterized By Different Clinical and Genetic Risk Factors**
Terufumi Shimoda, MD[1], Yasushi Obase, MD[2], Michiyoshi Imaoka, MD[1], Reiko Kishikawa, MD[1] and Tomoaki Iwanaga, MD[1], [1]Fukuoka National Hospital, Fukuoka, Japan, [2]Nagasaki University, Nagasaki, Japan

B Cells, Humoral Deficiencies, IVIG

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281 **Evidence of Wear-Off Effect from Ig Infusion Therapy in Routine Clinical Practice**
Art Zbrozek, RPh, MSc, MBA[1], Matthew Sussman[2] and Michael Munsell[2], [1]CSL Behring LLC, King of Prussia, PA, [2]Boston Health Economics, Boston, MA

282 **Common Variable Immunodeficiency-Runs in the Family**
Robyn Kreiner, MD and Arye Rubinstein, MD, FAAAAI, Albert Einstein College of Medicine, Bronx, NY

283 **Transitional B Cells, CD21low and Plasmoblasts in Patients with Ataxia-Telangiectasia**
Danielli Christinni Bichuetti-Silva, MD, Camila Teles Machado Pereira, MD, Nadijane V S Ferreira, Reinaldo Salomao, MD, Milena K C Brunialti and Beatriz Tavares Costa-Carvalho, MD, UNIFESP-EPM, Sao Paulo, Brazil

284 Comparison of Clinical Outcomes and Laboratory Measures in Patients with Common Variable Immunodeficiency on Subcutaneous Immunoglobulin Replacement Versus Intravenous Immunoglobulin Replacement

Shaili N Shah, MD[1], Krista Todoric, MD[1] and Teresa K. Tarrant, MD, FAAAAI[2], [1]University of North Carolina School of Medicine, Chapel Hill, NC, [2]Departments of Medicine and Microbiology and Immunology, University of North Carolina School of Medicine, Chapel Hill, NC 27599, USA, Chapel Hill, NC

285 Sub-Optimal Response to PCV-13 Vaccinations Among Children with Recurrent Sinusitis and Otitis Media

Michael Vaughn, MD, PhD, Alamo Asthma & Allergy, San Antonio, TX

286 Pharmacokinetics of RI-002, an Investigational Igiv Preparation

James j Mond, MD, PhD[1], Charlotte Cunningham-Rundles, MD, PhD, FAAAAI[2], Ann R. Falsey, MD[3], Lisa R. Forbes, MD[4], Adam S. Grossman[5], Jim Harris III, MD[6], Kaitlin M Kestenberg[5], Ai Lan Kobayashi, MD[7], Roger H. Kobayashi, MD, FAAAAI[8], Robyn J. Levy, MD[9], William R. Lumry, MD, FAAAAI[10], Isaac Melamed, MD[11], Mark R. Stein, MD, FAAAAI[12] and Richard L. Wasserman, MD, PhD, FAAAAI[13], [1]ADMA Biologics, ramsey, NJ, [2]Mt. Sinai Medical Center, New York, NY, [3]University of Rochester, Rochester, NY, [4]Baylor College of Medicine-Texas Children's Hospital, Section of Immunology, Allergy, and Rheumatology, Houston, TX, [5]ADMA Biologics, Ramsey, NJ, [6]The South Bend Clinic, LLP, South Bend, IN, [7]Midlands Pediatrics, Papillion, NE, [8]Allergy Asthma and Immunology Assoc., Omaha, NE, [9]Family Allergy and Asthma Center, PC, Atlanta, GA, [10]AARA Research Center, Dallas, TX, [11]IMMUNOe Health Centers, Centennial, CO, [12]Allergy Associates of the Palm Beaches, North Palm Beach, FL, [13]DallasAllergyImmunology, Dallas, TX

287 B Cell Lymphopenia As a Complication of Remote Rituximab Use in a Patient with Common Variable Immunodeficiency

Jenni Y. Yoon, MD, Sheila M. Bina, MD, Mark Ballow, MD, FAAAAI and Jennifer W. Leiding, MD, University of South Florida, St. Petersburg, FL

288 Mutation of the BTK Gene and Genotype-Phenotype Correlation of Chinese Patients with X-Linked Agammaglobulinemia

Xiafang Chen[1,2], Wei Zhao[3], ZhiQing Tian[1,2], XiaoFang Wang[1,2], Tongxin Chen[1,2] and WeiFan Wang[1,2], [1]Department of Allergy and Immunology, Shanghai Children's Medical Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China, [2]Division of Immunology, Institute of Pediatric Translational Medicine, Shanghai Jiao Tong University School of Medicine, Shanghai, China, [3]Division of Allergy and Immunology, Department of Pediatrics, Virginia Commonwealth University

289 Patients with Rheumatologic Disorders May Develop Pain with Immunoglobulin Replacement, Requiring the Use of Daily Subcutaneous Therapy

Alan Koterba, MD, PhD, and Mark R. Stein, MD, FAAAAI, Allergy Associates of the Palm Beaches, North Palm Beach, FL

290 Correlation Between Clinical Response and Specific Antibody Levels in Patients Receiving IVIG for Humoral Immunodeficiency

Vathani S Packianathan, MD, Yasmeen R. Khan, MD, Mark Ballow, MD, FAAAAI and Heather K. Lehman, MD, SUNY Buffalo, Buffalo, NY

291 Clinical Manifestations, Gene Mutations and B-Cell Subsets Characterization of Autosomal Dominant-Hyper IgE Syndrome Patients in China

Tongxin Chen[1,2], Wei Zhao[3] and ZhiQing Tian[1,2], [1]Department of Allergy and Immunology, Shanghai Children's Medical Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China, [2]Division of Immunology, Institute of Pediatric Translational Medicine, Shanghai Jiao Tong University School of Medicine, Shanghai, China, [3]Division of Allergy and Immunology, Department of Pediatrics, Virginia Commonwealth University

292 The Utility of Preimmunization and Postimmunization Titers to 23 Serotypes of Streptococcus Pneumoniae in the Diagnosis of Specific Antibody Deficiency in Children

Andrew L. Kau, MD, PhD[1], Maleewan Kitcharoensakkul, MD[2], Avraham Beigelman, MD, MSCI FAAAAI[2] and Leonard B. Bacharier, MD, FAAAAI[2], [1]Department of Medicine, Washington University School of Medicine, St. Louis, MO, [2]Department of Pediatrics, Washington University School of Medicine and St. Louis Children's Hospital, Saint Louis, MO

293 Characterization of Common Variable Immunodeficiency (CVID) Subgroups through Modulation of Their Interleukin-21 (aCD40/IL-4/IL-21) Pathway in Vitro

Marylin Desjardins, MD, Division of Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Centre, Montreal, QC, Canada, Marianne Beland, MUHC, Montreal, QC, Canada, Jean-Philippe Drolet, MD, Centre Hospitalier Universitaire de Quebec, Quebec, QC, Canada, Reza Alizadehfar, MD, Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Montreal, QC, Canada and Bruce D. Mazer, MD, FAAAAI, Montreal Children's Hospital, Montreal, QC, Canada

294 Adverse Effects of Different Formulations of Intravenous Immunoglobulin

Sarah E. Henrickson and Connie K Law, Children's Hospital of Philadelphia, Philadelphia, PA

295 Diagnosis of X-Linked Agammaglobulinemia (XLA) in an Adult with a Novel Mutation of the BTK Gene and the Cost-Benefit of IVIG in Preventing Deterioration of Pulmonary Function

Joseph B. West, MD, Boston University Medical Center, Boston, MA and Praveen Govender, MD, Boston University Medical Center

296 Successful Use of 20% Subcutaneous Immunoglobulin in Pregnant Patients with Primary Immune Deficiency

Carla M. Duff, CPNP MSN CCRP IgCN, University of South Florida, St. Petersburg, FL, Jack Ghably, MD, Wake Forest, NC and Guha Krishnaswamy, MD, FAAAAI, Wake Forest

297 Successful Utilization of an Immunosuppressive B Cell Depleting Regimen in an Adolescent Male with Recalcitrant Non-Infectious Colitis and X-Linked Hyper IgM Syndrome

Vivian E Cino, MSN ARNP-BC PNP[1], Faina Shenderov, PharmD[1], Joan Spiro, PharmD[1], Robert Reid, MD[2], Jerome Sigua, MD, FAAAAI[2] and Gary I. Kleiner, MD, PhD, FAAAAI[1], [1]Joe Dimaggio Children's Hospital, Hollywood, FL, [2]Joe DiMaggio Children's Hospital, Hollywood, FL

298 (1) Successful Loading and Maintenance Subcutaneous Immunoglobulin (SCIG) Therapy in a Patient with Myasthenia Gravis (MG)

William Rae, BSc, BM, MRCP, University Hospital Southampton, Southampton, United Kingdom

299 Prevalence and Correlates of Immunoglobulin IgA Deficiency in Adult Outpatient Population

Mohamad Ammar Ayass, MD[1], Ayesha Jabeen, MBBS[2] and Gul Nowshad, MD, MPH, PhD[1], [1]Ayass Lung Clinic & Sleep Center, Frisco, TX, [2]PPHC USA

300 Hypogammaglobulinemia in Patients on Natalizumab Therapy

Carl B. Lauter, MD, FAAAAI, Zachary T. Levine, Lawrence M. Eilender, Raina M. Ernstoff and Steven H. Schechter, William Beaumont Hospital, Royal Oak, MI

301 The Prognostic Value of B-Cell and T-Cell Clonality Testing in Common Variable Immunodeficiency

Alexander Alvarez, MD, Virginia Commonwealth University and Brant Ward, MD, PhD, Division of Rheumatology, Allergy, and Immunology, Virginia Commonwealth University, Richmond, VA

302 A Case of Subcutaneous Gammaglobulin Therapy Complicated By MRSA Abscess Requiring Surgical Intervention

Erin C. Toller-Artis, DO[1], Yoon M. Kim, DO[2], Devi Jhaveri, DO[3], Ali Saad, DO[1], Jason Casselman, DO[1], Kathryn Marie Ruda Wessell, DO[4], Haig Tcheurekdjian, MD, FAAAAI[5] and Robert

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W. Hostoffer, DO[5], [1]University Hospitals Regional Hospitals, South Euclid, OH, [2]University Hospitals / Richmond Medical Center, Cleveland, OH, [3]University Hospitals, South Euclid, OH, [4]University Hospitals Regional Hospitals Cleveland, Ohio, South Euclid, OH, [5]Allergy/Immunology Associates, Inc., South Euclid, OH

303 **The Immunoglobulin Diagnosis, Evaluation, and Key Learnings (IDEaL) Patient Registry: Analysis of Serum and Subclass IgG Levels, Pneumococcal Vaccine Response, and Therapy Outcomes**

Sean Kearns, PhD[1], Loretta Kristofek, RN[1], Bill Bolgar, PharmD[1] and Luqman Seidu, MD[2], [1]Coram Clinical Trials, Denver, CO, [2]Omni Allergy Immunology & Asthma, Atlanta, GA

304 **Hypogammaglobulinemia in Preschool Children with Allergic Disease**

Aysen Bingol[1], Ibrahim Cemal Maslak[2] and Melih Hangul[2], [1]AKDENIZ UNIVERSITY MEDICAL FACULTY DEPT OF PEDIATRIC IMMUNOLOGY ALLERGY, [2]AKDENIZ UNIVERSITY

305 **Myelodysplastic Syndrome (MDS) and Acute Lymphocytic Leukemia in Common Variable Immunodeficiency (CVID)**

Jennifer Toh, MD[1], Arye Rubinstein, MD, FAAAAI[2], Amit K Verma, MD[3] and Kamila Bakirhan[3], [1]Albert Einstein/Montefiore Medical Center, Bronx, NY, [2]Albert Einstein College of Medicine, Bronx, NY, [3]Montefiore Medical Center, Bronx, NY

306 **Vitamin D and Pneumococcal Antibody Titers: A Potential Role of Vitamin D in the Evaluation and Management of Specific Antibody Deficiency?**

Josie Vitale, Fellow-in-Training, Jonathan Rodrigues, Fellow-in-Training and Alan P Knutsen, MD, FAAAAI, Saint Louis University School of Medicine, Saint Louis, MO

307 **Assessment of Vaccine Competency to Recall and Neo-Antigens in a Cohort of Long-Term Successfully Treated HIV Patients**

Arjun Rash, MD, Zachary Dionisopoulos, Louise Gilbert and Chris Tsoukas, MD, McGill University Health Centre, Montreal, QC, Canada

308 **Analysis of Specific Antibody Levels to Tetanus, Hib and Pneumococcus in Patients with Antibody Deficiency Receiving Immunoglobulin Replacement**

Stephen Jolles[1], Rachel Jones[1], Mark J Ponsford[2], Mo Moody[2], Clive Selwood[2] and Tariq El-Shanawany[2], [1]University Hospital of Wales, Cardiff, United Kingdom, [2]Cardiff and Vale University Health Board, United Kingdom

309 **Long-Term Efficacy and Safety of Recombinant Human Hyaluronidase (rHuPH20)- Facilitated Subcutaneous Infusion of Immunoglobulin G (IgG) (HyQvia; IGHy) in Patients with Primary Immunodeficiencies (PI)**

Richard L. Wasserman, MD, PhD, FAAAAI[1], Mark R. Stein, MD, FAAAAI[2], Isaac Melamed, MD[3], Lisa J. Kobrynski, MD, MPH, FAAAAI[4], Sudhir Gupta, MD[5], Jennifer M. Puck, MD[6], Arye Rubinstein, MD[7], Werner Engl[8], Barbara McCoy[8], Heinz Leibl, PhD[8] and Leman Yel, MD, FAAAAI[9], [1]DallasAllergyImmunology, Dallas, TX, [2]Allergy Associates of the Palm Beaches, North Palm Beach, FL, [3]IMMUNOe Health Centers, Centennial, CO, [4]Emory University, Atlanta, GA, [5]University of California, Irvine, Irvine, CA, [6]University of California, San Francisco, San Francisco, CA, [7]Albert Einstein College of Medicine and Montefiore Hospital, Bronx, NY, [8]Baxter BioScience, Vienna, Austria, [9]Baxter BioScience, Westlake Village, CA

310 **Low IgG Trough Levels at the End of 4 Week Treatment Cycle Regardless of the Administration Route**

Melvin Berger, MD, PhD, FAAAAI[1], Alphonse P. Hubsch[2], Jagdev S. Sidhu, PhD[3] and Mikhail Rojavin, PhD[1], [1]Clinical Research and Development, CSL Behring LLC, King of Prussia, PA, [2]CSL Behring, Berne, Switzerland, [3]Clinical Pharmacology & Early Development, CSL Ltd, Parkville, Australia

311 **Selective Exclusion of High Titer Donor Plasma and Immunoadsorption Chromatography As Steps to Reduce Isoagglutinin Titers in IVIG**

Liane Hoefferer, Ibrahim El Menyawi, Brigitte Siani, Martin Imboden, Annette Gaida, Isabelle Glauser, Reinhard Bolli, Katharina Willimann, Sandra Wymann, Adriano Marques A. and Eleanora Widmer, CSL Behring, Berne, Switzerland

312 **(1) Safety of Intravenous Immunoglobulin Therapy in Patients with Probable Alzheimer's Disease: A Randomized, Placebo-Controlled Clinical Study**

David Gelmont and Jacqueline Dyck-Jones, Baxter Healthcare Corporation

313 **Response to Conjugated Pneumococcal Vaccine in Patients with Inadequate Immunogenic Response to Polysaccharide Vaccine**

Prianca Naik, MD[1], Marcella R. Aquino, MD, FAAAAI[2] and Luz S. Fonacier, MD, FAAAAI[2], [1]Winthrop University Hospital, [2]Winthrop University Hospital, Allergy & Immunology, Mineola, NY

Basic and Translational Research in Immunology

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Sunday, February 22nd, 2015, 9:45 AM - 10:45 AM

314 **Functional Interaction of Mir-155, a Pro-Inflammatory microRNA, and Quaking in the Innate Immune Response**

Tim K. Richmond, Medical Student[1], Esmerina Tili[2], Marcella Chiabai[2], Dario Palmieri[2], Melissa Brown[3] and Carlo Croce[2], [1]The Ohio State University, Columbus, OH, [2]The Ohio State University College of Medicine, [3]The Ohio State University

315 **Exogenous PGI2 Protection Against Respiratory Syncytial Virus (RSV)-Induced IL-13-Producing Th2 Cells and ILC2**

Melissa T. Harintho, BS[1], Shinji Toki, PhD[2], Kasia Goleniewska[2] and R. Stokes Peebles Jr, MD, FAAAAI[3], [1]Department of Pathology, Microbiology, and Immunology, Vanderbilt University School of Medicine, Nashville, TN, [2]Allergy, Pulmonary, and Critical Care Medicine, Department of Medicine, Vanderbilt University School of Medicine, Nashville, TN, [3]Vanderbilt University School of Medicine, Nashville, TN

316 **The Use of Radiolabelled 18-F-2-Deoxy-2-Fluro-Glucose (18-FDG) in Combined Positron Emission Tomography-Computed Tomography (PET-CT) to Evaluate Infection: Lessons Learned from a Case Series of 23 Patients with Chronic Granulomatous Disease (CGD)**

Amanda K. Rudman Spergel, MD[1], Clara C. Chen, MD[2], Cheryl Ann Beegle, JD, CRA[2], Patricia Littel, RN, BSN[1], Mary Garofalo, RN, BSN[1], Sandra Anaya-O'Brien, RN, MSN[1], Martha Marquesen, CRNP[1], Ulas Bagci, PhD[3], Daniel J. Mollura, MD[3], John I. Gallin, MD[1] and Harry L. Malech, MD[1], [1]Laboratory of Host Defenses, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD, [2]Nuclear Medicine Section, Radiology and Imaging Sciences, Clinical Center, National Institutes of Health, Bethesda, MD, [3]Center for Infectious Disease Imaging, Radiology and Imaging Sciences, Clinical Center, National Institutes of Health, Bethesda, MD

317 **(1) Immunopharmacological Characterization of Potent, Selective and Orally Available RORγt Inhibitors for Treatment of Autoimmune Diseases**

Junya Masuda, Takashi Takeuchi, Chinatsu Tomizawa, Atsuko Kawaji, Toshimichi Asakura, Shunsuke Shimada, Takaaki Negishi, Yutaka Kato, Kazunari Nakao and Shoji Furusako, Discovery Research, Mochida Pharmaceutical Co., LTD., Gotemba, Shizuoka, Japan

SUNDAY

318 Relevance of an Antigen-Specific Liver Profile Multiplex Technique in the Diagnosis of Autoimmune Liver Diseases

Yvelise Barrios, MD, PhD[1], Victor Matheu, MD, PhD[2], Elena Varela[3] and Andres Franco, MD[1], [1]Immunology, Hospital Universitario de Canarias, LA LAGUNA, Spain, [2]Hospital del Tórax-Ofra, Sta Cruz de Tenerife, Spain, [3]CS Candelaria

319 Cord Blood DNA Methylation of Treg Cytokine Genes Differs 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] and Wilfried Karmaus, MD, DrMed, MPH[6], [1]University of Memphis, Memphis, [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]University of Memphis, Memphis, TN

320 A Human Microbiome Enhanced Campylobacter Jejuni Induced Autoantibodies and Th-2 Skewing of Adaptive Immunity after Fecal Transplant

Linda S. Mansfield, V.MD, PhD, DACVM, Kelsey A. Brakel, BS, Ankit Malik, BS, MS and Julia A. Bell, PhD, Michigan State University, East Lansing, MI

321 Mast Cell-Expressed TG2 Induces the Development of Mptp-Induced Parkinsonism Via Down-Regulating Treg Cells in Mice

Gwan Ui Hong[1], Nam Goo Kim[1], Soo Youl Kim[2] and Jai Youl Ro, PhD[3], [1]Sungkyunkwan University School of Medicine, [2]Cancer Cell and Molecular Biology Branch, Division of Cancer Biology, Research Institute, National Cancer Center, South Korea, [3]Sungkyunkwan University School of Medicine, suwon, South Korea

322 Biologic Therapies for Psoriasis and Macrophage Leptin Levels: A Link to Obesity and Atherosclerosis

Allison B Reiss, MD[1], Jessica Mounessa, BA[1], Michael J Littlefield, BA[1], Joshua De Leon, MD[2], Steven E Carsons, MD[3] and Iryna Voloshyna, PhD[1], [1]Winthrop Research Institute, Department of Medicine, Winthrop University Hospital, Mineola, NY, [2]Winthrop University Hospital, Department of Medicine, Division of Cardiology, Mineola, NY, [3]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Winthrop University Hospital, Mineola, NY

323 Elevated Spontaneous Interferon-Gamma Secretion in HIV-Infected Persons

Rachel Sparks, MD, MPH, David M Koelle, MD and Shireesha Dhanireddy, MD, University of Washington

324 Therapeutic Effects of CCL22 Sirna in a Mouse Model of Asthma

Won Suck Yoon, Institute of Allergy & Immunology, Seoul, South Korea; Department of Life Science and Biotechnology, Seoul, South Korea, Jae Won Choi, Allergy Immunology Center, Seoul, South Korea, Sun-Ho Kee, Department of Microbiology, College of medicine, Korea University, Ji Tae Choung, MD, The Environmental Health Center for Asthma; Korea Univ. Medical Center, Seoul and Young Yoo, MD, PhD, Department of Pediatrics, College of Medicine, Korea University, Seoul, South Korea; Environmental Health Center, Seoul, South Korea

325 Generation of Recombinant FcεRIα of Dog, Cat and Horse for Component-Resolved Allergy Diagnosis in Veterinary Patients

Lukas Einhorn[1,2], Judit Fazekas[1,2], Martina Muhr[1,2], Alexandra Schoos[1,2], Kumiko Oida[2,3], Josef Singer, MD, PhD[1], Lucia Panakova[4], Krisztina Manzano-Szalai[2] and Erika Jensen-Jarolim, MD[1,2], [1]Institute for Pathophysiology and Allergy Research, Center of Pathophysiology, Infectiology and Immunology, Medical University of Vienna, Austria, Vienna, Austria, [2]Comparative Medicine, Messerli Research Institute of the University of Veterinary Medicine Vienna, Medical University Vienna and University Vienna, Austria, [3]Laboratory of Veterinary Molecular Pathology and Therapeutics, Tokyo University of Agriculture and Technology, Japan, [4]Clinical Department of Small Animal Internal Medicine, University of Veterinary Medicine Vienna, Austria

326 Preclinical Assessment of the Effectiveness of α-Dectin-1-Pam3 Conjugate in Controlling T_H2 Responses

Katherine C. Upchurch[1,2], Joshua Horton[2], HyeMee Joo, PhD[1], Wei Zhang, PhD[1], Jerome Ellis[1], Sandy Zurawski, MS[1], Robert L. Coffman, PhD[3], Gerard Zurawski, PhD[1], Bob Kane, PhD[2], Lisa Miller, PhD[4] and Sangkon Oh, PhD[1], [1]Baylor Institute for Immunology Research, Dallas, TX, [2]Baylor University, Waco, TX, [3]Dynavax Technologies, Berkeley, CA, [4]UC Davis School of Veterinary Medicine, Davis, CA

327 Influence of Infant Gut Microbiome on Development of Infant Regulatory T Cells

Kevin Bobbitt, PhD[1], Albert M Levin, PhD[1], Suzanne Havstad, MA[1], Alexandra R. Sitarik, MS[1], Kei Fujimura, PhD[2], Kimberley J. Woodcroft, PhD[1], Ganesa R Wegienka, PhD[1], Edward M. Zoratti, MD, FAAAAI[3], Andrea Cassidy-Bushrow, PhD[1], Haejin Kim, MD[3], Homer A. Boushey Jr, MD, FAAAAI[4], Dennis Ownby, MD, FAAAAI[5], Christine Cole Johnson, PhD, MPH, FAAAAI[1], Nicholas W. Lukacs, PhD[6] and Susan V. Lynch, PhD[2], [1]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI, [2]University of California San Francisco, San Francisco, CA, [3]Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, [4]University of California, San Francisco, San Francisco, CA, [5]Department of Pediatrics Georgia Regents University, Augusta, GA, [6]University of Michigan, Ann Arbor, MI

328 Physical Exam Findings, Quality of Life Effects, and Co-Morbid Conditions Associated with Immunodeficiency

Joel Brooks, DO, Heart of Lancaster Regional Medical Center, Lititz, PA, Efren L. Rael, MD, FAAAAI, Allergy/Immunology, Penn State University College of Medicine, Hershey, PA and Steve Swavely, MSIV, Penn State Hershey Medical Center, Hershey, PA

329 Universal qPCR Duplex Detection of miRNA and mRNA

Kunyu Li, MS, Bangmei Wang, Michelle A. Reiser, MS, Jia-Wang Wang, PhD and Richard F. Lockey, MD, Division of Allergy and Immunology, Department of Internal Medicine, University of South Florida, Morsani College of Medicine, Tampa, FL

330 Interrogating VCAM-1 Mediated Tumor Immune Evasion in Murine Cervical Cancer

Jenna R. Bergerson, MD, MPH, Northwestern University, chicago, IL

331 Development of a Simple, Rapid Microneutralization Test for Respiratory Syncytial Virus Subgroup B

Michael Teng, PhD[1,2], Kim C. Tran[2,3], Anne L. Hotard[4] and Martin L. Moore[4], [1]University of South Florida Morsani College of Medicine, Tampa, FL, [2]Division of Allergy and Immunology, Department of Internal Medicine, and the Joy McCann Culverhouse Airway Diseases Research Center, University of South Florida Morsani College of Medicine, Tampa, FL, [3]Department of Allergy and Immunology USF Health, [4]Department of Pediatrics, Emory University, GA

332 Adherence to Therapy in Chronic Granulomatous Disease and Disease Outcomes: A Possibility for Development of New Therapeutic Delivery Devices

Jasmeen S. Dara, MD, Montefiore Medical Center/Albert Einstein College of Medicine, Bronx, NY, Jessica Falcon, MS, Temple University Dept of Bioengineering, Philadelphia, PA, Jenny Shliozberg, MD, FAAAAI, Montefiore Medical Center, Bronx, NY and Daniel H Conway, MD, St. Christopher's Hospital for Children, Philadelphia, PA

333 In silico Analysis of Vaccination Adverse Events

James N Baraniuk, MD[1], Peter McGarvey, PhD[2], Baris E Suzek, PhD[2], Shruti Rao, MS[2], Samir Lababidi, MD[3], Andrea Sutherland, MD[4], Richard Forshee, MD[3] and Subha Madhavan, PhD[2], [1]Georgetown University Medical Center, Washington, DC, [2]Georgetown University, Washington, DC, [3]FDA, White Oak, MD, [4]Johns Hopkins University, Baltimore, MD

SUNDAY

334 Production of Secretory Leucocyte Proteinase Inhibitor in Children with ACUTE and Chronic Pyelonephritis

G. N. Drannik[1], V E Driyanska[2], O V Lavrenchuk[2], N A Kalinina[2], T V Poroshina[2], N A Sevastyanova[2], F Z Gaisenuk[2], I V Bagdasarova[2] and Lawrence M. DuBuske, MD, FAAAAI[3], [1]National Medical University, Kiev, Kiev, Ukraine, [2]2Institute of Urology, National Academy of Medical Sciences of Ukraine; Kiev, Ukraine;, Kiev, Ukraine, [3]George Washington University School of Medicine, Washington, DC

SUNDAY

Aerobiology: Climate Change and Novel Allergens

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Sunday, February 22nd, 2015, 9:45 AM - 10:45 AM

335 Sensitization of a Child to Cyanobacteria after Recreational Swimming in a Lake

Esmond Geh, MD, PhD[1], Debajyoti Ghosh, PhD[1] and Jonathan A. Bernstein, MD, FAAAAI[2], [1]University of Cincinnati College of Medicine, Cincinnati, OH, [2]University of Cincinnati Medical Center, Cincinnati, OH

336 Impact of Exposure Level and Duration on Reducing TMA Specific IgE Responses in Workers over Time

Umesh Singh[1], Jonathan A. Bernstein, MD, FAAAAI[1] and Debajyoti Ghosh, PhD[2], [1]Division of Immunology Allergy & Rheumatology, University of Cincinnati Medical Center, Cincinnati, OH, [2]University of Cincinnati College of Medicine, Cincinnati, OH

337 Trends in Ragweed Pollen Counts in the Midwest

Neha N. Patel, MD, Children's Mercy Hospital, Kansas City, MO, Charles S. Barnes, PhD, Children's Mercy Hospitals and Clinics, Kansas City, MO, Minati Dhar, PhD, Children's Mercy Hospital & Clinics, Kansas City, MO and Jay M. Portnoy, Department of Pediatric Allergy & Immunology, Children's Mercy Hospital & Clinics, Kansas City, MO

338 Tree Canopy Cover Modifies the Association Between Daily Tree Pollen Concentrations and Emergency Department Visits for Asthma in New York City

Kate R. Weinberger, MA, M.Phil.[1], Guy S. Robinson, PhD[2] and Patrick L Kinney, PhD[1], [1]Department of Environmental Health Sciences, Columbia University, New York, NY, [2]Fordham University, New York, NY

339 Allergen Characterization of *Aedes Aegypti* By a Proteomic Approach

Jose F. Cantillo[1,2], Leonardo Puerta[3,4], Sylvie Lafosse-Marin[5], Luis Caraballo, MD, PhD[3,4] and Enrique Fernandez-Caldas, PhD[2], [1]Complutense University of Madrid, Spain, [2]Inmunotek S.L., Alcalá de Henares, Spain, [3]Institute for Immunological Research/University of Cartagena, Cartagena, Colombia, [4]Foundation for the development of medical and biological sciences, Cartagena, Colombia, [5]Cabinet de Inmunoallergology, Fort de France, Martinique

340 Allergy to Dermestidae: A New Indoor Allergen?

Ignacio Esteban Gorgojo[1], Manuel De Las Heras[1], Carlos Pastor[2], Javier Cuesta Herranz[1] and Aroa Sanz Maroto[2], [1]Department of Allergy, Fundación Jiménez Díaz, Madrid, Spain, [2]Department of Immunology, Fundación Jiménez Díaz, Spain

341 Short-Term Effect of Temperature Change on the Number of Hospital Visits Secondary to Acute Asthma Exacerbations

Jennifer Lan, MD, Department of Allergy and Immunology, The University of Tennessee Health Science Center, Memphis, TN, Jay A. Lieberman, MD, University of Tennessee, Memphis, TN and Zhao Yang, Department of Preventative Medicine, University of Tennessee Health Science Center, Memphis, TN

342 Is Switchgrass an Emerging Allergy Risk?

Landon Bunderson, PhD and Raymond W Arritt, PhD, Iowa State University, Ames, IA

343 The Pattern of Environmental Allergic Sensitization and Association with Pollution in the Kaiser Permanente Southern California Population

Angelina M. Crans Yoon, MD[1], Ernest Shen, PhD[2], Michael S. Kaplan, MD, FAAAAI[3], Bruce J. Goldberg, MD, PhD, FAAAAI[3] and Javed Sheikh, MD, FAAAAI[3], [1]Kaiser Permanente, Los Angeles, CA, [2]Kaiser Permanente Southern California Department of Research & Evaluation, Pasadena, CA, [3]Kaiser Permanente Los Angeles Medical Center, Los Angeles, CA

344 Mulberry - a Chronic Pollen Offender in Las Vegas

Hongbin Jin, MPH, BSN, RN[1], Tanviben Patel, MPH, BS[2], Mark Buttner, PhD[3], Dennis Bazylinski, PhD[3] and Joram S. Seggev, MD, FAAAAI[4], [1]University of Nevada, Las Vegas, Las Vegas, NV, [2]University of Nevada, Las Vegas, Las vegas, NV, [3]University of Nevada Las Vegas, Las Vegas, NV, [4]Joram S. Seggev, MD, Las Vegas, NV

345 Allergen, Endotoxin and Protein Levels in Cultured E. Maynei House Dust Mites

Larry G. Arlian, PhD, FAAAAI, Marjorie S. Morgan, PhD and DiAnn L. Vyszenski-Moher, MS, Wright State University, Dayton, OH

346 Probability Models for Daily Occurrence of Allergenic Pollens in Korea Exclusively Based on Meteorological Data

Jae-Won Oh, MD, PhD, FAAAAI[1], Kyurang Kim[1], Hye-Rim Lee[2] and Byoung-Choel Choi[2], [1]National Institute of Meteorological Research, Jeju, South Korea, [2]National Institute of Meteorological Research, South Korea

347 Delonix Regia (Royal Poinciana) Pollen Grains & Seeds Are Missed Significant Aero-Allergens in Egypt

El-Desouki E. Fouda, MD, FAAAAI, Al-Azhar university Allergy & Immunology Cr., Cairo, Egypt, Mahmoud A Abdel Naby, AL-Azhar University Allergy &Immunonology Cr,Cairo,Egypt, Cairo, Egypt and Khalil A El-Halfawy, Monoufia University, Monoufia, Egypt

348 CAN Pollen Reports from 120 MILES Away Correctly Reflect LOCAL Pollen Activity?

Shaylar Padgett, MD, Riley Hospital for Children, Indiana University School of Medicine, Indianapolis, IN, Girish V. Vitalpur, MD, FAAAAI, Riley Hospital for Children at Indiana University Health, Indianapolis, IN, Kirsten Kloepfer, MD, MS, Indiana University, Indianapolis, IN and Frederick E. Leickly, MD, MPH, FAAAAI, Riley Hospital for Children at Indiana University Health North, Carmel, IN

349 Air Pollution Correlates with Acq Scores

Maria Paula Henao[1], Evelyn Song, BS[2], Jessica Rosenberg[1], Patrick Gleeson[1], Vincenzo Milano[1], Richard W Lucas, PhD[3] and Efren L. Rael, MD, FAAAAI[4], [1]Penn State, Milton S. Hershey Medical Center, Hershey, PA, [2]Penn State, Hershey Medical Center, Hershey, PA, [3]OSIA Medical, Phoenix, AZ, [4]Allergy/Immunology, Penn State University College of Medicine, Hershey, PA

350 Effect of Climate Change on Allergenic Airborne Pollen in Japan

Reiko Kishikawa, MD[1], Akemi Saito, PhD[2], Norio Sahashi, PhD[3], Chie Oshikawa[4], Nobuo Soh[5], Toshitaka Yokoyama[6], Tadao Enomoto[7], Toru Imai[7], Koji Murayama[7], Yuma Fukutomi, MD[8], Kazuo Akiyama, MD[8], Terufumi Shimoda, MD[1] and Tomoaki Iwanaga, MD[1], [1]Fukuoka National Hospital, Fukuoka, Japan, [2]The National Hospital Organization Sagamihara Hospital, Sagamihara, Japan, [3]Toho University, Funabashi, Japan, [4]The National Hospital Organization Fukuoka Hospital, Fukuoka, Japan, [5]Soh ENT clinic, Fukuoka, Japan, [6]Forestry and Forest Products Research Institute, [7]NPO Association of Pollen Information, [8]National Hospital Organization, Sagamihara National Hospital, Sagamihara, Japan

351 Japanese Cedar (Cryptomeria japonica) Pollinosis in Jeju, Korea; Might It be Increasing?

Jaechun J Lee, MD, Keun Hwa Lee and Jeong Hong Kim, Jeju National University, Jeju, South Korea

Asthma: Viral Infections, Cigarette Smoke and Vitamin D

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Sunday, February 22nd, 2015, 9:45 AM - 10:45 AM

352 Osteopontin (OPN) Plays a Critical Role in Respiratory Syncytial Virus (RSV) Infection

Viviana P. Sampayo-Escobar, MSc[1,2], Terianne M. Wong, MSc[1], Sandhya Boyapalle, DVM MS PhD[1,2], Raminder Bedi, MSc[1], Subhra Mohapatra, MS PhD[1,2] and Shyam S. Mohapatra, PhD, FAAAAI[1,2], [1]University of South Florida Morsani College of Medicine, [2]James A Haley VA Hospital, Tampa, FL

353 Vitamin D Supplementation and the Risk of Colds in Patients with Asthma

Loren C. Denlinger, MD, PhD, University of Wisconsin School of Medicine, Madison, WI, Tonya S King, Penn State University, Hershey, PA, Juan Carlos Cardet, MD, Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA, Timothy J. Craig, DO, FAAAAI, Penn State University College of Medicine, Hershey, PA, Fernando Holguin, MD, MPH, University of Pittsburgh Medical Center, Pittsburgh, PA, Monica Kraft, MD, Duke University, Durham, NC, Stephen P. Peters, MD, PhD, FAAAAI, Wake Forest School of Medicine, Winston Salem, NC, Kristie R. Ross, MD, Rainbow Babies and Children's Hospital, Cleveland, OH, Kahura Sumino, Washington University St Louis, St Louis, MO, Homer A. Boushey Jr, MD, FAAAAI, University of California, San Francisco, San Francisco, CA, Daniel J. Jackson, MD, Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, WI, Michael E. Wechsler, MD, National Jewish Health, Denver, CO, Mario Castro, MD, MPH, Department of Medicine, Washington University School of Medicine, Saint Louis, MO and Pedro C. Avila, MD, FAAAAI, Feinberg School of Medicine, Northwestern University, Chicago, IL

354 Environment Tobacco Smoke Exposure Affect Childhood Atopic Dermatitis Modified By TNF-α and TLR4 Polymorphisms

Kil-Yong Choi[1], Song-I Yang, MD[2], Eun Lee[2,3], Young Ho Jung, MD[4,5], Ho-Sung Yu, MS[1], Kyung-Mo Hong, BS[6], Ju-Hee Seo, MD[7,8], Ji-Won Kwon, MD[9,10], Hyo-Bin Kim, MD, PhD[11,12], Byoung-Ju Kim, MD, PhD[13,14], So Yeon Lee, MD, PhD[11,15], Young-Hwa Song, MD, MPH Candidate[16], Ho-Jang Kwon, MD, PhD[17] and Soo-Jong Hong, MD, PhD[5,18], [1]Asan Institute for Life Sciences, University of Ulsan College of Medicine, Seoul, South Korea, [2]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, [3]Department of Pediatrics, Childhood Asthma Atopy Center, Research Center for Standardization of Allergic Diseases, Asan Medical Center, University of Ulsan College of Medicine, [4]Childhood Asthma Atopy Center, Department of Pediatrics, Asan Medical Center, University of Ulsan College of Medicine, South Korea, [5]Childhood Asthma Atopy Center, Department of Pediatrics, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, [6]Goucher college, Baltimore, [7]Department of Pediatrics, Korea Cancer Center Hospital, Seoul, South Korea, [8]Asan Medical Center, Seoul, [9]Department of Pediatrics, Seoul National University Bundang Hospital, Seongnam, South Korea, [10]Research Center for Standardization of Allergic Diseases, Seoul, South Korea, [11]Research Center for Standardization of Allergic Diseases, Seoul, South Korea, South Korea, [12]Department of Pediatrics,Inje University Sanggye Paik Hospital, Seoul, South Korea, [13]Department of Pediatrics, Hae-undae Paik Hospital, Inje University College of Medicine, Busan, South Korea, [14]Department of Pediatrics, Hae-undae Paik Hospital, Inje University College of Medicine, [15]Department of Pediatrics, Hallym University College of Medicine, Seoul, South Korea, [16]Johns Hopkins Bloomberg School of Public Health, [17]Dankook University, Cheonan, [18]Childhood Asthma Atopy Center, Department of Pediatrics, Asan Medical Center, University of Ulsan College of Medicine

355 IFN-beta and IFN-lambda1 Induce Kinetically Distinct Patterns of Transcription Factor Interferon Stimulated Genes in Respiratory Epithelial Cells

Lynnsey A. Renn, Terence C. Theisen, Hilary Novatt and Ronald L. Rabin, Center for Biologics Evaluation and Research, US Food and Drug Administration, Silver Spring, MD

356 Respiratory Syncytial Virus and Rhinovirus Contribute to the First Wheeze Episodes in Japanese Infants

Kazuko Sugai, MD, PhD[1], Yumiko Miyaji, MD, PhD[2], Masakazu Yoshizumi, PhD[3], Hiroyuki Tsukagoshi, PhD[3], Masahiro Noda, DVM PhD[4], Yumi Yamada, MD, PhD[5], Masanori Ikeda, MD, PhD[1], Kunihisa Kozawa, MD, PhD[3], Hirokazu Kimura, PhD[4], Shigemi Yoshihara, MD, PhD[6] and Yoshimichi Okayama, MD, PhD[7], [1]Department of Pediatrics, National Hospital Organization Fukuyama Medical Center, Fukuyama, Japan, [2]Department of Pediatrics, National Hospital Organization Yokohama Medical Center, [3]Gunma Prefectural Institute of Public Health and Environmental Sciences, Japan, [4]Infectious Disease Surveillance Center, National Institute of Infectious Diseases, Japan, [5]Yamada Gastroenterology Pediatric Clinic, Japan, [6]Department of Pediatrics, DokkyoMedical University, Japan, [7]Allergy and Immunology Group, Research Institute of Medical Science, Nihon University School of Medicine, Japan

357 Rhinovirus A and C Wheezing Illness in Infancy and the Development of Asthma

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[1], [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

358 House Dust Nicotine Levels, Smoking History and Asthma Indicators

Freddy Pacheco, MS[1], Christina Daley, MD[2], Won Choi, PhD[3], Christina Pacheco, JD[3], Joseph Pacheco, MPH[3], Christina E. Ciaccio, MD, FAAAAI[1], Lanny J. Rosenwasser, MD, FAAAAI[1] and Charles S. Barnes, PhD[1], [1]Children's Mercy Hospital, Kansas City, MO, [2]The University of Kansas Medical Center, [3]University of Kansas Medical Center

359 Comparative Pharmacovigilance Study of Smoking Cessation Therapies and Suicidality Risk

Ayad K. Ali, RPh, PhD[1,2], Trang A Truong, PharmD[1,3] and Evelyn M Flahavan, MPharm, PhD[1], [1]Eli Lilly and Company, Indianapolis, IN, [2]Richard M. Fairbanks School of Public Health, College of Medicine, Indiana University, Indianapolis, IN, [3]Purdue Center for Medication Safety and Advancement, College of Pharmacy, Purdue University, West Lafayette, IN

360 Effective of Second Hand Smoke Exposure (SHS) on Asthma Morbidity and Healthcare Utilization: Systematic Review and Meta-Analysis

Sara M. May, MD[1], Zhen Wang, PhD[1], Regan Pyle, DO[2], Nancy L. Ott, MD, FAAAAI[1], Suvanee Charoenlap, MD[3] and Avni Y. Joshi, MD[1], [1]Mayo Clinic, Rochester, MN, [2]Allergy and Asthma Consultants, [3]King Chulalongkorn Memorial Hospital, Bangkok, Thailand

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361 The Association Between Vitamin D Insufficiency and Children with Asthma

Ji Tae Choung, MD, The Environmental Health Center for Asthma; Korea Univ. Medical Center, Seoul, Yu-Ri Kim, Department of Biochemistry and Molecular Biology, Korea University Medical School & College, Korea, Seoul, Sungchul Seo, The Enviornmental Health Center for Asthma, Korea University, Seoul and Young Yoo, MD, PhD, Department of Pediatrics, College of Medicine, Korea University, Seoul, South Korea

362 Non-Asthmatic Children Have Higher IgM Anti-Enterovirus 71 and Lower IgE Levels, but Higher IL-2 and IL-4 Levels Than Asthmatic Children

Sandra M. Carvajal-Raga, BA[1,2], Stephan Kohlhoff, MD[1,2], Jeremy Weedon, PhD[3], Rauno Joks, MD[1], Kevin Norowitz, MD[2], Diana Weaver, MD[2], Helen G. Durkin, PhD[1], Martin H. Bluth, MD, PhD[4] and Tamar A. Smith-Norowitz, PhD[2,5], [1]Center for Allergy and Asthma Research, SUNY Downstate, Brooklyn, NY, [2]Department of Pediatrics, State University of New York Downstate Medical Center, Brooklyn, NY, [3]Scientific Computing Center, SUNY Downstate Medical Center, Brooklyn, NY, [4]Department of Pathology, Wayne State University School of Medicine, Detroit, MI, [5]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, Brooklyn, NY

Drug Allergy

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363 Breakthrough Reactions during Oxaliplatin Desensitization: An Analysis of 177 Cases

Ju-Young Kim, MD[1], Kyung-Hwan Lim, MD[2], Woo-Jung Song, MD[1,3], Hye-Ryun Kang, MD, PhD[1,4], Heung-Woo Park, MD, PhD[1,3], Kyung-Up Min, MD, PhD[1] and Sang Heon Cho, MD, PhD[1,3], [1]Department of Internal Medicine, Seoul National University College of Medicine, Seoul, South Korea, [2]Department of Internal Medicine, Armed Forces Capital Hospital, Seongnam, South Korea, [3]Institute of Allergy and Clinical Immunology, Seoul National University Medical Research Center, Seoul, South Korea, [4]Seoul National University Hospital Regional Pharmacovigilance Center, Seoul, South Korea

364 Progesterone Autoimmune Dermatitis: Presentation, Diagnosis, Management and Outcomes in 17 Cases

Dinah Foer, MD[1], Kathleen M. Buchheit, MD[1], Mariana C. Castells, MD, PhD, FAAAAI[2] and Paige G. Wickner, MD, MPH[3], [1]Brigham and Women's Hospital, [2]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, [3]Brigham & Women's Hospital, Chestnut Hill, MA

365 A Survey of Aspirin Desensitization Practices Among Allergists and Fellows in Training in the United States

Jeremy D. Waldram, MD, Scripps Clinic, San Diego and Andrew A. White, MD, FAAAAI, Scripps Clinic, Division of Allergy, Asthma and Immunology, San Diego, CA

366 Penicillin Allergy Label Persists Despite Negative Testing

Kali Gerace, MD, and Elizabeth Phillips, MD, Vanderbilt University

367 Skin Testing with Betalactam Antibiotics for Diagnosis of Betalactam Hypersensitivity in Children

Prapasiri Singvijarn, MD, ramathibodi hospital, thailand

368 Viral Reactivation and Subsequent Cytotoxic Lymphocyte Activation Associates with Increased Morbidity in Children with Dress Syndrome

Jinzhu Li, MD, PhD[1], Amal H. Assa'ad, MD, FAAAAI[1], Kara Shah, MD, PhD[2], Carl Allen, MD, PhD[3] and Kimberly A. Risma, MD, PhD, FAAAAI[1], [1]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [2]Cincinnati Children's Hospital Medical Center, [3]Texas Children's Hospital

369 Genetic Variants in Arachidonic Acid Pathway Genes Associated with Nsaids-Exacerbated Respiratory Disease

Pedro Ayuso[1,2], Maria del Carmen Plaza-Serón, Bsc[1,2], Natalia Blanca-López, MD, PhD[1], Inmaculada Doña, MD, PhD[3], Paloma Campo, MD, PhD[3], Jose Julio Laguna, MD, PhD[4], Joan Bartra, MD, PhD[5], Victor Soriano-Gomis[6], María José Torres, MD, PhD[3], Miguel Blanca, MD, PhD[3], Jose A Cornejo-Garcia, PhD[2] and James R. Perkins[2], [1]Allergy Service, Infanta Leonor Hospital, Madrid, Spain, [2]Research Laboratory, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain, [3]Allergy Unit, IBIMA, Regional University Hospital of Malaga, UMA, Malaga, Spain, [4]De La Cruz Roja Hospital, Madrid, Spain, [5]Allergy Unit, Service of Pneumology and Respiratory Allergy, Hospital Clinic (ICT), Barcelona, Spain, [6]Allergy Service, Alicante General Hospital, Alicante, Spain

370 The Association of HLA-B* 5101 and Phenobarbital-Induced Severe Cutaneous Adverse Drug Reactions in Thai Children

Plernpit Likkasittipan, MD[1], Wiparat Manuyakorn, MD[2], Surakameth Mahasirimongkol[3], Suwat Benjaponpitak, MD[1], Anannit Visudtibhan[4], Nuanjun Wichukchinda[3] and Sukanya Wattanapokayakit[3], [1]Division of Pediatric Allergy/Immunology/Rheumatology, Department of Pediatrics, Faculty of Medicine, Ramathibodi Hospital, Bangkok, Thailand, [2]Division of Pediatric Allergy/Immunology/Rheumatology, Department of Pediatrics, Faculty of Medicine, Ramathibodi Hospital, [3]Medical genetic center, Medical Life Science Institute, Department of Medical Science, Ministry of Public Health, Nonthaburi, Thailand, [4]Division of Pediatric Neurology, Department of Pediatrics, Faculty of Medicine, Ramathibodi Hospital, Bangkok, Thailand

371 Antibiotic Allergies in a Birth Cohort from 2007

Jay Jin, MD, PhD[1], Sara M. May, MD[1], Megan S. Motosue, MD[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

372 Assessing Immediate and Delayed Reactions in Children Presenting to an Allergy Clinic with a Suspected Allergy to Amoxicillin

Christopher Mill, BSc[1], Marie-Noel Primeau, MD[2], Elaine J. Medoff[3], Christine Lejtenyi, MD[3], Nofar Kimchi[4], Elena Netchiporouk[5], Alizee Dery[6] and Moshe Ben-Shoshan, MD, MSc[7], [1]School of Population and Public Health, University of British Columbia, Vancouver, BC, [2]McGill University Health Center, Montreal, QC, Canada, [3]Montreal Children's Hospital, Montreal, QC, Canada, [4]Technion American Medical Students Program, Israel, [5]Division of Dermatology, Montreal Children's Hospital, Montreal, QC, Canada, [6]Department of Experimental Medicine, Mc Gill University, Montreal, QC, Canada, [7]McGill University, Montreal, QC, Canada

373 An Immuno-Proteomic Analysis of Seminal Plasma Allergens

Debajyoti Ghosh, PhD, University of Cincinnati College of Medicine, Cincinnati, OH and Jonathan A. Bernstein, MD, FAAAAI, Division of Immunology Allergy & Rheumatology, University of Cincinnati Medical Center, Cincinnati, OH

374 Basophil Histamine-Release Test with a Modification Is Useful for Diagnosis of Allergy to Formaldehyde

Yusuke Tanaka[1], Yuko Nakase, MD, PhD[1], Naoya Sugimoto[1], Hidenori Arai[1], Hiroyuki Nagase[1], Masao Yamaguchi[1] and Ken Ohta[1,2], [1]Teikyo University School of Medicine, Tokyo, Japan, [2]National Hospital Organization Tokyo National Hospital, Tokyo, Japan

375 Elevated Serum Tryptase Levels during Rituximab Hypersensitivity Reaction

Matthew P. Giannetti, MD[1], Matthieu Picard, MD[2], Cristina Badawi[1], Wintana Balema[3], Pedro Giavina-Bianchi, MD, PhD[4] and Mariana C. Castells, MD, PhD, FAAAAI[5], [1]Brigham and Womens Hospital, Boston, MA, [2]Harvard Medical School Division of Rheumatology, Allergy and Immunology, Department

of Medicine, Brigham and Women's Hospital, Harvard Medical School, [3]BWH, [4]Clinical Immunology and Allergy Division, University of Sao Paulo, Sao Paulo, Brazil, [5]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

376 Basophil Activation Test As a Biomarker in Allergic Patients to Platins Undergoing Rapid Desensitization

Pedro Giavina-Bianchi, MD, PhD, FAAAAI[1,2], Violeta Galvão, MD[1], Joana Caiado, MD[3,4], Matthieu Picard, MD[3,5] and Mariana C. Castells, MD, PhD, FAAAAI[3], [1]Clinical Immunology and Allergy Division, University of Sao Paulo, Sao Paulo, Brazil, [2]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, [3]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, [4]Hospital Santa Maria, Lisbon, Portugal, [5]University of Montreal, Montreal, QC, Canada

377 Desensitization to Monoclonal Antibodies

Maria Elisa Caralli, MD[1], Gabriela Zambrano, MD[1], Beatriz Ameiro, MD[2], Alicia Prieto-Garcia, MD, PhD[1], María L. Baeza, MD, PhD[1] and Pilar Tornero, MD[1], [1]Hospital General Universitario Gregorio Marañón, Allergy Department, Madrid, Spain, [2]Department of Allergy, Gregorio Marañón University Hospital, Madrid, Spain

378 Evaluating Clinical Outcomes of Penicillin Skin Testing in Affecting Inpatient Antibiotic Stewardship

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

379 Determinants of Placebo Reaction at Oral Provocation Test in Adults

Damla Tufekci[1], Nese Canturk[2] and Adile Berna Dursun[2], [1]Recep tayyip Erdogan University, Rize, Turkey, [2]Recep Tayyip Erdogan University, School of Medicine, Rize, Turkey

380 A Case of Anaphylaxis to Ranitidine, 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

381 Stevens Johnson Syndrome (SJS) /Dress and Rechallenge to Possible Culprit Drug in Severe Extrapulmonary MAC Infection

Lindsay Finkas, MD,[1,2] and Rafeul Alam, MD, PhD, FAAAAI[1], [1]National Jewish Health, Denver, CO, [2]University of Colorado

382 Drug Desensitization in Children

Ismael Garcia-Moguel[1], A. Fiandor, MD[1], D. RIvero, MD[2], Carmen Gómez-Traseira, MD[3] and Flor Martin-Muñoz, MD[1], [1]Hospital La Paz Institute for Health Research (IdiPaz), Allergy department., Madrid, Spain, [2]Hospital La Paz Institute for Health Research (IdiPaz), Allergy department., madrid, Spain, [3]Allergy Department, Hospital La Paz Institute for Health Research (IdiPaz), Madrid, Spain

383 An Assessment of Current Practice and Knowledge of Penicillin Allergy at Hospital-Based Pediatric Centers

Joseph A. Grillo, MD, Thomas Jefferson University Hospital; Nemours A.I. du Pont Hospital for Children, Wilmington, DE and Trong V. Le, MD, Nemours A.I duPont Hospital for Children, Division of Allergy Immunology, Wilmington, DE; Nemours A.I duPont Hospital for Children Divison of Allergy and Immunology, Wilmington, DE

384 Desensitization to Deferasirox in a Patient with Iron Overload

Karen E. Bruner, MD, Wilford Hall Ambulatory Surgical Center, Lackland AFB, TX and Kevin M. White, MD, Wilford Hall Ambulatory Surgical Center, Joint Base San Antonio, Lackland AFB, TX

385 Oral Challenge Tests with Nsaids: Evaluation of Patients Attending a Specialty Clinic in Ribeirão Preto, Brazil

Daniel L. Cordeiro, MD[1], Ullissis Padua Menezes, MD[1], Janaina Michele de Lima Melo, MD[1], Priscila B. Botelho Palhas, MD[2], Karine Boufleur, MD[1], Juliana L. Poli, MD[3], Phelipe S. Souza, MD[1], Isabela Mina, MD[1] and Luisa Karla P. Arruda, MD, PhD, FAAAAI[2], [1]Ribeirao Preto Medical School, University of Sao Paulo, Ribeirao Preto, Brazil, [2]Ribeirao Preto Medical School - University of Sao Paulo, Ribeirao Preto, Brazil, [3]Ribeirao Preto Medical School, University of Sao Paulo, Brazil

386 An Analysis of Intravenous Versus Oral Penicillin Desensitization Data to Determine Which Administration Is Safer

Jaison Jose, DO, FAAP, Rutgers New Jersey Medical School, Newark, NJ, Alan H. Wolff, MD, Rutgers New Jersey Medical Center, Newark, NJ and Mark E. Weinstein, MD, Allergy Consultants, PA, Verona, NJ

387 Utility and Safety of Skin and Drug Provocation Tests in Children with a History of Penicillin-Induced Rash

Wipa Jessadapakorn, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Prince of Songkla University, Hat-Yai, Songkhla, Thailand, Prapasri Kulalert, MD, Thammasat University, Pathumtani, Thailand, Araya Yuenyongviwat, MD, Prince of Songkla University, Songkhla, Thailand and Pasuree Sangsupawanich, MD, Prince Songkhlanagarind hospital, Hadyai, Thailand

388 Cefazolin Is a Common Cause of Perioperative Hypersensitivity Reactions

James L. Kuhlen, MD[1], Aidan Long, MD, FAAAAI[1], Carlos Camargo Jr, MD, DrPH[1,2] and Aleena Banerji, MD[1], [1]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [2]Department of Emergency Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA

389 Steroid/ Local Anesthetic Injection Reactions- Which One Is Frequently the Allergic Component?

Bhavisha Patel, MD, and Joseph H. Butterfield, MD, FAAAAI, Mayo Clinic, Rochester, MN

390 Serious Infections of Hospitalized Patients Are Associated with a Higher Prevalence of Reported Beta Lactam Antibiotic Allergy

Binglin Cai, Stevens Institute of Technology, Hoboken, NJ, Barbara A. McGoey, RN, Hackensack University Medical Center, Hackensack, NJ and Mary Ann Michelis, MD, FAAAAI, Center for Allergy, Asthma and Immune Disorders Hackensack University Medical Center, Hackensack, NJ

391 Safe Administration of Aspirin to High Risk Aspirin-Sensitive Patients

Theodore M. Lee, MD, FAAAAI[1], Umbreen Lodi, MD[1,2] and Ariana D. Buchanan, MD[1], [1]Peachtree Allergy & Asthma Clinic, PC, Atlanta, GA, [2]Division of Pulmonary, Allergy & Critical Care Medicine Emory University School of Medicine, Atlanta, GA

392 Skin Testing, Graded Challenge and Desensitization to Von Willebrand Factor (vWF) Products in Type III Von Willebrand Disease (VWD)

Craig D. Platt, MD, PhD[1], Loren D'Angelo, MSN CPNP[1], Ellis J. Neufeld, MD, PhD[1] and Ana Dioun Broyles, MD, FAAAAI[2], [1]Boston Children's Hospital, Boston, MA, [2]Harvard Medical School, Boston, MA

393 Drug Hypersensitivity Reactions in Patients with Clonal Mast Cells Disorders

Carla Lombardo, Allergy Unit, Azienda ospedale Università di Verona, Italy, Patrizia Bonadonna, MD, CME, Allergy Unit of Azienda Ospedaliera Universitaria Integrata Allergy Unit, Verona, Italy, Roberta Zanotti, Department of Clinical and Experimental Medicine, Haematology Section, University of Verona, Italy, Gianenrico Senna, MD, Allergy Unit, Verona, Italy and Giovanni Passalacqua, MD, University of Genoa, Genoa, Italy

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394 **A Case of Aspirin Exacerbated Respiratory Disease (AERD) with Aspirin-Induced Hypersensitivity Vasculitis**
Andrew K. Wong, MD[1], Christopher P. Parrish, MD[2], Salima A. Thobani, MD[2], Marilyn Li, MD[2] and Lyne G. Scott, MD[2], [1]University of Southern California, Los Angeles, CA, [2]University of Southern California

395 **Single NSAID – Induced Serum Sickness-like Reaction to Naproxen in a Patient Able to Tolerate Both Aspirin and Ibuprofen**
Rebecca Koransky, MD, Department of Medicine, Montefiore Medical Center, Bronx, NY, Denisa Ferastraoaru, MD, MSc, Division of Allergy and Immunology, Department of Medicine, Montefiore Medical Center, Bronx, NY and Elina Jerschow, MD, MSc, Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY

396 **Pretreatment with IVIG and Corticosteroids for Contrast Media Induced Severe Adverse Drug Reaction**
Thao Nguyen N. Tran[1], Colleen Adkins[2], Vuong A. Nayima, DO[3], John T. Anderson, MD[2] and James Ryan Bonner, MD, FAAAAI[4], [1]UAB Internal Medicine Residency Birmingham, Birmingham, AL, [2]University of Alabama at Birmingham, Birmingham, AL, [3]University of Alabama - Birmingham, Birmingham, AL, [4]Alabama Allergy & Asthma Center, Birmingham, AL

397 **Skin Testing, Graded Challenge and Desensitization to the Tetracycline Class of Antimicrobials in Patients with Hypersensitivity Reactions**
Stephanie L. Logsdon, MD, Children's Hospital Boston, Boston, MA, Amy E. O'Connell, MD, PhD, Immunology, Boston Children's Hospital, Boston, MA and Ana Dioun Broyles, MD, FAAAAI, Boston Childrens' Hospital, Boston, MA

398 **Non-Invasive Management of Myocarditis Despite a Negative Gadolinium-Enhanced Cardiac MRI in a 15-Year-Old Boy with Minocycline Triggered Dress Syndrome**
Bradley A. Becker, MD, FAAAAI, Carrie N. Caruthers, MD, Saadeh Jureidini, MD and Jeremy S. Garrett, MD, Saint Louis University School of Medicine, Saint Louis, MO

399 **A Fatal Case of Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS)-Stevens Johnson (SJS)/Toxic Epidermal Necrolysis (TEN) in the Setting of Strongyloides Infection: Treatment Considerations**
Moira E. Breslin, MD, MSc, Pediatrics, UCLA Medical Center, Los Angeles, CA, Maria Garcia-Lloret, MD, FAAAAI, Division of Allergy and Immunology, Department of Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, CA and Melinda Braskett, MD, UCLA Med Center, Los Angeles, CA

400 **Novel Protocol for Successful Intravenous Insulin Desensitization in a Patient with Insulin Dependent Diabetes Mellitus**
Vanessa L. Bundy, MD, PhD, UCLA and Melinda Braskett, MD, UCLA Med Center, Los Angeles, CA

401 **Specificity and Sensitivity of Benzyl-Penicillin Skin Testing in Patients with Suspected Hypersensitivity to Penicillin**
Jonathan Lacombe Barrios, MD[1], Maria Salas, MD, PhD[1], Inmaculada Doña, MD, PhD[1], Francisca Gómez, MD, PhD[1], Leticia Herrero Lifona, MD, PhD[1], Esther Barrionuevo, MD, PhD[1], Maria Isabel Sanchez[1], Maria Dolores Ruiz[1], Cristobalina Mayorga, PhD[2], Miguel Blanca, MD, PhD[1] and María José Torres, MD, PhD[1], [1]Allergy Service, IBIMA-Regional University Hospital of Malaga, Málaga, Spain, [2]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain

Urticaria

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Sunday, February 22nd, 2015, 9:45 AM - 10:45 AM

402 Corticosteroid-Related Adverse Events in Chronic Idiopathic Urticaria
Dennis Ledford, MD, PhD[1], Michael Broder, MD, MSHS[2], Evgeniya Antonova, MS, PhD[3], Paul Solari, MD[3], Theodore A. Omachi, MD, MBA[3], Eunice Chang, PhD[2] and Gordon H Sun, MD, MS[2], [1]University of South Florida and the James A. Haley VA Hospital, Tampa, FL, [2]Partnership for Health Analytic Research, LLC, Beverly Hills, CA, [3]Genentech, Inc., South San Francisco, CA

403 **The Role of Neutrophils in Difficult-to-Treat Chronic Urticaria**
Melanie H. Chong, MD, Stephanie Mawhirt, DO, Marcella R. Aquino, MD, FAAAAI, Mark Davis-Lorton, MD, FAAAAI and Luz S. Fonacier, MD, FAAAAI, Winthrop University Hospital, Allergy & Immunology, Mineola, NY

404 **Release of Transglutaminase 2 from Mast Cells May be Involved in the Pathogenesis of Chronic Urticaria**
Jeong-Hee Choi, MD[1], Gwan Ui Hong[2], In-Ho Kwon[3], Gyeong-Hun Park[3], Young Min Ye, MD[4] and Jai Youl Ro[2], [1]Dept. of Pulmonology and Allergy, Hallym University Dongtan Sacred Heart Hospital, Hwaseong, South Korea, [2]Sungkyunkwan University School of Medicine, [3]Hallym University Dongtan Sacred Heart Hospital, [4]Department of Allergy & Clinical Immunology, Ajou University School of Medicine, Suwon, South Korea

405 **Evaluation of Indoleamine 2,3- Dioxygenase Gene Expression and Activation in Chronic Spontaneous Urticaria**
Reza Farid, MD, FAAAAI[1], Hossein Shahriari, MD[2], Farahzad Jabbari, MD[3], Hoshang Rafatpanah[4], Majid Jafari, MD[2], Layla Farid[5] and seyed Abdoirahim Rezaee[6], [1]Allergy Research Center, Mashhad University of Medical Sciences, Iran, [2]Mashhad University of Medical Sciences, Mashhad, Iran, [3]Allergy research center, Mashhsd University of Medical Sciences, Mashhad, Iran, [4]Immunology Recearch Center ,Mashhad university of medical sciences, mashhad, Iran, [5]mashhad university of medical sciense, Iran, [6]Inflammatory Recearch Center ,Mashhad university of medical sciences, Mashhad, Iran

406 **Functional Expression of CRTH2 on Blood Eosinophils from Chronic Idiopathic Urticaria Subjects**
Patricia M. Sterba, MS[1], Eric Oliver, MD[1], Kelly Devine, RN[1], Becky M. Vonakis, PhD, FAAAAI[1], Craig Wegner, PhD[2] and Sarbjit S. Saini, MD, FAAAAI[1], [1]Department of Medicine, Division of Allergy and Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD, [2]AstraZeneca, Boston R&D, Waltham, MA

407 **The Expression of CRTh2 on Blood Basophils and Eosinophils in Chronic Idiopathic Urticaria**
Eric Oliver, MD, Patricia M. Sterba, MS, Sarbjit S. Saini, MD, FAAAAI, Becky M. Vonakis, PhD, FAAAAI and Kelly Devine, RN, Department of Medicine, Division of Allergy and Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD

408 **Response Patterns in Chronic Idiopathic/Spontaneous Urticaria (CIU/CSU) Patients Treated with Omalizumab for 24 Weeks in Two Randomized, Double-Blind, Placebo-Controlled Clinical Trials (ASTERIA I and GLACIAL)**
Allen P. Kaplan, MD, FAAAAI[1], Evgeniya Antonova, MS, PhD[2], Benjamin Trzaskoma, MS[2], Karina Raimundo, BPharm, MS[2], Karin Rosén, MD, PhD[2], Theodore A. Omachi, MD, MBA[2], Sam Khalil, PhD[3] and James Zazzali, PhD[2], [1]Medical University of South Carolina, Charleston, SC, [2]Genentech, Inc., South San Francisco, CA, [3]Novartis Pharmaceuticals, Basel, Switzerland

409 **Omalizumab Improves Quality of Life (QoL) in Patients with Refractory Chronic Spontaneous/Idiopathic Urticaria (CSU/CIU) As Assessed By the Dermatology Life Quality Index (DLQI): A Post-Hoc Analysis of Percent Change from Baseline to Week 12**
Karin Rosén, MD, PhD, Genentech, Inc., South San Francisco, CA, Sam Khalil, PhD, Novartis Pharmaceuticals, Basel, Switzerland, Maria-Magdalena Balp, MD, Novartis Pharma AG, Basel, Switzerland and Marcus Maurer, MD, Department of Dermatology and Allergy, Charité – Universitätsmedizin, Berlin, Germany

410 **Successful Omalizumab Treatment of a 6-Year Old Child with Severe Solar Urticaria**
Yuval Tal, MD, PhD[1], Zvi Dranitzki, MD[1], Meir Shalit, MD FAAAAI[1], David Claes Enk[2] and Assi Levi[3], [1]Allergy and Clinical Immunology Unit, Department of Medicine, Hadassah Hebrew University Medical Center, Jerusalem, Israel, [2]Department of Dermatology, Hadassah Hebrew University Medical Center, Jerusalem, Israel, [3]Photodermatosis Clinic, Laser unit, Department of Dermatology, Rabin Medical Center., Petah-Tikva, Israel

411 **Long-Term Efficacy of Omalizumab in Patients with Treatment-Resistant Chronic Spontaneous Urticaria**
Mona Sulaiman Al-Ahmad, MD, Department of Microbiology, Faculty of Medicine, Kuwait University, Kuwait

412 **Omalizumab in Chronic Urticaria: Experience in a Third Level Hospital in Madrid**
Cristina Morales, MD, Sarah Micozzi, MD, Mercedes Saenz de Santa Maria, MD and María L. Baeza Ochoa de Ocaríz, MD, PhD, Hospital General Universitario Gregorio Marañón. Allergy Department., Madrid, Spain

413 **Clinical Characteristics of Adolescent Patients with Refractory Chronic Idiopathic/Spontaneous Urticaria (CIU/CSU) in Three Phase III Studies with Omalizumab**
Stanley Goldstein, MD, FAAAAI[1], David P. Skoner, MD[2], Benjamin Ortiz, MD[3], Farid Kianifard, PhD[3], Julie Vu, PharmD[4] and Meryl Mendelson, MD[3], [1]Allergy and Asthma Care of Long Island, Rockville Centre, NY, [2]Department of Medicine, Allegheny General Hospital, Pittsburgh, PA, [3]Novartis Pharmaceuticals Corporation, East Hanover, NJ, [4]Genentech, Inc., South San Francisco, CA

414 **Use of Omalizumab for Treatment of Antihistamine and Steroid Resistant Chronic Idiopathic Urticaria during Pregnancy**
Lyda B. Cuervo Pardo, MD[1], Maria A. Barcena Blanch, MD[2] and Cristine Radojicic, MD[2], [1]Cleveland Clinic Foundation, [2]Cleveland Clinic Foundation, Cleveland, OH

415 **Use of Tacrolimus in the Management of Refractory Chronic Urticaria**
Steve M. Dorman, MD, Department of Internal Medicine, Division of Allergy and Immunology, University of Texas Southwestern Medical Center, Dallas, TX and David A. Khan, MD, FAAAAI, University Texas SW Medical Center, Dallas, TX

416 **Alternative Agents in Chronic Urticaria and Angioedema**
Sharon Deol, University of Texas SW Medical Center and David A. Khan, MD, FAAAAI, University Texas SW Medical Center, Dallas, TX

417 **Treatment of Autoimmune Urticaria with Mycophenolate Mofetil**
Audra Blaziene, Vilnius University Medical School, Lithuania, A. Chomiciene, Vilnius Medical University, Vilnius, Lithuania, G. Nakrosyte, Vilnius Medical University, Lithuania and Lawrence M. DuBuske, MD, FAAAAI, George Washington University School of Medicine, Washington, DC

418 **Using Psychosocial Factors to Mediate Chronic Hives: Two Case Reports**
Rebecca Oksenhendler, BSc[1,2], Moshe Ben-Shoshan, MD, MSc[3,4] and Amir Raz, PhD, ABPH[1,5], [1]Institute of Community and Family Psychiatry, Jewish General Hospital, Canada, [2]Department of Psychiatry, Faculty of Medicine, McGill University, Canada, QC, [3]Montreal Children's Hospital, Montreal, Canada, [4]Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Montreal, QC, Canada, [5]Department(s) of Psychiatry (Neurology & Neurosurgery, and Psychology), McGill University, Canada

419 **Micronutrients and Chronic Urticaria: Do They Matter?**
Cheng-Han Wu[1,2], Michael Roger Ardern-Jones, MD, PhD[2], Carina Venter, PhD RD[2,3] and Efrem Eren, MBBS, MRCP, FRCPath, PhD[4], [1]Dalin Tzu Chi General Hospital, Chiayi County, Taiwan, [2]University of Southampton, Southampton, United Kingdom, [3]The David Hide Asthma and Allergy Research Centre, United Kingdom, [4]Southampton General Hospital, UK, Southampton, United Kingdom

420 **Chronic Urticaria and Parasitic Infections**
Rekha Jhamnani, MD, Sally Joo Bailey, MD, FAAAAI and Y. Howard Pung, MD, MPH, FAAAAI, Georgetown University Medical Center, Washington, DC

421 **The Prevalence of Physical Urticaria in Patients with Chronic Urticaria: A Systematic Review and Meta-Analysis**
Jordan Trevisonno[1], Bhairavi Balram[1], Elena Netchiporouk[2] and Moshe Ben-Shoshan[3], [1]Department of Medicine, McGill University, Montreal, QC, Canada, [2]Division of Dermatology, Montreal Children's Hospital, Montreal, QC, Canada, [3]Department of Paediatrics, Montreal Children's Hospital, Montreal, QC, Canada

422 **My Hives Diary: An Ios App to Track Urticaria Symptoms**
Evgeniya Antonova, MS, PhD, Karina Raimundo, BPharm, MS and James Zazzali, PhD, Genentech, Inc., South San Francisco, CA

423 **Weekly Urticaria Activity Score (UAS7) and Dermatology Life Quality Index (DLQI) in Validation of Chronic Spontaneous/Idiopathic Urticaria (CSU/CIU) Health States**
Sam Khalil, PhD[1], Doreen McBride, PhD[2], Ana Gimenez-Arnau[3], Clive Grattan, MD FRCP[4], Maria-Magdalena Balp[5] and Donald E Stull, PhD[2], [1]Novartis Pharmaceuticals, Basel, Switzerland, [2]RTI Health Solutions, Manchester, United Kingdom, [3]Department of Dermatology, Hospital del Mar. Universitat Autònoma de Barcelona, Barcelona, Spain, [4]Department of Dermatology, Norfolk & Norwich University Hospital, Norwich, United Kingdom, [5]Novartis Pharma AG, Basel, Switzerland

424 **Omalizumab Improves Quality of Life (QoL) in Patients with Chronic Spontaneous/Idiopathic Urticaria (CSU/CIU) As Assessed By the Chronic Urticaria Quality of Life Questionnaire (CU-Q2oL): A Post-Hoc Analysis of Percent Change from Baseline to Week 12**
Nico Janssens, PhD, Novartis Pharmaceuticals, Switzerland, Marcus Maurer, MD, Department of Dermatology and Allergy, Charité – Universitätsmedizin, Berlin, Germany, Sam Khalil, PhD, Novartis Pharmaceuticals, Basel, Switzerland, Maria-Magdalena Balp, MD, Novartis Pharma AG, Basel, Switzerland and Karin Rosen, MD, PhD, Genentech, Inc., South San Francisco, CA

425 **Chronic Urticaria: Disease-Related Quality of Life after 6 Months of Treatment**
Jenny Stitt, MD, UC Denver and Stephen C. Dreskin, MD, PhD, FAAAAI, University of Colorado Denver, Aurora, CO

426 **The Urticaria Serial Assessment a Tool for Measuring Clinical Control of Urticaria**
Mark Stevens, MD[1], Jonathan A. Olsen, DO[2], Againdra K Bewtra, MD[3], Russell Hopp, DO, FAAAAI[4] and Jeffrey R. Stokes, MD, FAAAAI[2], [1]Creighton University College of Medicine, Omaha, NE, [2]Creighton University Medical Center, Omaha, NE, [3]Creighton University, Omaha, NE, [4]Creighton University School of Medicine, Omaha, NE

427 **Utilization of Screening Laboratory Testing in Chronic Urticaria/Angioedema**
Kevin D Lindgren, MD[1], Shayna Ravindran, MD[1], James N Moy, MD[1,2], Dawa Gurung[2], Caitlin M Campion[1], Sarah J Aldrich[1] and Byung Yu[1,2], [1]Rush University Medical Center, Chicago, IL, [2]John H. Stroger Hospital of Cook County, Chicago, IL

428 **Latin American Chronic Urticaria Registry (CUR)**
R Maximiliano Gomez[1,2], Edgardo J. Jares, MD[2,3], Mario Sánchez-Borges, MD, FAAAAI[2,4], Jorge Lavrut[2,5], Carlos E. Baena-Cagnani, MD[2,6], Alfonso Cepeda[2], Eduardo de Zubiria[2] and SLaai CUR Group[2], [1]Ayre Foundation, Argentina,

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[2]Soc. Latinoamericana Alergia, Asma e Inmunología, [3]C.M.P. SA, Buenos Aires, Argentina, [4]Clinica El Avila, Venezuela, [5]Hospital P. Elizalde, Argentina, [6]Catholic University of Cordoba, Cordoba, Argentina

429 **The Significance of D-Dimer in Acute Urticaria-Angioedema at the Emergency Room**

Mauro Cancian[1], Alessio Calabrò[1], Raffaele Bendo[1], Daniela Baldo[1], Stela Dako[1], Giulia Mormando[1], Riccardo Senter[1], Gianna Vettore[2] and Fabrizio Fabris[1], [1]Dept. of medicine, University of Padua, Padova, Italy, [2]Dept. of Emergency Medicine, General Hospital of Padua, Italy

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Other HEDQ Topics

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430 **Comparison of Insurance Barriers for Adults and Children with Uncontrolled Asthma in an Inner-City Population**

Roula Daher, MD, Children's Hospital of Michigan, Detroit, MI, Naveen Nannapaneni, MD, Wayne State University/ Detroit Medical Center and Elizabeth A. Secord, MD, FAAAAI, Children's Hospital of Michigan Department of Allergy Immunology, Detroit, MI; Wayne State University School of Medicine, Detroit, MI

431 **Demographics and Active Duty Retention Patterns for 1999-2011 U.S. Air Force Allergy Fellowship Graduates**

Michael S. Tankersley, MD, FAAAAI, Wilford Hall Ambulatory Surgical Center, Joint Base San Antonio, San Antonio, TX and Michelle Pinson, MD, Wilford Hall Ambulatory Surgical Center, San Antonio, TX

432 **Age and Sex Are Important Considerations for Studies Involving Reactivity to Allergenic Stimuli**

Tara Sadoway, MSc, Justin Buck, BSc, Anne Marie Salapatek, PhD and Piyush Patel, MD, FRCP, Inflamax Research, Mississauga, ON, Canada

433 **Differential Characteristics of MPO-ANCA Positive and Negative Eosinophilic Granulomatosis with Polyangiitis**

Shunsei Hirohata, Kitasato University School of Medicine, Sagamihara, Japan

434 **Direct and Indirect Economic Burden of Chronic Idiopathic/ Spontaneous Urticaria: An Analysis Based on Adult US Population**

Haijun Tian[1], Maria-Magdalena Balp, MD[2], Stuart J. Turner, BPharm, MPH[1], Jeffrey Vietri[3] and Gina Isherwood[4], [1]Novartis Pharmaceuticals Corporation, East Hanover, NJ, [2]Novartis Pharma AG, Basel, Switzerland, [3]Kantar Health, Milan, Italy, [4]Kantar Health, Epsom, United Kingdom

435 **Experience in the Use of Social Media (whatsapp, e-Mail, facebook, website) By Patients**

Inmaculada Sanchez-Machin, MD[1,2], Paloma Poza Guedes[3], Ruperto Gonzalez Perez[3] and Victor Matheu, MD, PhD[4], [1]Clinica Tecnosana Tenerife, El Rosario, Spain, [2]Hospital Quirón, Santa Cruz de Tenerife, Spain, [3]Alergocan, Santa Cruz de Tenerife, Spain, [4]Hospital Quiron Tenerife, Santa Cruz de Tenerife, Spain

436 **Anxiety and Depression in Patients with Allergic Disorders**

Nese Canturk, Damla Tufekci and Adile Berna Dursun, Recep Tayyip Erdogan University, School of Medicine, Rize, Turkey

437 **Low Complement 4 Level, Bowel Wall Edema and Episodic Scrotal Swelling in a Patient with Chronic Hepatitis C**

Jennifer Olivier, MD, Tulane University School of Medicine, New Orleans, LA and Laurianne G. Wild, MD, FAAAAI, Tulane University, New Orleans, LA

438 **The Mastocytosis Society Survey on Mast Cell Disorders: Part 2-Clinical Experiences, Co-Morbidities and Additional Concerns**

Nancy C. Russell, DrPH[1], Susan V Jennings, PhD[1], Blair Jennings, BS[1], Valerie Slee, RN, BSN[1], Lisa Sterling, BS[1], Mariana Castells, MD, PhD, FAAAAI[2], Peter Valent, MD[3] and Cem Akin, MD, PhD, FAAAAI[4], [1]The Mastocytosis Society, Hastings, NE, [2]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, [3]University of Vienna, Wien, Austria, [4]Harvard Medical School, Brigham and Women's Hospital, Boston, MA

439 **Practice Parameters and Strength of Recommendation Data: An Evolutionary Perspective**

Matthew H. Park, MD, Taylor A. Banks, MD and Michael R. Nelson, MD, PhD, FAAAAI, Walter Reed National Military Medical Center, Bethesda, MD

440 **Youtube Videos for Patient Education on How to Use Nasal Sprays Associated with Insufficient Reliability**

Smita Joshi, MD[1], Ves Dimov, MD[2] and Frank J. Eidelman, MD, FAAAAI[2], [1]Weill Cornell Medical College, New York, NY, [2]Cleveland Clinic Florida, Weston, FL

441 **Factors Driving Perceived Health Status Among Patients with Primary Immune Deficiency**

Filiz Odabasi Seeborg, MD, MPH[1], Roann Seay, MPH[2], Marcia Boyle[3], Christopher Scalchunes, MPA[3] 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]UT Health Science Center School of Public Health, Houston, TX, [3]Immune Deficiency Foundation, Towson, MD

442 **Changes in Health-Related Quality of Life in Patients with Primary Immunodeficiency Disorder (PIDD) Between Time of Diagnosis and 12 Months after Initiation of Immunoglobulin (Ig) Therapy**

John M. Routes, MD, FAAAAI[1], Beatriz T. C. Carvalho[2], Bodo Grimbacher, MD[3], Kenneth Paris, MD, MPH[4], Hans D. Ochs, MD[5], Alexandra H. Filipovich, MD[6], Diane Ito, MA[7], Yan Xiong, MS[7], Josephine Li-McLeod, PhD[7] and Patrick Bonnet, PharmD[7], [1]Medical College of Wisconsin, Milwaukee, WI, [2]Federal University of São Paulo, [3]Royal Free Hospital & University College, London, United Kingdom, [4]LSU Health Sciences Center, New Orleans, New Orleans, LA, [5]University of Washington, Seattle, WA, [6]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [7]Baxter Healthcare Corporation, Westlake Village, CA

443 **Association of Sports Activities and Rhinitis Symptoms in Schoolchildren Is Influenced By Comorbidities of Eczema**

Takashi Kusunoki, MD, PhD[1,2], Jiro Takeuchi, MD, PhD[2], Takeshi Morimoto, MD, PhD[2,3], Mio Sakuma, MD, PhD[2,3], Kumiko Mukaida, MD, PhD[2,4], Takahiro Yasumi, MD, PhD[2,5], Ryuta Nishikomori, MD, PhD[2,5] and Toshio Heike, MD, PhD[2,5], [1]Department of Pediatrics, Shiga Medical Center for Children, Moriyama, Shiga, Japan, [2]Shiga LAKE Study Group, Japan, [3]Division of General Internal Medicine, Hyogo College of Medicine, Nishinomiya, Hyogo, Japan, [4]Kumiko Allergy Clinic, Kyoto, Japan, [5]Department of Pediatrics, Graduate School of Medicine, Kyoto University, Kyoto, Japan

444 **Withdrawn**

445 **Costs of Adult Chronic Rhinosinusitis: Results of the US Medical Expenditure Panel Survey**

Lisa Caulley, Division of Otolaryngology - Head and Neck Surgery, University of Ottawa, Ottawa, ON, Canada, Chris Cameron, Ottawa Hospital Research Institute; University of Ottawa Department of Epidemiology and Community Health, Luke Rudmik, Division of Otolaryngology - Head and Neck Surgery, University of Calgary, Calgary, AB, Canada and Shaun Kilty, MD, FRCSC, Division of Otolaryngology-Head and Neck Surgery, The University of Ottawa, The Ottawa Hospital, Ottawa, ON, Canada

Food Allergy from a HEDQ Perspective

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446 Assessment of Food Allergy Knowledge in NYC Elementary School Teachers
Niti Sardana Agarwal, MD, Columbia University Medical Center and Joyce E. Yu, MD, Columbia University Medical Center/New York Presbyterian Hospital, New York, NY

447 Cooking Community Websites : A Possible Eduinformer for Patients with Egg/Wheat Allergy
Shinichiro Koga, MPH, MD/PhD, Internal Medicine, Tokyo Metropolitan Police Hospital, Tokyo, Japan

448 The Efficacy of the Tokyo Metropolitan Food Allergy Emergency Manual
Mayumi Furukawa, MD, Mari Sasaki, MD, Koichi Yoshida, MD and Akira Akasawa, MD, PhD, Division of Allergy, Tokyo Metropolitan Children's Medical Center, Tokyo, Japan

449 Approach to Food Allergy By Non-Specialty Practitioners
Kate Welch, MD, Mt. Sinai Medical Center; Icahn School of Medicine at Mount Sinai and Julie Wang, MD, FAAAAI, Icahn School of Medicine at Mount Sinai, New York, NY

450 Understanding Risk-Taking Behavior in Adolescents with Food Allergy
Victoria Rivkina, MPH, Northwestern University, Chicago, IL, Ruchi Gupta, MD, MPH, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, Ashley Dyer, MPH, Northwestern University Feinberg School of Medicine, Chicago, IL, Andrew Thompson, Purdue University and Bridget Smith, PhD, Edward J. Hines Jr VA Hospital, Chicago, IL

451 Adherence to Food Elimination Diet in Pediatric Patients
Maya Gharfeh[1], Gayla Rogers[1], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[2] and Elizabeth A Erwin, MD[3], [1]Nationwide Children's Hospital, [2]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA, [3]Division of Allergy & Immunology, Nationwide Children's Hospital, Columbus, OH

IRSOC Epidemiology and Patient-Related Issues

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452 Allergic Rhinitis Patient Factors Associated with Allergen Immunotherapy Treatment Persistence
Felicia C. Allen-Ramey, PhD[1], Jianbin Mao, PhD[2], Robert A. Nathan, MD, FAAAAI[3], Marvin A. Rock, DrPH[4] and Rachel Halpern, PhD[2], [1]Merck & Co, Inc, West Point, PA, [2]Optum, Eden Prairie, MN, [3]University of Colorado Health, Aurora, CO, [4]Merck & Co, West Point, PA

453 Is Obesity Related to Allergic Rhinitis?
Mudita Gogna, MD, Yueh-Ying Han, PhD, MS, Erick Forno, MD, MPH and Juan C. Celedon, MD, DrPH, FAAAAI, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA

454 Inadequate Recognition of Allergic Rhinitis (AR) By Resident Physicians in Children Hospitalized for Asthma
Rushita Mehta, MD, Sarah Garon, MD, Margaret A. Chin, NP and Andrew A. Wiznia, MD, Jacobi Medical Center, NY

455 Study for Assessing Prevalence of Local Allergic Rhinitis Among Rhinitis Patients
Maged Refaat, MD, Nermine Melek, MD, Rasha Shahin, MD and Islam Eldeeb, MBBch, Department of Allergy and Clinical immunology,Ain Shams university, Cairo, Egypt

456 Coexistence of Dual Systemic Allergic Rhinitis and Local Allergic Rhinitis
Miguel Blanca, MD, PhD[1], Paloma Campo, MD, PhD[2], Carmen Rondon, MD, PhD[2], Esther Barrionuevo Sanchez[2], Natalia Blanca-López, MD, PhD[3], Maria Auxiliadora Guerrero[2], Veronique Godineau[4] and Maria J Torres, MD, PhD[2], [1]Allergy Service, IBIMA-Regional University Hospital of Malaga, Málaga, Spain, [2]Allergy Unit, Regional University Hospital of Málaga, IBIMA, UMA, Málaga, Spain, [3]Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, [4]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain

457 A Multicentre Cross-Sectional Survey of Allergic Sensitisation to Subtropical and Temperate Grass Pollens
Janet M. Davies, PhD[1], Graham O. Solley, MBBS, FAAAAI[2], William B Smith, FRACP, FRCPA, PhD[3], Andrew McLean-Tooke, MBChB, MD, MRCP, FRCPath[4], Sheryl A van Nunen, MBBS, FRACP[5], Peter Kenneth Smith, FRACP, PhD[6], Victoria L Timbrell, BMSc[1], John W. Upham, MD, PhD, FAAAAI[1] and Daman Langguth, BHB, MbChB, FRACP, FRCPA[7], [1]The University of Queensland, Brisbane, Australia, [2]Watkins Medical Centre, Brisbane, Australia, [3]Royal Adelaide Hospital, Adelaide, Australia, [4]Fremantle Hospital, Fremantle, Australia, [5]Royal North Shore Hospital, Sydney, Australia, [6]Department of Clinical Medicine, Griffith University, Queensland, Southport, Australia, [7]Sullivan Nicolaides Pathology, Brisbane, Australia

458 Distinctive Prevalence of Allergic Rhinitis Among Adults in Urban and Rural Areas of China: A Population-Based Cross-Sectional Survey
Ming Zheng, Beijing TongRen Hospital, Capital Medical University, Beijing, China, Xiangdong Wang, Department of Otolaryngology Head and Neck Surgery, Beijing Tongren Hospital, Capital Medical University, Beijing, China; Beijing Institute of Otolaryngology, Beijing, China and Luo Zhang, Department of Otolaryngology Head and Neck Surgery, Beijing TongRen Hospital,Capital Medical University, Beijing, China, China; Department of Otolaryngology Head and Neck Surgery, Beijing Tongren Hospital, Capital Medical University, Beijing, China, China

459 The Causes and Clinical Features of Chronic Cough in School-Age Children in China
Chuangli Hao, Children's Hospital of Soochow University, Suzhou, Suzhou, China

Peptide and Epicutaneous Immunotherapy

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460 Initial Evidence of Sustained Efficacy of House Dust Mite Synthetic Peptide Immuno Regulatory Epitopes 2 Years after a Short Course of Treatment in House Dust Mite (HDM) Allergic Subjects
Rod Hafner, PhD[1], AnneMarie Salapatek, PhD[2], Mark Larché, PhD[3], Brenda Ahenkorah[4], Piyush Patel, MD, FRCP[2] and Stephen Pawsey, MD[5], [1]Circassia Ltd, Oxford, United Kingdom, [2]Inflamax Research, Mississauga, ON, Canada, [3]McMaster University/St. Joseph's Health care, Hamilton, ON, Canada, [4]Adiga Life Sciences, [5]Circassia Ltd

461 Safety of House Dust Mite Synthetic Peptide Immuno-Regulatory Epitopes in Patients with House Dust Mite Allergy and Controlled Asthma
Stephen Pawsey, MD[1], Deepen Patel, MD[2], Rod Hafner, PhD[3], Pascal LC Hickey, PhD[4] and John Powell, MD[1], [1]Circassia Ltd, [2]Topstone Research, Toronto, ON, Canada, [3]Circassia, Oxford, United Kingdom, [4]Adiga Life Sciences, Hamilton, Canada

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462 **The Nasal Allergen Challenge Protocol of the Allergic Rhinitis Clinical Investigator Collaborative (AR-CIC): Validation in a Clinical Trial of Cat Synthetic Peptide Immunoregulatory Epitopes (Cat-SPIRE)**

Helen Neighbour[1], Mark Larché, PhD[2], Lisa Steacy, BSc[3], Kristen Armstrong, MSc[4], Pascal LC Hickey, PhD[5], Mena Soliman, MBChB[3] and Anne Ellis, MD, MSc, FAAAAI[3,6], [1]Firestone Institute for Respiratory Health, McMaster University, Hamilton, ON, Canada, [2]Division of Clinical Immunology & Allergy, Department of Medicine, McMaster University, Hamilton, ON, Canada, [3]Allergy Research Unit, Kingston General Hospital, Kingston, ON, Canada, [4]Adiga Life Sciences Inc., Hamilton, ON, Canada, [5]Adiga Life Sciences, Hamilton, Canada, [6]Departments of Medicine and Biomedical & Molecular Science, Queen's University, Kingston, ON, Canada

463 **Sustained Efficacy of Allert Allergy Vaccine after a Second Birch Pollen Season: A Phase IIb**

Francois Spertini, MD[1], Marek Jutel, MD, PhD[2], Lars Jacobsen, PhD[3], Frederic de BLAY[4], Margitta Worm, MD[5], Gilles Della Corte, MD[6], Alexander Kettner, PhD[6], Vincent Charlon, PhD[7] and Christophe Reymond, PhD[6], [1]Division of Immunology and Allergy, CHUV, LAUSANNE, Switzerland, [2]Department of Clinical Immunology, Wroclaw Medical University, Wroclaw, Poland, [3]Glostrup University Hospital, Copenhagen, Denmark, [4]CHRU Strasbourg, France, [5]Charite - Universitätsmedizin Berlin, Berlin, Germany, [6]ANERGIS SA, EPALINGES, Switzerland, [7]Anergis SA, Epalinges, Switzerland

464 **Lamp-Based DNA Vaccine for Japanese Red Cedar Allergy**

Yan Su, Teri Heiland, Michael Connolly and Anthony Marketon, Immunomic Therapeutics Inc, Rockville, MD

465 **Persistence of Elevated Anti-Bet v 1 IgG4 Prior and during the Second Pollen Season after Allert Ultra-Fast Immunotherapy; Results from a Phase IIb Study Follow up**

Christophe Reymond, PhD[1], Valerie Boand[1], Samantha Duc[1], Alexander Kettner, PhD[1], Gilles Della Corte, MD[1] and Francois Spertini, MD[2], [1]ANERGIS SA, EPALINGES, Switzerland, [2]Division of Immunology and Allergy, CHUV, LAUSANNE, Switzerland

466 **Epigenetic Changes Following Epicutaneous Immunotherapy in Peanut Sensitized Mice**

Lucie Mondoulet, PhD[1], Jorg Tost, PhD[2], Emilie Puteaux[1], Mélanie Ligouis[1], Véronique Dhelft[1], Camille Plaquet[1], Christophe Dupont, MD, PhD[3] and Pierre Henri Benhamou, MD[1], [1]DBV Technologies, Bagneux, France, [2]CEA, Evry, France, [3]Hopital Necker Enfants Malades, Paris, France

467 **Epicutaneous Immunotherapy Prevents from Induction of Anaphylaxis to Further Allergens**

Pierre Henri Benhamou, MD[1], Lucie Mondoulet, PhD[1], Vincent Dioszeghy, PhD[1], Mélanie Ligouis[1], Camille Plaquet[1], Véronique Dhelft[1], Emilie Puteaux[1] and Christophe Dupont, MD, PhD[2], [1]DBV Technologies, Bagneux, France, [2]Hopital Necker Enfants Malades, Paris, France

Cytokines and the Mechanisms of Disease

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468 **Virus Detection and Cytokine Profile in Relation to Age Among Acute Exacerbations of Childhood Wheezing**

Masahiko Kato, MD, PhD, FAAAAI[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, Japan, [2]Gunma Children's Medical Center, Shibukawa, Japan

469 **(1) Production of CCR4-Binding Chemokines in Response to Rhinovirus Infections in Asthmatic Children**

Carolyn R. Word, MD[1], Manuel Soto-Quiros[2], Lydiana Avila[2], Patricia P Jorge, MD[3], Holliday T. Carper, BS[1], John W. Steinke, PhD, FAAAAI[4], Joshua L. Kennedy, MD[5], Deborah D. Murphy, RN[1], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[6] and Peter W. Heymann, MD[7], [1]University of Virginia, Charlottesville, VA, [2]Hospital Nacional de Niños, San José, Costa Rica, [3]Federal University of Sao Carlos, Sao Carlos, Brazil, [4]Asthma and Allergic Disease Center, Carter Center for Immunology Research, University of Virginia, Charlottesville, VA, [5]Arkansas Children's Hospital Research Institute, Little Rock, AR, [6]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA, [7]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA

470 **Post-Paramyxoviral Mucous Cell Metaplasia Is CCL28 and CCR10 Dependent**

Becky J Buelow, MD[1], Francoise Jung, PhD[2], Garry J Douglas, PhD[2] and Mitchell H. Grayson, MD, FAAAAI[1], [1]Medical College of Wisconsin, Milwaukee, WI, [2]Polyphor Ltd

471 **CD4 T Cell Chemotaxis to CCL28 Requires Proper Chemokine Tertiary Structure, but Is Not Species Restricted**

Stephanie E. Jones[1], Becky J Buelow, MD[2], Monica A Thomas[1], Brian F Volkman[1] and Mitchell H. Grayson, MD, FAAAAI[2], [1]Medical College of Wisconsin, [2]Medical College of Wisconsin, Milwaukee, WI

472 **Double-Stranded RNA Stimulates TLR3-Dependent Upregulation of IL-33 Transcript and Protein in Pulmonary Microvascular Endothelial Cells**

Akio Matsuda, PhD, Maiko Sugie, PhD, Tetsuo Shoda, MD, PhD, Kyoko Futamura, MD, PhD, Hirohisa Saito, MD, PhD and Kenji Matsumoto, MD, PhD, Department of Allergy and Immunology, National Research Institute for Child Health and Development, Tokyo, Japan

473 **Rhinovirus Infection Induces Th2-Promoting Innate Cytokines in an Ex Vivo Precision Cut Lung Slice Model**

Joshua L. Kennedy, MD[1], Emily Brown, Student[2], Megan Kurten[2], Richard Kurten, PhD[2] and Stacie M. Jones, MD[3], [1]Arkansas Children's Hospital Research Institute, Little Rock, AR, [2]University of Arkansas for Medical Sciences, Little Rock, AR, [3]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR

474 **The 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[2], Joseph Magee[2] and Matt Gubin[3], [1]Surgery, University of MO-Columbia, Columbia, MO, [2]University of Missouri, [3]Washington University

475 **A Critical Role for IL4 in the Neonate after Exposure to Aerosolized Ovalbumin in a Murine Model of Allergen Sensitization**

Brian WP Seymour, PhD, Edward Waters College, Jacksonville, FL and Robert L. Coffman, PhD, Dynavax Technologies, Berkeley, CA

476 **Dissecting Molecular Mechanisms of Synergy Between IL-13 and IL-17A in Severe Asthma**

Sara L. Stoffers[1], Stephane Lajoie, PhD[2], Adelaide G. van Lier[1], Xue Zhang, PhD, MSPH[3], Umasundari Sivaprasad, PhD[4], Melinda Butsch Kovacic, MPH, PhD[4], Marsha Wills-Karp, PhD[2] and Ian P. Lewkowich, PhD[1], [1]Cincinnati Children's Hospital Medical Center, Division of Immunobiology, Cincinnati, OH, [2]Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD, [3]Cincinnati Children's Hospital Medical Center, Division of Human Genetics, Cincinnati, OH, [4]Cincinnati Children's Hospital Medical Center, Division of Asthma Research, Cincinnati, OH

477 **Platelets Constitutively Express Interleukin-33 Protein and Modulate Eosinophilic Airway Inflammation**

Tomohiro Takeda, MT, PhD[1], Hirotoshi Unno, MD, PhD[1], Hideaki Morita, MD, PhD[1], Kyoko Futamura, MD, PhD[1], Maiko Sugie, PhD[1], Ken Arae, PhD[1], Susumu Nakae, PhD[2], Hirohisa Saito, MD, PhD[1], Kenji Matsumoto, MD, PhD[1] and Akio Matsuda, PhD[1], [1]Department of Allergy and Immunology, National Research

Institute for Child Health and Development, Tokyo, Japan, [2]The Institute of Medical Science, The University of Tokyo, Tokyo, Japan

478 The Role of TSLP in Experimental Allergic Rhinitis

Shoko Akasaki[1] and Tomohiro Yoshimoto[1,2], [1]Laboratory of Allergic Diseases, Institute for Advanced Medical Sciences, Hyogo College of Medicine, [2]Department of Immunology and Medical Zoology, Hyogo College of Medicine

479 TSLP Signaling Pathway Is Required for COX Inhibition-Induced Augmentation of Allergic Airway Inflammation

Weisong Zhou, PhD[1], Jian Zhang, MS[1], Shinji Toki, PhD[1], Kasia Goleniewska[1], Sara Reiss, MS[1], Baohua Zhou, PhD[2], Andrew McKenzie, PhD[3] and R. Stokes Peebles Jr, MD, FAAAAI[1], [1]Vanderbilt University School of Medicine, Nashville, TN, [2]Indiana University School of Medicine, Indianapolis, IN, [3]MRC Laboratory of Molecular Biology, Cambridge, United Kingdom

480 Human Bronchial Epithelial Cell-Derived Factors from Severe Asthmatics Can Stimulate Local Eosinophilopoetic Responses

Steven G Smith, PhD[1], Manali Mukherjee, PhD[2], Anam Irshad[3], Sophie Plante[4], Gail M. Gauvreau, PhD[1], Parameswaran K. Nair, MD, PhD, FRCP, FRCPC[2], Jamila Chakir, PhD[5] and Roma Sehmi, PhD, FAAAAI[1], [1]McMaster University, Hamilton, ON, Canada, [2]Firestone Institute for Respiratory Health, Hamilton, ON, Canada, [3]McMaster University, [4]Laval University, Quebec, [5]Lava Univ., Saint Foy, Canada

481 Vitamin D Deficiency in a Young, Atopic Pediatric Population

Selene K Bantz, MD, Yale University School of Medicine, New Haven, CT, Tiffany Dy, MD, Washington University School of Medicine and Ronit Herzog, MD, FAAAAI, New York Presbyterian Hospital, Weill Cornell Medical Collegel, New York, NY

Mechanisms of Innate Immunity and Viral Infections

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482 Cat Dander Extract Require TLR4/MD2 to Induce Both ROS Generation and Neutrophil Recruitment

Koa Hosoki, MD, PhD, Istvan Boldogh, PhD and Sanjiv Sur, MD, University of Texas Medical Branch, Galveston, TX

483 Chronic LPS Exposure Reduces Accumulation of Pro-Atopic CD49d+ Neutrophils in the Airways Post-Paramyxoviral Respiratory Infection

Matthew T. Perkovich, Jennifer L Santoro, BS, Erika Buell, Dorothy S. Cheung, MD, FAAAAI and Mitchell H. Grayson, MD, FAAAAI, Medical College of Wisconsin, Milwaukee, WI

484 Use of Multi-Parameter Flow Cytometry to Determine Cord Blood Innate Immune Function Associated with Prenatal Farming Exposure

Christine M. Seroogy, MD, FAAAAI[1], Lauren Nettenstrom, MS[2], Michael D. Evans, MS[1], Matt Keifer, MPH, MD[3] and James E. Gern, MD, FAAAAI[1], [1]University of Wisconsin School of Medicine and Public Health, Madison, WI, [2]University of Wisconsin, Madison, WI, [3]Marshfield Clinic, Marshfield, WI

485 Prior Allergen Sensitization Improves Outcome in a Murine Pseudomonas Aeruginosa Pneumonia Model. Bethany Lussier, Terry Hsieh and Daniel G. Remick

Bethany L. Lussier, MD, Terry Hsieh and Daniel Remick, Boston University

486 Effect of TREM1 Deficiency in Post-Viral Induced Atopic Disease

Dorothy S. Cheung, MD, FAAAAI, Erika Buell and Mitchell H. Grayson, MD, FAAAAI, Medical College of Wisconsin, Milwaukee, WI

487 Rhinovirus-Induced Immune Response in Nasal Epithelial Cells

Marek L. Kowalski, MD, PhD[1], Agnieszka Olszewska-Ziober[2], Malgorzata Pawelczyk[2], Aleksandra Piechota-Polanczyk[2], Sylwia Moskwa[3], Marzanna Jarzebska[2], Agnieszka Jablonska[2] and Anna Globinska[2], [1]Medical University of Lodz, Poland, [2]Medical University of Lodz, [3]Medical University of Lodz

488 Exosomal Mir-155 Secretion during Rhinovirus Infection in EARLY Childhood

Maria J. Gutierrez, MD[1], Giovanny Perez, MD[2], Krishna Pancham[2], Shelanoor Huseni[2] and Gustavo Nino, MD[2], [1]Section of Asthma, Allergy & Immunology, Pennsylvania State University College of Medicine, Hershey, PA, [2]Division of Pediatric Pulmonology and Sleep Medicine, Children's National Medical Center

489 Different Inflammatory Mechanisms of Human Metapneumovirus and Respiratory Syncytial Virus

Jin-sung Park[1], Young-Ho Kim, MD[2], Eunmi Kwon[2], Zak Callaway[3], Takao Fujisawa, MD, FAAAAI[4] and Chang-Kuen Kim, MD, FAAAAI[2], [1]Inje University Sanggye Paik Hospital, Seoul, South Korea, [2]Asthma & Allergy Center, Inje University Sanggye Paik Hospital, Seoul, South Korea, [3]School of Biological Sciences, University of Ulsan, Ulsan, South Korea, [4]Institute for Clinical Research, Mie National Hospital, Mie, Japan

490 Restoration of Respiratory Syncytial Virus-Induced Airway Barrier Dysfunction By Cyclic AMP Activation

Fariba Rezaee, MD, Department of Pediatrics, University of Rochester Medical Center, Rochester, NY, Samantha A DeSando, BS, Department of Pediatrics, University of Rochester Medical Center, Sara Hillman, BS, Pulmonary and Critical Care, University of Rochester Medical Center and Steve N. Georas, MD, Pulmonary and Critical Care, University of Rochester Medical Center, Rochester, NY

SUNDAY

Biomarkers

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491 Exhaled Nitric Oxide Performance Compared to Methacholine Challenge in Pediatric Patients

Andrew Nickels, MD, Kenneth Parker, Paul Scanlon, MD and Kaiser G. Lim, MD, FAAAAI, Mayo Clinic, Rochester, MN

492 Saliva-SP-D Is a Practical Marker to Identify the Peripheral Airway Inflammation

Hiroki Murai, MD, PhD[1], Shintaro Okazaki, MD[2], Hisako Hayashi, MD, PhD[2], Akiko Kawakita, MD[2], Motoko Yasutomi, MD, PhD[2] and Yusei Ohshima, MD, PhD[2], [1]University of Fukui, Yoshida-gun, Japan, [2]University of Fukui, Fukui, Japan

493 Hospital Admission Associated with Higher Total IgE Level in Pediatric Patients with Asthma

Michael G. Sherenian[1], Patricia C. Fulkerson, MD, PhD[2] and Yu Wang[1], [1]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [2]Allergy and Immunology, Division of Allergy and Immunology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

494 Polyunsaturated Lysophosphatidic Acid As a Potential Asthma Biomarker

Steven J. Ackerman, PhD[1], Sharmilee M. Nyenhuis, MD, FAAAAI[2], Gye Young Park, MD[1], John W Christman, MD[3], Viswanathan Natarajan, PhD[1] and Evgeny Berdyshev, PhD[1], [1]University of Illinois at Chicago, Chicago, IL, [2]MC 719, University of Illinois at Chicago, Chicago, IL, [3]Ohio State University, Columbus, OH

495 **Serum Periostin Levels Correlates with 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, Saga Medical School, Saga, Japan and Taeyeong Park, Hallym Universitiy Kangdong Sacred Heart Hospital

Immune Cell Signaling

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496 **Lipopolysaccharide-Responsive Beige-like Anchor Is Required for Both Activation and Deactivation of NFkB**

Jia-Wang Wang, PhD[1], Michelle A. Reiser, MS[1], Kunyu Li, BS[1], Bangmei Wang[1] and Richard F. Lockey, MD[1,2], [1]Division of Allergy and Immunology, Department of Internal Medicine, University of South Florida, Morsani College of Medicine, Tampa, FL, [2]James Haley Veterans' Hospital, Tampa, FL

497 **Convergence of Clinical and Cellular Phenotypes Among Patients with STAT3 and ERBB2IP Mutations**

Jonathan J. Lyons, MD[1], Xiaomin Yu, PhD[1], Kendal A. Karpe, BS[1], Shirin M. Treadwell, MS[1], Chi A. Ma, PhD[1], Michael P. O'Connell, PhD[1], Guangping Sun, MD[1], Jason D. Hughes, PhD[2], Huseyin Mehmet, PhD[2], Joshua McElwee, PhD[2], Steven M Holland, MD[3], Alexandra F Freeman, MD[4] and Joshua D. Milner, MD[1], [1]Laboratory of Allergic Diseases, NIAID/NIH, Bethesda, MD, [2]Merck Research Laboratories, Merck & Co. Inc., Boston, MA, [3]Laboratory of Clinical Infectious Diseases, NIAID/NIH, Bethesda, MD, [4]NIH/NIAID, Laboratory of Clinical Infectious Diseases, Bethesda, MD

498 **Thymic Stromal Lymphopoietin Secretion As a Function of Genotype**

Claudia C.K. Hui, PhD[1], Ashley Yu, BSc[1], Delia Heroux, BSC[1], Loubna Akhabir[2], Andrew Sandford, PhD[3], Helen Neighbour[4] and Judah A Denburg, MD, FRCPC, FAAAAI[5], [1]Division of Clinical Immunology & Allergy, McMaster University, Hamilton, ON, Canada, [2]University of British Columbia, James Hogg Research Centre, Providence Heart + Lung Institute, BC, Canada, [3]University of British Columbia, James Hogg Research Centre, Providence Heart + Lung Institute, Vancouver, BC, Canada, [4]Firestone Institute for Respiratory Health, McMaster University, Hamilton, ON, Canada, [5]Division of Clinical Immunology and Allergy, Department of Medicine, McMaster University, Hamilton, ON, Canada

499 **Mycoplasma Pneumoniae Cards Toxin Regulates NLRP3 Inflammasome Activation**

Jesus A. Segovia Jr, PhD[1], Santanu Bose, PhD[2], Sudha R Somarajan[3], Te-Hung Chang[1], Thirumalai Kannan, PhD[1] and Joel Barry Baseman, PhD[1], [1]UT Health Science Center at San Antonio, San Antonio, TX, [2]Washington State University, Pullman, WA, [3]UT Health Science Center at Houston, Houston, TX

500 **Fcγ-Fragment and IgG Monoclonal Antibody Polarization of Human Macrophages; A Novel Immunomodulatory Mechanism**

Ryan A Steele, DO, MS[1], Michael J Littlefield, BA[2], Iryna Voloshyna, PhD[2], Mark A. Davis-Lorton, MD, FAAAAI[3], Marcella R. Aquino, MD, FAAAAI[1], Luz S. Fonacier, MD, FAAAAI[1] and Allison B Reiss, MD[2], [1]Winthrop University Hospital, Allergy & Immunology, Mineola, NY, [2]Winthrop Research Institute, Department of Medicine, Winthrop University Hospital, Mineola, NY, [3]Winthrop University Hospital, Mineola, NY

Infant and Maternal Microbiome and Allergen Exposures

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501 **Effects of Maternal Geohelminth Infections on the Risk of Allergy during the First 3 Years of Life: Findings from a Birth Cohort in Rural Ecuador**

Philip J. Cooper, Pontificia Universidad Catolica del Ecuador, Martha Chico, Laboratorio de Investigacion FEPIS, Quito, Ecuador, Leila Amorim, Universidade Federal da Bahia, Brazil, Carlos Sandoval, Laboratorio de FEPIS, Ecuador, Laura Rodrigues, PhD, London School of Hygiene and Tropical Medicine, London, United Kingdom, Mauricio L Barreto, PhD, Instituto de Saúde Coletiva, UFBa, Salvador, BA, Brazil and David P Strachan, St George's University of London, London, United Kingdom

502 **Relationship Between Domestic Mouse Allergen Exposure Assessed in Settled Dust and Mouse Specific IgE, IgG and IgG4 Antibodies in Asthmatic Children**

Alan Zhou[1], Adnan Divjan[1], Wanda Phipatanakul, MD, MS[2], Nina Balac[1], Jalean Dominguez[1], Elizabeth C. Matsui, MD, MHS[3] and Matthew S. Perzanowski, PhD[1], [1]Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, New York, NY, [2]Division of Pediatric Allergy/Immunology, Boston Children's Hospital, Harvard University School of Medicine, Boston, MA, [3]Division of Pediatric Allergy/Immunology, Johns Hopkins School of Medicine, Baltimore, MD

503 **Maternal and Birth Chracterestics Are Associated with Infant Gut Microbial Composition**

Christine Cole Johnson, PhD, MPH, FAAAAI[1], Suzanne Havstad, MA[1], Edward M. Zoratti, MD, FAAAAI[2], Kei Fujimura, PhD[3], Alexandra R. Sitarik, MS[1], Haejin Kim, MD[2], Andrea Cassidy-Bushrow, PhD[1], Kevin Bobbitt, PhD[1], Nicholas W. Lukacs, PhD[4], Kimberley J. Woodcroft, PhD[1], Homer A. Boushey Jr, MD, FAAAAI[5], Dennis R. Ownby, MD, FAAAAI[6], Ganesa R Wegienka, PhD[1], Albert M Levin, PhD[1] and Susan V. Lynch, PhD[3], [1]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI, [2]Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, [3]University of California San Francisco, San Francisco, CA, [4]University of Michigan, Ann Arbor, MI, [5]University of California, San Francisco, San Francisco, CA, [6]Department of Pediatrics, Georgia Regents University, Augusta, GA

504 **The Infant Gut Microbiome Mediates the Association Between Breastfeeding and Allergic-like Response to Pets in Children**

Alexandra R. Sitarik, MS[1], Suzanne Havstad, MA[1], Albert M Levin, PhD[1], Kei Fujimura, PhD[2], Ganesa R Wegienka, PhD[1], Edward M. Zoratti, MD, FAAAAI[3], Dennis R. Ownby, MD, FAAAAI[4], Haejin Kim, MD[3], Homer A. Boushey Jr, MD, FAAAAI[5], Susan V. Lynch, PhD[2] and Christine Cole Johnson, PhD, MPH, FAAAAI[1], [1]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI, [2]University of California San Francisco, San Francisco, CA, [3]Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, [4]Department of Pediatrics, Georgia Regents University, Augusta, GA, [5]University of California, San Francisco, San Francisco, CA

505 **Environmental Estrogens Alter Signaling in Immune Cells That Promotes the Development of Childhood Asthma**

Terumi Midoro-Horiuti, MD, PhD, FAAAAI, Barun K. Choudhury, PhD, Rene Vinas, PhD, Cheryl S Watson, PhD and Randall M. Goldblum, MD, University of Texas Medical Branch, Galveston, TX

Peanut Oral Immunotherapy

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506 **High Rate of Sustained Unresponsiveness with Early-Intervention Peanut Oral Immunotherapy**
Brian P. Vickery, MD[1], Ayeshia Beavers, BS[1], Jelena Berglund, PhD, RAC[2], Jill P. French, RN MSN[1], Deanna K. Hamilton, RN[1], Lauren Herlihy, RN, MSN, CPNP[1], Edwin H Kim, MD, MS[1], Michael D. Kulis Jr, PhD[1], Nicole Szczepanski, BS[1], Pamela H. Steele, MSN, CPNP, AE-C[1], Yamini Virkud, MD, MA, MPH[3], Benjamin L. Wright, MD[1] and A. Wesley Burks, MD[1], [1]University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Duke University, Durham, NC, [3]Massachusetts General Hospital, Boston, MA

507 **Peanut Sublingual Immunotherapy (SLIT) Results in Sustained Unresponsiveness in a Subset of Peanut Allergic Children**
Edwin H Kim, MD, MS[1], Pamela H. Steele, MSN, CPNP, AE-C[1], Michael D. Kulis Jr, PhD[1], Ayeshia Beavers, BS[1], Deanna K. Hamilton, RN[1], Rishu Guo, PhD[1], Brian P. Vickery, MD[2] and A. Wesley Burks, MD[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

508 **Combined Probiotic and Peanut Oral Immunotherapy for the Treatment of Peanut Allergy: A Randomised Trial**
Mimi L. K. Tang, FRACP, PhD, FAAAAI[1], Anne-Louise Ponsonby, PhD[2], Francesca Orsini, MSc[3], Dean Tey, MD[4], Marnie Robinson, MBBD, FRACP[5], Ee Lyn Su, MBBS[6], Paul Licciardi, PhD[2], A. Wesley Burks, MD[7] and Susan Donath, MA[3], [1]Royal Children's Hospital and Murdoch Childrens Research Institute, Melbourne, Australia, [2]Murdoch Childrens Research Institute, Australia, [3]Murdoch Childrens Research Institute, Parkville, Australia, [4]Royal Children's Hospital, Victoria, Australia, [5]Royal Children's Hospital, Parkville, Australia, [6]The Royal Children's Hospital, Parkville, Australia, [7]University of North Carolina at Chapel Hill, Chapel Hill, NC

509 **Monitoring Major Peanut Allergen Levels in Foods and in Therapeutic Preparations Used for Oral Immunotherapy**
Denise Block[1], Stephanie Filep[1], Eva-Maria King, PhD[1], Scott P. Commins, MD, PhD[2] and Martin D. Chapman, PhD, FAAAAI[1], [1]Indoor Biotechnologies, Inc., Charlottesville, VA, [2]University of Virginia, Charlottesville, VA

510 **Predictors of Elevated Rates of Adverse Events While on Peanut Oral Immunotherapy**
Yamini Virkud, MD, MA, MPH[1], Brian P. Vickery, MD[2], Pamela H. Steele, MSN, CPNP, AE-C[3], Michael D. Kulis Jr, PhD[3] and A. Wesley Burks, MD[3], [1]Massachusetts General Hospital, Boston, MA, [2]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, [3]University of North Carolina at Chapel Hill, Chapel Hill, NC

Asthma and Eczema

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511 **Empowering Students with Asthma in Chicago Schools through Photovoice and Videovoice**
Jesse Blumenstock[1], Ruchi Gupta, MD, MPH[1,2] and Christopher Warren, BA[3], [1]Northwestern Feinberg School of Medicine, Chicago, IL, [2]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [3]University of Southern California, Los Angeles, CA

512 **Taking Advantage of Smartphones and Cloud Computing to Decrease the Cost of Asthma**
Richard W Lucas, PhD[1,2], Josh Dees[3], Bryn Rhodes[4], Rob Reynolds[3], Nathan Allan[4] and Richard W. Hendershot, MD, FAAAAI[5], [1]OSIA Medical, Phoenix, AZ, [2]Swedish University of Agricultural Sciences, Umeå, Sweden, [3]OSIA Medical, Sandy, UT, [4]Database Consulting Group, Orem, UT, [5]Intermountain Healthcare, Salt Lake City, UT

513 **Gestational Asthma and Eczema: A New Reality?**
Subashini Rajagopalan[1], Wilfried Karmaus[1] and Syed H. Arshad, DM, FRCP[2,3], [1]Division of Epidemiology, Biostatistics, and Environmental Health, School of Public Health, University of Memphis, Memphis, TN, [2]The David Hide Asthma and Allergy Research Centre, United Kingdom, [3]University of Southampton, United Kingdom

514 **Evidence for Harm Reversal in Asthmatic Smokers Who Switched to Regular Electronic Cigarettes Use**
Pasquale Caponnetto[1], Riccardo Polosa, MD, PhD, FAAAAI[2], Jaymin Morjaria[3], Massimo Caruso, PhD, FIT, AAAAI[2], Simona Strano[4] and Cristina Russo, MD[5], [1]University of Catania, Italy, [2]University of Catania, Catania, Italy, [3]2Dept of Academic Respiratory Medicine, University of Hull, Castle Hill Hospital, Cottingham, East Yorkshire, United Kingdom, HU16 5JQ., [4]University of Catania, [5]university of catania, Catania, Italy

515 **Identifying CpG Sites Associated with Eczema Via Random Forest Screening of Epigenome-Wide DNA Methylation**
Bilal M. Quraishi[1], Hongmei Zhang, PhD[1], Todd M. Everson[2], Gabrielle A. Lockett, PhD[3], Meredith Ray[2], John W. Holloway, PhD[3], Syed H. Arshad, DM, FRCP[4,5] and Wilfried Karmaus, MD, DrMed, MPH[1], [1]University of Memphis, Memphis, TN, [2]University of South Carolina, Columbia, SC, [3]University of Southampton, Southampton, United Kingdom, [4]University of Southampton, United Kingdom, [5]The David Hide Asthma and Allergy Research Centre, United Kingdom

Peptide and Epicutaneous Immunotherapy

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516 **Ara h 1 Peptide Immunotherapy Ameliorates Peanut-Induced Anaphylaxis**
Elizabeth Simms, MSc[1], Christopher Rudulier[1], Jennifer Wattie[1,2], William W. Kwok, PhD[3], Eddie A. James, PhD[3], Daniel M. Moldaver[1,2], Manel Jordana, MD, PhD[4] and Mark Larché, PhD[5,6], [1]McMaster University, Hamilton, ON, Canada, [2]Firestone Institute for Respiratory Health, Hamilton, ON, Canada, [3]Benaroya Research Institute at Virginia Mason, Seattle, WA, [4]McMaster Immunology Research Centre (MIRC), McMaster University, Hamilton, ON, Canada, [5]McMaster University/St. Joseph's Healthcare, Hamilton, ON, Canada, [6]Division of Clinical Immunology & Allergy, Department of Medicine, McMaster University, Hamilton, ON, Canada

517 **Persistent Treatment Effect with Grass Synthetic Peptide Immuno-Regulatory Epitopes in Grass Allergy Symptoms in an Environmental Exposure Unit Challenge after a Second Season of Natural Pollen Exposure**
Anne Ellis, MD, MSc, FAAAAI, Departments of Medicine and Biomedical & Molecular Science, Queen's University, Kingston, ON, Canada, Charles W. Frankish, MD, Kanata Allergy Services, Kanata, ON, Canada, Kristen Armstrong, MSc, Adiga Life Sciences Inc., Hamilton, ON, Canada, Mark Larché, PhD, McMaster University/St. Joseph's Healthcare, Hamilton, ON, Canada, Lisa Steacy, BSc, Allergy Research Unit, Kingston General Hospital, Kingston, ON, Canada, Rod Hafner, PhD, Circassia Ltd, Oxford, United Kingdom and Robyn O'Hehir, FRACP, PhD, FRCP, FRCPath, Department of Allergy, Immunology & Respiratory Medicine, The Alfred Hospital & Monash University, Melbourne, Australia

518 **Larger and Stronger Expression of Tregs Gut Homing Receptors with Epicutaneous Than with Sublingual or Oral Immunotherapy**
Vincent Dioszeghy, PhD[1], Lucie Mondoulet, PhD[1], Sophie Wavrin, PhD[1], Benjamin Pelletier[1], Camille Plaquet[1], Emilie Puteaux[1],

SUNDAY

SUNDAY

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

519 Immunogenicity Evaluation of Subcutaneous Administration of Peptide Hydrolysate from Lolium Perenne (gpASIT+™) in Combination with Bacterial HSP70 (DnaK) in Patients with Seasonal Allergic Rhinitis: A Double Blind Placebo Controlled Trial

Mohamed H. Shamji, PhD, FAAAAI[1,2], Jan L. Ceuppens, MD, PhD[3], Peter W. Hellings, MD, PhD[4], Stephen Durham, MA, MD, FRCP[1,2], Jean Duchateau, PhD[5], Rebecca Parkin, BSc[6,7], Thierry Legon, MBA[5] and Sabine Pirotton, PhD[5], [1]Medical Research Council and Asthma UK Centre for Allergic Mechanisms of Asthma, Imperial College London, London, United Kingdom, [2]Imperial College London, [3]University Hospital Gasthuisberg, Leuven, Belgium, [4]University Hospitals Leuven, Leuven, Belgium, [5]BioTech Tools, [6]Medical Research Council and Asthma UK Centre for Allergic Mechanisms of Asthma, Imperial College London, United Kingdom, [7]Imperial College London, London

520 The Evaluation of Efficacy and Adverse Effect in Intralymphatic Allergen-Specific Immunotherapy Against House Dust Mite, Cat, and Dog Allergens in Allergic Rhinitis

Sang Min Lee, MD, PhD[1], Joo Hyun Jung, MD, PhD[2], Seung Joon Choi, MD, PhD[3], Eugene Joe, MD, MS[3], Shin Myung Kang, MD, PhD[1], Yu Jin Kim, MD, PhD[1], Sung Young Kyung, MD, PhD[1], Jeong-Woong Park, MD, PhD[1], Sung Hwan Jeong, MD, PhD[1] and Sang Pyo Lee, MD, PhD[1], [1]Division of Pulmonology and Allergy, Gachon University Gil Medical Center, Incheon, South Korea, [2]Department of Otolaryngology-Head and Neck Surgery, Gachon University Gil Medical Center, Incheon, South Korea, [3]Department of Radiology, Gachon University Gil Medical Center, Incheon, South Korea

Mechanisms of Atopic Diseases: Eosinophils

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521 IL-18 Is Induced in Food Allergic Eosinophilic Esophagitis (EoE) Patients and Its Overexpression Promotes Disease Pathogenesis in Mice

Sathisha Upparahalli Venkateshaiah, PhD, Jai Shankar Shukla, PhD and Anil Mishra, PhD, FAAAAI, Department of Medicine,Tulane Eosinophilic Disorder Center, Tulane School of Medicine., New Orleans, LA

522 H-PGD Synthase (H-PGDS) Gene Expression Increases in Eosinophils of Aspirin Exacerbated Respiratory Disease (AERD) Patients after Oral Graded Aspirin Challenge

Elina Jerschow, MD, MSc[1], Ren Zhen[2], Victor Schuster, MD[1], David L. Rosenstreich, MD, FAAAAI[3] and Simon Spivack, MD, MPH[1], [1]Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY, [2]Jacobi Medical Center, Bronx, NY, [3]Albert Einstein/Montefiore Medical Center, NY

523 Development of a Novel Peptide Nanoparticle Inhibitor for Human CCR3/Eotaxin-Mediated Eosinophil Migration

Kimberly G. Laffey, BSc[1], Boris Garnier, PhD[1], Ben Hitchinson, BSc[1], Nadya Tarasova, PhD[2], Vadim Gaponenko, PhD[1] and Steven J. Ackerman, PhD[1], [1]University of Illinois at Chicago, Chicago, IL, [2]National Cancer Institute at Frederick, Frederick, MD

524 IL-33 Induces Cytokine Production By Lineage-Committed Myeloid Progenitors and Positively Regulates Eosinophil Hematopoiesis in IL-5-Dependent Manner

Hirofumi Tsuzuki[1], Yojiro Arinobu[2], Kohta Miyawaki[2], Shun-ichiro Ota[2], Ayako Takaki[2], Naoko Ueki[2], Yuri Ota[2], Siamak Jabbarzadeh Tabrizi[2], Takanori Teshima[3], Mitsuteru Akahoshi[2], Hiroaki Niiro[2], Hiroshi Tsukamoto[2], Takahiko Horiuchi[2] and Koichi Akashi[2], [1]Kyushu University, Fukuoka City, Japan, [2]Kyushu University, [3]Hokkaido University

525 Global Expression and Epigenetic Analyses of Eosinophil Development Reveal Potential Novel Regulators

Carine Bouffi, PhD[1], Kaila L. Schollaert, MA[1], Andrey V. Kartashov, MS[2], Artem Barski, PhD[3] and Patricia C. Fulkerson, MD, PhD[4], [1]Division of Allergy and Immunology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [2]Division of Allergy and Immunology, Cincinnati Children's Hospital Medical Center, [3]Division of Allergy and Immunology, Division of Human Genetics, Cincinati Children's Hospital Medical Center, [4]Allergy and Immunology, Division of Allergy and Immunology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

Best of ADT

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Sunday, February 22nd, 2015, 4:00 PM - 6:00 PM

526 A Role of IL1RL1 in Epigenetic Transgenerational Transmission of Asthma

Sabarinath Reddy Tetali[1], Syed H. Arshad, DM, FRCP[2,3], Gabrielle A. Lockett, PhD[4], John W. Holloway, PhD[4] and Wilfried Karmaus, MD, DrMed, MPH[1], [1]University of Memphis, Memphis, TN, [2]The David Hide Asthma and Allergy Research Centre, United Kingdom, [3]University of Southampton, United Kingdom, [4]University of Southampton, Southampton, United Kingdom

527 Circulating Micro-RNAs Are Biomarkers and Potential Therapeutic Targets in Asthma

Faoud T. Ishmael, MD, PhD, FAAAAI[1], Timothy J. Craig, DO, FAAAAI[1], Avery August[2], Ronaldo Panganiban[3] and Alana Roff[3], [1]Penn State University College of Medicine, Hershey, PA, [2]Cornell University, [3]Penn State

528 Rhinovirus Species and Asthma Exacerbations in Inner-City Children

Ann T. Esquivel, MD, University of Wisconsin, Madison, Peter J. Gergen, MD, MPH, NIAID, 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, Haejin Kim, MD, Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, Petra Lebeau, Rho, Andrew H Liu, MD, FAAAAI, National Jewish Health, Denver, CO; University of Colorado School of Medicine, Jacqueline A Pongracic, MD, FAAAAI, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, Stephen J. Teach, MD, Children's National Health System, Washington, DC, 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 School of Medicine and Public Health, Madison, WI

529 Imputation from 328 African Ancestry Genomes Reveals New Associations with Asthma in DPP10

Hironori Masuko, MD, PhD[1], Nicholas M. Rafaels[2], Lili Huang, MPH[2], Sameer Chavan, MS[1], James G Wilson, MD[3], L. Keoki Williams, MD, MPH, FAAAAI[4], Lorraine B Ware, MD[5], Carole Ober, PhD[6], Deborah A. Meyers, PhD, FAAAAI[7], Tina V. Hartert, MD, MPH[8], Marilyn Foreman, MD, MS[9], Jean G Ford, MD[10], Esteban Gonza Burchard, MD, MPH[11], Eugene R. Bleecker, MD, FAAAAI[12], Georgia Dunston[13], Margaret Taub, PhD[14], Terri H Beaty, PhD[15], Ingo Ruczinski, PhD[15], Rasika A. Mathias, ScD[2] and Kathleen C Barnes[16], [1]Division of Allergy and Clinical Immunology, Department of Medicine, Johns Hopkins University,

Baltimore, MD, [2]Johns Hopkins University, Baltimore, MD, [3]Department of Physiology and Biophysics, University of Mississippi, Jackson, MS, [4]Henry Ford Health System, Detroit, MI, [5]Department of Medicine, Vanderbilt University, Nashville, TN, [6]University of Chicago, Chicago, IL, [7]Wake Forest School of Medicine, Winston Salem, NC, [8]Vanderbilt University School of Medicine, Nashville, TN, [9]Pulmonary and Critical Care Medicine, Morehouse School of Medicine, Atlanta, GA, [10]Department of Medicine, The Brooklyn Hospital Center, Brooklyn, NY, [11]UCSF, San Francisco, CA, [12]Wake Forest University School of Medicine, Winston Salem, NC, [13]Department of Microbiology, Howard University College of Medicine, Washington, DC, [14]Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, [15]Johns Hopkins University School of Public Health, Baltimore, MD, [16]Johns Hopkins Asthma & Allergy Center

530 DNA Methylation and Childhood Asthma in the Inner-City

Ivana Yang, PhD[1], Andrew H Liu, MD, FAAAAI[2,3], Brent Pedersen, PhD[4], George T. O'Connor, MD[5], Stephen J. Teach, MD[6], Meyer Kattan, MD[7], Rana T. Misiak, MD[8], Rebecca S. Gruchalla, MD, PhD, FAAAAI[9], Suzanne F Steinbach, MD[5], Stanley J. Szefler, MD, FAAAAI[10], Michelle A. Gill, MD, PhD[9], Agustin Calatroni, MA MS[11], Gloria L. David, PhD[11], Corinne E Hennessy, BS[12], Elizabeth J Davidson, BA[12], Weiming Zhang, PhD[13], Peter J. Gergen, MD, MPH[14], Alkis Togias, MD, FAAAAI[15], William W. Busse, MD, FAAAAI[16] and David A. Schwartz, MD[17], [1]Department of Medicine, University of Colorado Denver, Denver, CO, [2]University of Colorado School of Medicine, Aurora, CO, [3]National Jewish Health, Denver, CO, [4]University of Colorado Denver, Aurora, CO, [5]Boston University School of Medicine, Boston, MA, [6]Children's National Health System, Washington, DC, [7]NewYork-Presbyterian/Columbia, New York, NY, [8]Henry Ford Health System, Northville, MI, [9]UT Southwestern Medical Center, Dallas, TX, [10]The Breathing Institute, Children's Hospital Colorado, Aurora, CO, [11]Rho, Inc., Chapel Hill, NC, [12]University of Colorado School of Medicine, [13]Colorado School of Public Health, University of Colorado, [14]AAIB\DAIT\NIH, Bethesda, MD, [15]NIAID/NIH, Bethesda, MD, [16]University of Wisconsin School of Medicine and Public Health, Madison, WI, [17]University of Colorado Denver School of Medicine, Aurora, CO

Emerging Therapies and Insights for Clinical Allergy and Immunology

3802
Sunday, February 22nd, 2015, 4:00 PM - 6:00 PM

531 Dust Mite-Induced Dectin-2 Pathway Triggers IL-33 Generation in Leukotriene C4 Synthase- and CARD9-Independent Manner

Min Jung Lee, MD, Eri Yoshimoto, Andressa Pesarini, K. Frank Austen, MD, FAAAAI, Yoshihide Kanaoka, MD, PhD and Nora A. Barrett, MD, FAAAAI, Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA

532 Regulation and Production of Interleukin 35 Subunits, p35 and EBI3, in Human Bronchial Epithelial Cells

Atsushi Kato, PhD, Tetsuji Takabayashi, MD, Aiko I Klingler, PhD and Julie A Poposki, MS, Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL

533 How Well Does Whole Genome Sequencing Improve Ability to Detect Association with Asthma in Candidate Genes Compared to Existing GWAS Platforms in African American Populations?

Nicholas M Rafaels, MS[1], Henry R Johnston[2], Lili Huang, MPH[3], Sameer Chavan, MS[3], James G Wilson, MD[4], L. Keoki Williams, MD, MPH, FAAAAI[5], Lorraine B Ware, MD[6,7], Carole Ober, PhD[8], Deborah A. Meyers, PhD, FAAAAI[9], Tina V. Hartert, MD, MPH[10], Marilyn Foreman, MD, MS[11], Jean G Ford, MD[12,13], Esteban Gonza Burchard, MD, MPH[14], Eugene R. Bleecker, MD, FAAAAI[15], Margaret Taub, PhD[16], Terri H Beaty, PhD[16], Ingo Ruczinski, PhD[16], Rasika A. Mathias, ScD[3], Kathleen C. Barnes, PhD, FAAAAI[3] and C.a.a.P.a. Consortium[17], [1]Division of Allergy and Clinical Immunology, School of Medicine, Johns Hopkins University, Baltimore, MD, [2]Department of Biostatistics and Bioinformatics, Emory University, Atlanta, GA, [3]Division of Allergy and Clinical Immunology, Department of Medicine, Johns Hopkins University, Baltimore, MD, [4]Department of Physiology and Biophysics, University of Mississippi, Jackson, MS, [5]Henry Ford Health System, Detroit, MI, [6]Department of Medicine, Vanderbilt University, Nashville, TN, [7]Department of Pathology, Microbiology and Immunology, Vanderbilt University, Nashville, TN, [8]University of Chicago, Chicago, IL, [9]Wake Forest School of Medicine, Winston Salem, NC, [10]Vanderbilt University School of Medicine, Nashville, TN, [11]Pulmonary and Critical Care Medicine, Morehouse School of Medicine, Atlanta, GA, [12]Department of Medicine, The Brooklyn Hospital Center, Brooklyn, NY, [13]Department of Epidemiology, Johns Hopkins School of Public Health, Johns Hopkins University, Baltimore, MD, [14]Department of Medicine, University of California, San Francisco, San Francisco, CA, [15]Wake Forest University School of Medicine, Winston Salem, NC, [16]Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, [17]Johns Hopkins University, Baltimore, MD

534 Circulating Rhinovirus-Specific CD4+ T Cells in Uninfected Subjects Recognize Conserved Epitopes

Lyndsey Muehling, MS[1], William W. Kwok, PhD[2], Rachana Agrawal, PhD[3], Paul Wright, BS[3], Judith A. Woodfolk, MBChB, PhD, FAAAAI[1] and Duy Mai, MSc[4], [1]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [2]Benaroya Research Institute at Virginia Mason, Seattle, WA, [3]University of Virginia Health System, Charlottesville, VA, [4]Benaroya Research Institute at Virginia Mason

535 Role of Natural Killer (NK) Cell Surface Receptor –NKp46– in Primary Influenza A Infection

Moyar Q. Ge[1,2], Blerina Kokalari[2], Anisha Kolupoti[2], Kerry S. Campbell, PhD[3] and Angela Haczku, MD, PhD, FAAAAI[4], [1]National University of Singapore, Singapore, Singapore, [2]University of Pennsylvania, Philadelphia, PA, [3]Fox Chase Cancer Center, Philadelphia, PA, [4]University of California at Davis, Davis, CA

Allergens and Pollutants in Childhood and Adult Asthma

3803
Sunday, February 22nd, 2015, 4:00 PM - 6:00 PM

536 Bla g 2 Hypoallergens Retaining the Native Fold and Capacity to Modulate T Cell Reactivity Provide Candidates for Cockroach Immunotherapy

Anna Pomés, PhD, FAAAAI[1], Jill Glesner, BS[1], Judith A. Woodfolk, MBChB, PhD, FAAAAI[2], Paul Wright, BS[3], Christopher L. Kepley, PhD, MBA, FAAAI[4], Mi Li, MS[5], Martin Himly, PhD[6], Alla Gustchina, PhD[5], Alexander Wlodawer, PhD[5] and Martin D. Chapman, PhD, FAAAAI[1], [1]Indoor Biotechnologies, Inc., Charlottesville, VA, [2]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [3]University of Virginia, Charlottesville, VA, [4]Joint School of Nanoscience and Nanoengineering, University of North Carolina, Greensboro, NC, [5]National Cancer Institute, Frederick, MD, [6]University of Salzburg, Salzburg, Austria

537 Protective Role of Hydrogen Sulfide in Paramyxovirus Infection

John P. Kelley, MD, Hui Li, PhD, Yinghong Ma,

SUNDAY

SUNDAY

Teodora Ivanciuc, PhD, Narayana Komaravelli, PhD, Ciro Coletta, PhD, Csaba Szabo, PhD, Roberto P. Garofalo, MD and Antonella Casola, MD, University of Texas Medical Branch, Galveston, TX

538 Accurate Assessment of Personal Air Pollutant Exposures in Inner-City Asthmatic Children

Cullen M Dutmer, MD[1,2], Allison M Schiltz, BA[1], Anna Faino, MS[1], Nathan Rabinovitch, MD, MPH[1], Seung-Hyun Cho, PhD[3], Ryan T Chartier, MS[3], Charles E Rodes, PhD[3], Jonathan W Thornburg, PhD[3] and Andrew H Liu, MD, FAAAAI[1,2], [1]National Jewish Health, Denver, CO, [2]University of Colorado School of Medicine, Aurora, CO, [3]RTI International, Research Triangle Park, NC

539 High Dose Acetaminophen Fails to Promote Airway Hyper-Reactivity Ex Vivo and Is Both Bronchoprotective and Bronchodilatory

Richard Kurten, PhD[1,2], Sandra McCullough, BS[1], Stacie M. Jones, MD[3], Dean Roberts, PhD[2,4], Laura James, MD[1,2] and Josh L. Kennedy, MD[1], [1]University of Arkansas for Medical Sciences, Little Rock, AR, [2]Arkansas Children's Hospital Research Institute, Little Rock, AR, [3]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR, [4]University of Arkansas for Medical Sciences, Little Rock

540 Agreement Between Caregiver Report and Hospital and School Records

Jessica P. Hollenbach, PhD[1], Michelle M. Cloutier, MD[2,3], Deborah Steciak[2], Herman Mitchell, PhD[4], Miguel Villarreal[4], Shann Williams[4], Melanie C. Gleason, PA[5] and Stanley J. Szefler, MD, FAAAAI[5], [1]Connecticut Children's Medical Center, Hartford, CT, [2]University of Connecticut Health Center, Farmington, CT, [3]CT Children's Medical Center, Hartford, CT, [4]Rho, Inc., Chapel Hill, NC, [5]The Breathing Institute, Children's Hospital Colorado, Aurora, CO

Exciting Research from FADDA

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Sunday, February 22nd, 2015, 4:00 PM - 6:00 PM

541 RNA Sequencing Identifies ANKRD1 As a Novel Anti-Viral Gene Downregulated in Atopic Dermatitis Complicated By Eczema Herpeticum

Lianghua Bin, MD, PhD[1], Brittany Richers, BS[1], Joanne E Streib, BA[1], Michael G Edwards[2] and Donald Y.M. Leung, MD, PhD, FAAAAI[1], [1]National Jewish Health, Denver, CO, [2]University of Colorado at Denver

542 Immunization with ARA h1,2,3-Lamp-Vax Peanut Vaccine Blocked IgE Mediated-Anaphylaxis in a Peanut Allergic Murine Model

Xiu-Min Li, MD, MS[1], Ying Song, MD[2], Yan Su[3], Teri Heiland[3] and Hugh A. Sampson, MD[1], [1]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [2]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, [3]Immunomic Therapeutics Inc, Rockville, MD

543 Clinical and Immunological Effects of Aspirin Desensitization in Patients with Aspirin Exacerbated Respiratory Diseases; A Randomized, Double Blind, Placebo Controlled Trial

Hossein Esmaeilzadeh, MD[1,2], Mohammad Nabavi[3], Saba Arshi[4], Mohammad Hassan Bemanian[5], Morteza Fallahpour[5] and Zahra Aryan[6], [1]Department of Allergy and Immunology, Rasool-e-Akram Hospital, Tehran University of Medical Sciences, Tehran, Iran, Tehran, [2]2- Research Center for Immunodeficiencies, Pediatrics Center of Excellence, Children's Medical Center, Tehran University of Medical Sciences, Tehran, Iran, [3]Department of Allergy and Immunology, Rasool-e-Akram Hospital, Tehran University of Medical Sciences, Tehran, Iran, Iran, [4]Department of Allergy and Immunology, Rasool-e-Akram Hospital, Tehran University of Medical Sciences, Tehran, Iran, [5]Department of Allergy and Immunology, Rasool-e-Akram Hospital, Tehan University of Medical Sciences, Tehran, Iran, [6]Molecular Immunology Research Center; and Department of Immunology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

544 Dupilumab Improves Patient-Reported Outcomes (PROs) in a Phase 2 Study in Adults with Moderate-to-Severe Atopic Dermatitis

Eric Simpson, MD, MCR[1], Margitta Worm, MD[2], Weily Soong, MD, FAAAAI[3], Andrew Blauvelt, MD, MBA[4], Laurent Eckert[5], Richard Wu, PhD[6], Marius Ardeleanu, MD[6], Neil Graham, MD[6], Gianluca Pirozzi, MD, PhD[7], E. Rand Sutherland, MD, MPH[8] and Vera Mastey[6], [1]OHSU, Portland, OR, [2]Charite - Universitätsmedizin Berlin, Berlin, Germany, [3]Alabama Allergy & Asthma Center, Birmingham, AL, [4]Oregon Medical Research Center, Portland, OR, [5]Sanofi, Paris, France, [6]Regeneron Pharmaceuticals, Inc., Tarrytown, NY, [7]Sanofi, Bridgewater, NJ, [8]Sanofi, Cambridge, MA

545 Fpies Epidemiology in Australia: Results from a 2-Year Prospective Population Study

Sam S. Mehr, MBBS, BMedSci, FRACP, FRCPA[1], Dianne Campbell, FRACP, PhD[2], Preeti Joshi, FRACP, PhD[3], Joanne Smart, FRACP, PhD[4], Jane E. Peake, FRACP, PhD[5], Peter Kenneth Smith, FRACP, PhD[6], Michael Gold, FRACP, PhD[7], Brynn Wainstein, FRACP, PhD[8], Katrina Jane Allen, FRACP, PhD, FAAAAI[9], Mimi L. K. Tang, FRACP, PhD, FAAAAI[9], Richard K.S. Loh, FRACP, FRCPA, FAAAAI[10], Alyson Margaret Kakakios, FRACP[11], Melanie Wong, FRACP, FRCPA, PhD[12], Yvonne Zurynski, BAppSc, MAppSC, PhD[13] and Katie Frith, FRACP[14], [1]Department of Allergy and Immunology, Children's Hospital at Westmead, Westmead, Australia, [2]Department of Allergy and Immunology, Children's Hospital, Westmead, [3]Department of Allergy and Immunology, Children's Hospital at Westmead, Sydney, Australia, [4]Department of Allergy and Immunology, Royal Children's Hospital Melbourne, Victoria, Parkville, Australia, [5]Queensland Paediatric Immunology and Allergy Service, Royal Children's Hospital, Brisbane, Queensland, Queensland, Australia, [6]5Department of Clinical Medicine, Griffith University, Queensland, Southport, Australia, [7]Department of Allergy and Immunology, Women's and Children's Hospital, Adelaide, SA, [8]Department of Allergy and Immunology, Sydney Children's Hospital, Sydney, Sydney, Australia, [9]Royal Children's Hospital and Murdoch Childrens Research Institute, Melbourne, Australia, [10]Department of Allergy and Immunology, Princess Margaret Hospital, Perth, WA, Perth, Australia, [11]Children's Hospital at Westmead, Paediatric Allergy & Immunology, Westmead, Australia, [12]Children's Hospital at Westmead, Paediatric Allergy & Immunology, [13]Deputy Director, APSU, [14]Department of Allergy and Immunology, Sydney Children's Hospital, Sydney

Best of HEDQ

3805
Sunday, February 22nd, 2015, 4:00 PM - 6:00 PM

546 Indoor Tobacco Legislation and Emergency Department Visits for Asthma in Children

Christina E. Ciaccio, MD, FAAAAI[1,2] and Theresa I Shireman[1], [1]University of Kansas School of Medicine, Kansas City, KS, [2]Children's Mercy Hospital, Kansas City, MO

547 Risks for Gestational Eczema: Family-History of Eczema and DNA Methylation

Wilfried Karmaus[1], Hongmei Zhang, PhD[2], Syed H. Arshad, DM, FRCP[3,4], John W. Holloway, PhD[5] and Susan L. Ewart, DVM, PhD[6], [1]Division of Epidemiology, Biostatistics, and Environmental Health, School of Public Health, University of Memphis, Memphis,

TN, [2]University of Memphis, Memphis, TN, [3]The David Hide Asthma and Allergy Research Centre, United Kingdom, [4]University of Southampton, United Kingdom, [5]University of Southampton, Southampton, United Kingdom, [6]Michigan State University, East Lansing, MI

548 Breastfeeding Is Associated with Infant Gut Microbial Composition

Kyra J Jones, MEd[1], Alexandra R. Sitarik, MS[2], Kei Fujimura, PhD[3], Christine Cole Johnson, PhD, MPH, FAAAAI[2], Suzanne Havstad, MA[2], Haejin Kim, MD[4], Andrea Cassidy-Bushrow, PhD[2], Kevin Bobbitt, PhD[2], Nicholas W. Lukacs, PhD[5], Kimberley J. Woodcroft, PhD[2], Edward M. Zoratti, MD, FAAAAI[4], Albert M Levin, PhD[2], Ganesa R Wegienka, PhD[2], Susan V. Lynch, PhD[3], Homer A. Boushey Jr, MD, FAAAAI[6] and Dennis R. Ownby, MD, FAAAAI[7], [1]Department of Public Health Sciences, Henry Ford Hospital, Detroit, MI, [2]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI, [3]University of California San Francisco, San Francisco, CA, [4]Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, [5]University of Michigan, Ann Arbor, MI, [6]University of California, San Francisco, San Francisco, CA, [7]Department of Pediatrics, Georgia Regents University, Augusta, GA

549 Comparative Effectiveness of Stepping Down Asthma Medications in a Nationally Representative Sample

Matthew A. Rank, MD, FAAAAI[1], Juliette Liesinger[2], Megan Branda[2], Michael Gionfriddo[2], Michael Schatz, MD, MS, FAAAAI[3], Robert S. Zeiger, MD, PhD, FAAAAI[3] and Nilay Shah[2], [1]Mayo Clinic, Scottsdale, AZ, [2]Mayo Clinic Midwest, [3]Kaiser Permanente Southern California, San Diego, CA

550 Breath Connection: A School-Based Telemedicine Program for Rural Children with Asthma

Tamara T. Perry, MD[1,2], Jill S. Halterman, MD, MPH[3], Rita H. Brown, BA[1,2], Cassandra R. Hunter, MPH[1], Shemeka M. Randle, MS[1], J Mick Tilford, PhD[1] and Mallikarjuna Rettiganti, PhD[1,2], [1]University of Arkansas for Medical Sciences, Little Rock, AR, [2]Arkansas Children's Hospital, Little Rock, AR, [3]University of Rochester Medical Center, Rochester, NY

Some of the Very Best of IRSOC

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Sunday, February 22nd, 2015, 4:00 PM - 6:00 PM

551 Investigation of Molecular Characteristics of Aspirin Exacerbated Respiratory Disease

Whitney W. Stevens, MD, PhD[1], Christopher J. Ocampo, MD, PhD[1], James E. Norton, MS[1], Roderick G. Carter, BSc[1], Lydia Suh, BSc[1], Leslie C. Grammer, MD, FAAAAI[1], Kathryn E. Hulse, PhD[1], Anju T. Peters, MD, FAAAAI[1], Rakesh K. Chandra, MD[2], David B. Conley, MD[3], Robert C. Kern, MD[3], Bruce K. Tan, MD[3] and Robert P. Schleimer, PhD, FAAAAI[4], [1]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Otolaryngology, Vanderbilt University, Nashville, TN, [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

552 Epithelial Cell-Derived Cytokines Contribute to the Pathophysiology of Eosinophilic Chronic Rhinosinusitis

Hideaki Kouzaki, MD, PhD[1], Ichiro Tojima[1] and Takeshi Shimizu[2], [1]Shiga University of Medical Science, Otsu, Shiga, Japan, [2]Shiga University of Medical Science, Otsu, SHiga, Japan

553 Increased ILC2s in the Eosinophilic Nasal Polyp Endotype Are Associated with Corticosteroid Responsiveness

Hannah H. Walford, MD[1], Sean Lund, MS[2], Rachel Baum, BS[2], Andrew A. White, MD, FAAAAI[3], Christopher Bergeron, MD[4], Jacob Husseman, MD[1], Kelly Bethel[5], David R. Scott, MD[3], Marina Miller, MD, PhD[1], David H. Broide, MB, ChB, FAAAAI[2] and Taylor Doherty, MD, FAAAAI[2], [1]University of California, San Diego, La Jolla, CA, [2]University of California San Diego, La Jolla, CA, [3]Scripps Clinic, Division of Allergy, Asthma and Immunology, San Diego, CA, [4]Scripps Clinic, San Diego, CA, [5]Scripps Green Hospital

554 A New Strategy for Allergen-Specific Regulation of Allergic Rhinitis: The Use of Monoclonal Antibody Fab Fragments to Pathogenic Allergen

Shin Yoshino, Nobuaki Mizutani and Chutha Sae-Wong, Kobe Pharmaceutical University, Kobe, Japan

555 Subcutaneous Allergen Immunotherapy in Patient with "Local Allergic Rhinitis" Sensitized to *Dermatophagoides Pteronyssinus*

Carmen Rondon, MD, PhD[1], Paloma Campo, MD, PhD[1], Natalia Blanca-López, MD, PhD[2], Maria Del Carmen Plaza Seron, Bsc.[3], Francisca Gómez, MD, PhD[4], Maria Dolores Ruiz[4], Maria J Torres, MD, PhD[1] and Miguel Blanca, MD, PhD[4], [1]Allergy Unit, Regional University Hospital of Málaga, IBIMA, UMA, Málaga, Spain, [2]Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, [3]Allergy Service, Infanta Leonor Hospital, Madrid, Spain, [4]Allergy Service, IBIMA-Regional University Hospital of Malaga, Málaga, Spain

The Best of the Best: MAAI Featured Poster Session

3807
Sunday, February 22nd, 2015, 4:00 PM - 6:00 PM

556 Respiratory Syncytial Virus Induces IL-13+ Group 2 Innate Lymphoid Cells Via TSLP

Matthew T. Stier[1], Shinji Toki, PhD[2], Kasia Goleniewska[2], Martin L. Moore[3] and R. Stokes Peebles, Jr[1,2], [1]Department of Pathology, Microbiology, and Immunology, Vanderbilt University School of Medicine, Nashville, TN, [2]Allergy, Pulmonary, and Critical Care Medicine, Department of Medicine, Vanderbilt University School of Medicine, Nashville, TN, [3]Department of Pediatrics, Emory University, GA

557 Mast Cells Expressing the Germline HPS1 16-Bp Duplication (c.1470_1486dup16, Hermansky-Pudlak Syndrome-1) Defect Produce Extracellular Matrix Components

Arnold S Kirshenbaum, MD, FAAAAI[1], Geethani Bandara, PhD[1], Avanti Desai, MS[1], Elizabeth Fischer, PhD[1], Maarten Leerkes, PhD[2], Dean D. Metcalfe, MD[1] and Glenn Cruse, PhD[1], [1]Laboratory of Allergic Diseases, NIAID, NIH, Bethesda, MD, [2]Bioinformatics and Computational Biosciences Branch, NIAID, NIH, Bethesda, MD

558 Leukotriene C4 Potentiates IL-33-Induced ILC2 Activation and Lung Inflammation through CysLT1R

Sean Lund, MS[1], Alex Portillo[2], Rachel Baum, BS[1], David Broide[2] and Taylor Doherty, MD, FAAAAI[1], [1]University of California San Diego, La Jolla, CA, [2]University of California, San Diego, La Jolla, CA

559 Immunoproteomic Analysis of German Cockroach (Blattella germanica) Reveals Antigens Differentially Recognized As a Function of Disease Severity

Myles B. Dillon, Véronique M. Schulten, Denise Hinz, Carla Oseroff, Laura Dullanty, Victoria Tripple, John Pham, Sinu Paul, April Frazier, John Sidney, Bjoern Peters and Alessandro Sette, Biol. Sci., La Jolla Institute for Allergy and Immunology

560 Identification and Characterization of Leucine-Rich Repeat Containing Protein 31 (LRRC31) in Eosinophilic Esophagitis

Rahul J. D'Mello, BS[1,2], Julie M. Caldwell, PhD[1], Ting Wen, PhD[1], Joseph D. Sherrill, PhD[1] and Marc E. Rothenberg, MD, PhD[1],

SUNDAY

[1]Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, OH, [2]Medical Scientist Training Program, University of Cincinnati College of Medicine, Cincinnati, OH

Allied Health Featured Poster Session

3811
Sunday, February 22nd, 2015, 4:00 PM - 6:00 PM

561 **A Severe Asthma Clinic for Children Provides the Structure to Characterize Co-Morbidities and Health Care Barriers**
Lila C. Kertz, MSN, RN, CPNP, AE-C and Katherine Rivera, MD, Washington University School of Medicine, St. Louis, MO

Asthma: Biomarkers and Controls

4201
Monday, February 23rd, 2015, 9:45 AM - 10:45 AM

562 **Relationships Between Impaired FEF25-75 and Feno in Children with Asthma**
Eunji Kim[1], Insoon Kang II[2], Jae Won Choi[2], Wonsuck Yoon[2], Sungchul Seo[2], Ji Tae Choung, MD[3] and Young Yoo, MD, PhD[2,4], [1]Department of Pediatrics, Seoul, South Korea, [2]Allergy Immunology Center, Seoul, South Korea, [3]Department of Pediatrics, Korea University Hospital, Seoul, South Korea, [4]Department of Pediatrics, College of Medicine, Korea University, Seoul, South Korea

563 **Comparison of Two Handheld Fractional Exhaled Nitric Oxide Measurements in the Assessment of Asthma Patients**
Sujeong Kim, MD[1], Woo-Jung Song, MD[2], Jong-Myung Lee, MD, PhD[1], Hye-Ryun Kang, MD, PhD[2], Heung-Woo Park, MD, PhD[2], Sang Heon Cho, MD, PhD[2] and Kyung-Up Min, MD, PhD[2], [1]Department of Internal Medicine, Kyungpook National University School of Medicine, Daegu, South Korea, [2]Department of Internal Medicine, Seoul National University College of Medicine, Seoul, South Korea

564 **Exhaled Nitric Oxide, Lung Function, and Asthma Control in Children and Adolescents**
Gustavo Wandalsen, MD[1], Danielle Chaves[2], Fernanda C Lanza[2] and Dirceu Sole, MD, PhD, FAAAAI[1], [1]Federal University of São Paulo, São Paulo, Brazil, [2]Federal University of Sao Paulo

565 **The Predictors for Asthma Control By Stepwise Treatment in Elderly Asthma Patients**
Ga Young Ban, MD[1], Young Min Ye, MD[1], Youn hwan Lee[2], So Hee Lee[1], Jeong-Eun Kim, MD[3], Young-Hee Nam, MD[4], Soo-Keol Lee, MD[5], Joo-Hee Kim, MD[6], Jung Ki-Suck[7], Sang-Ha Kim, MD, PhD[8] and Hae-Sim Park[9], [1]Department of Allergy & Clinical Immunology, Ajou University School of Medicine, Suwon, South Korea, [2]Department of Preventive Medicine & Public Health, Ajou University school of medicine, South Korea, [3]Samsung Changwon Hospital, Changwon, South Korea, [4]Department of Internal Medicine, College of Medicine, Dong-A University, Busan, South Korea, [5]Dong-A University College of Medicine, Pusan, South Korea, [6]Hallym University School of Medicine, Anyang, [7]Hallym University school of medicine, South Korea, [8]Yonsei University Wonju College of Medicine, Wonju, South Korea, [9]Ajou University School of Medicine

566 **Factors Associated with Asthma Control 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

567 **Asthma Control Based on ACT Score in a Pediatric Population**
Divya Jayaraman, MD, Children's Hospital of Pittsburgh, UPMC, Pittsburgh, PA and Todd David Green, MD, FAAAAI, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA

568 **Poor Sleep Quality As a Risk Factor for Poorly-Controlled Asthma in Children**
Youn Ho Shin, MD[1,2], Sun Jung Jang[3], Ji Hyeon Baek[3], Hye Mi Jee, MD[4], Kyu Young Chae[3], Kyu-Earn Kim, MD, PhD[5] and Man-Yong Han, MD, PhD[3], [1]Mayo Clinic, Rochester, MN, [2]Department of Pediatrics, CHA Gangnam Medical Center, CHA University School of Medicine, Seoul, Seoul, South Korea, [3]Department of Pediatrics, CHA University School of Medicine, Seongnam, South Korea, [4]Department of Pediatrics, CHA University School of Medicine, Seongnam, Korea, South Korea, [5]Yonsei University College of Medicine, Seoul, Korea

569 **Development of a Clinical Lab Assay for Assessment of Eosinophil Peroxidase in Sputum**
Sergei I Ochkur, PhD[1], Cheryl A Protheroe[1], Katie R Zellner[1], Dana C Colbert[1], Nancy A Lee, PhD[1], Parameswaran K. Nair, MD, PhD, FRCP, FRCPC[2] and James J. Lee, PhD[3], [1]Mayo Clinic Arizona, Scottsdale, AZ, [2]Firestone Institute for Respiratory Health, Hamilton, ON, Canada, [3]Mayo Clinic in Arizona, Scottsdale, AZ

570 **Development and Initial Testing of Whole Blood Cell Stimulation Assay to Determine Th1 Vs. Th2 Immune Profiles**
Jenna Podjasek, MD[1], Chung I. Wi, MD[2], Hirohito Kita, MD[3], Elizabeth Theel, PhD[4] and Young J. Juhn, MD, MPH[2], [1]Mayo Clinic, Rochester, MN, [2]Dept of Pediatric and Adolescent Medicine, Mayo Clinic, Rochester, MN, [3]Departments of Immunology and Internal Medicine, Mayo Clinic, Rochester, MN, [4]Mayo Clinic

Lung Function, Asthma Mechanisms and Inflammation

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571 **Role of FEF25-75 and Bronchodilator Response in Childhood Asthma Control and Morbidity Among Inner-City Children with Asthma**
Watcharoot Kanchongkittiphon, MD, PhD[1], Elizabeth C. Matsui, MD, MHS[2], Jonathan M. Gaffin, MD, MMSc[3], Carter Petty, MA[3], Rachel Miller, MD[4], Matthew S. Perzanowski, PhD[5], Mary E. Bollinger, DO[6] and Wanda Phipatanakul, MD, MS[3], [1]Children's Hospital of Michigan, Detroit, MI, [2]Johns Hopkins University School of Medicine, Baltimore, MD, [3]Boston Children's Hospital, Boston, MA, [4]Division of Pulmonary, Allergy and Critical Care Medicine, Columbia University, New York, NY, [5]Department of Environmental Health Sciences, Columbia University, New York, NY, [6]Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD

572 **Lung Function in an Asthmatic Cohort in Puerto Rico**
Maristely Rodriguez Roa, MD, Javier A. Mendez, MD, Roberto Rivera, PhD, Angel Laureano, MD and Sylvette Nazario, MD, University of Puerto Rico School of Medicine, San Juan, PR

573 **A Single Breath Method to Assess the Relative Contribution of Central and Peripheral Airways to Overall Exhaled Breath Temperature**
Todor A. Popov, MD, PhD[1], Diana Hristova[2], Tanya Kralimarkova[2], Dimitar Popov[2], Andrey Popov[2], Simeon Uzunov[2],

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Vasil Dimitrov[2] and Lawrence M. DuBuske, MD, FAAAAI[3], [1]Alexander's University Hospital, Sofia, Bulgaria, [2]Sofia Medical University, Sofia, Bulgaria, [3]George Washington University School of Medicine, Washington, DC

574 Age-Dependent Cut Points for Airway Hyperresponsiveness to Distinguish Asthma from Healthy Children in Methacholine Challenge Test

Ji-Won Kwon, MD[1], Eun Lee[2], Song-I Yang, MD[2], Young-Ho Ho Jung, MD[3], Ju-Hee Seo, MD[4], Byoung-Ju Kim, MD, PhD[5], Hyo-Bin Kim, MD, PhD[6], So Yeon Lee, MD, PhD[7,8], Woo Kyung Kim, MD, PhD[9], Jung Yeon Shim, MD, PhD[10] and Soo-Jong Hong, MD, PhD[2], [1]Department of Pediatrics, Seoul National University Bundang Hospital, Seongnam, South Korea, [2]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, [3]Department of Pediatrics, Childhood Asthma Atopy Center, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, South Korea, [4]Department of Pediatrics, Korea Cancer Center Hospital, Seoul, South Korea, [5]Department of Pediatrics, Hae-undae Paik Hospital, Inje University College of Medicine, Busan, South Korea, [6]Department of Pediatrics,Inje University Sanggye Paik Hospital, Seoul, South Korea, [7]Department of Pediatrics, Hallym University College of Medicine, Seoul, South Korea, [8]Research Center for Standardization of Allergic Diseases, Seoul, South Korea, South Korea, [9]Department of Pediatrics, Seoul Paik Hospital, Inje University College of Medicine, Seoul, South Korea, [10]Department of Pediatrics, Kangbuk Samsung Hospital, Sungkyunkwan University College of Medicine, Seoul, South Korea

575 Comparison of Clinical Characteristics Between Positive and Negative Response to Mannitol Provocation Test in Asthmatics

Young-Hee Nam, MD[1], Dong-Sub Jeon[2], Hye-Won Lee, MD[1], Soo-Keol Lee, MD[3] and Soo-Keol Lee, MD[3], [1]Department of Internal Medicine, College of Medicine, Dong-A University, South Korea, [2]Department of Internal Medicine, College of Medicine, Dong-A University, Busan, South Korea, [3]Dong-A University College of Medicine, Pusan, South Korea

576 Standardized Airway Resistances Are Practical Parameters for Asthmatic Children Who Cannot Perform Spirometry

Shintaro Okazaki, MD[1], Hiroki Murai, MD, PhD[2], Hisako Hayashi, MD, PhD[1], Akiko Kawakita, MD[1], Motoko Yasutomi, MD, PhD[1] and Yusei Ohshima, MD, PhD[1], [1]University of Fukui, Fukui, Japan, [2]University of Fukui, Yoshida-gun, Japan

577 Esophagogastroduodenal Mucosal Behavior after Bronchial Challenge with House Dust Mites in Allergic Asthmatic Patients

Rosana C. Agondi, MD, PhD[1], Tomas Navarro-Rodriguez[2], Ricardo Barbuti[2], Carla Bisaccioni, MD[1], 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]Gastroenterology Division, University of Sao Paulo, Brazil

578 Effect of Dithiothreitol on Sputum Interleukin-13 Protein Measurement

Tara F. Carr, MD[1], Amber Spangenberg[2], Jennifer L. Hill, MD[1], Marilyn J. Halonen, PhD[1,2] and Fernando D. Martinez, MD[1,2], [1]Arizona Respiratory Center, University of Arizona, Tucson, AZ, [2]Bio 5 Institute, University of Arizona

579 The Flavonoid 7,4'- Dihydroxyflavone Inhibits Human Airway Epithelial Cells MUC5AC Mucin Production Via Regulation of NF-êb, STAT6 and HDAC2

Changda Liu, PhD[1], David Weir[2], Swathi Chakrapani[3], Paula J Busse, MD, FAAAAI[2], Nan Yang, PhD[1], Zhenwen Zhou[3], Charles W Emala[4] and Xiu-Min Li, MD, MS[1], [1]Pediatric Allergy and Immunology, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY, [3]Icahn School of Medicine at Mount Sinai, [4]Columbia University

580 The Effect of Age on Airway Inflammation in Younger and Older Patients with Asthma

Janette Birmingham, MS[1], Joseph Manzi[1], Juan Wisniversky, MD, MPH, DrPH[1], Alex Federman, MD, MPH[1], Yang Gao[1] and Paula J Busse, MD, FAAAAI[2], [1]Mount Sinai School of Medicine, [2]Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY

581 Systemic IL-17 Signaling Relates to Gender, Disease Severity and Use of Oral Steroids in Children with Asthma

Mohanna Mahmoud Alavi[1], Bjoern Nordlund, PhD[2], Sara Thunberg[3], Hans Gronlund[3], Joakim Lundahl[3], Gunilla Hedlin, MD, PhD[4], Anders Linden[5] and Jon Konradsen, MD, PhD[6], [1]Lung/Allergy clinic, Karolinska university hospital, Stockholm, Sweden, [2]Karolinska Institutet, Bromma, Sweden, [3]Karolinska institute, [4]Karolinska Institutet, Stockholm, Sweden, [5]Lung/Allergy clinic, Karolinska university hospital, [6]Karolinska Institutet

582 Mouse Sensitization and Exposure Are Associated with Prescribed Treatment Step and Asthma Severity Among Low Income, Minority Children

Torie Grant, MD[1], Charles Aloe, MPH[1], Matthew S. Perzanowski, PhD[2], Wanda Phipatanakul, MD, MS[3], Mary E. Bollinger, DO[4], Rachel Miller, MD[2,5] and Elizabeth C. Matsui, MD, MHS[1], [1]Division of Pediatric Allergy/Immunology, Johns Hopkins School of Medicine, Baltimore, MD, [2]Department of Environmental Health Sciences, Columbia University, New York, NY, [3]Division of Pediatric Allergy/Immunology, Boston Children's Hospital, Harvard University School of Medicine, Boston, MA, [4]Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD, [5]Division of Pulmonary, Allergy and Critical Care Medicine, Department of Medicine, Columbia University, New York, NY

Immunology Cases and Case Series

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583 Immunodeficiency Associated with FOXP1 (3p13) Deletion

Adrianne C. Netterville, MD, Louisiana State University Department of Pediatrics, New Orleans, LA, Luke A Wall, MD, LSUHSC, New Orleans, LA and Yves Lacassie, LSUHSC

584 A Novel Case of Idiopathic CD4 Lymphopenia Presenting with Disseminated Coccidioidomycosis

Ashish K. Mathur, MD and Tara F. Carr, MD, University of Arizona Medical Center, Division of Pulmonary, Allergy, Critical Care and Sleep Medicine, Tucson, AZ

585 Resolution of Treatment-Resistant Recurrent Aphthous Stomatitis with Colchicine in a Patient with Muckle-Wells Syndrome: A Case Report

Brittany Esty, MD, Department of Pediatrics, University of Utah, Salt Lake City, UT and Rafael Firszt, MD, MBA, Pediatrics, Department of Pediatrics, University of Utah, Salt Lake City, UT

586 Clinical Phenotypes of Patients with NK Cell Functional Abnormalities

Miren Guenechea-Sola, MD and Katherine E. Gundling, MD, UCSF, San Francisco, CA

587 Concurrent Familial Cold Autoinflammatory Syndrome and Rheumatoid Arthritis

Swetha Gadwala, M.D, James A Tarbox, MD and Goutam Shome, MD, PhD, FAAAAI, Texas Tech University Health Sciences Center, Lubbock, TX

588 Lymphopenia and Polyclonal Hypergammaglobulinemia Following Silicone Gluteal Injections for Cosmetic Purposes: A Case Series

Roxanne C. Oriel, MD, Tansar Mir, MD and Olga Belostotsky, MD, PhD, NSLIJ-Lenox Hill Hospital, New York, NY

589 **The Prevalence of Immune Deficiency in Patients with Evans Syndrome: A Retrospective Chart Review Study**

Supriya Jain, MD, North Shore-LIJ Health System, Cohen Children's Medical Center, Department of Pediatrics, Division of Allergy & Immunology, Great Neck, NY, Punita Ponda, MD, FAAAAI, Allergy and Immunology, North Shore-LIJ Health System, Great Neck, NY, Joanne Moreau, MD, North Shore-LIJ Health System, Department of Pediatrics, Division of Allergy & Immunology, Great Neck, NY and Cristina Sison, PhD, Senior Research Statistician, Feinstein Institute for Medical Research, Biostatistics Unit, North Shore-LIJ Health System, Manhasset, NY

590 **Prompt Diagnosis of Autosomal Dominant Hyper IgE Syndrome Leads to Reduced Infection and Improved Clinical Phenotype**

Kelli W Williams, MD, MPH[1], Katherine McGowan, BS[1], Kathryn J Sowerwine, MD[2], Joie Davis, P.N.P.[1], Steven M Holland, MD[1] and Alexandra F Freeman, MD[3], [1]Laboratory of Clinical Infectious Diseases, NIAID/NIH, Bethesda, MD, [2]Dermatology Specialists of Virgnia, Reston, VA, [3]NIH/NIAID, Laboratory of Clinical Infectious Diseases, Bethesda, MD

591 **Improvement of Recurrent Infections after IVIG Supplementation in a Patient with Leukocyte Adhesion Deficiency III with a Novel Missense Mutation in FERMT3**

Narissara Suratannon, MD[1,2], Patra Yeetong[3,4], Chalurmpon Srichomthon[3,4], Pantipa Chatchatee, MD[2], Martin van Hagen[1,5], Gertjan J. Driessen[1,6], Mirjam van der Burg[1], Darintr Sosothikul[7], Jarungchit Ngamphaiboon, MD[2], Kanya Suphapeetiporn[3,4] and Vorasuk Shotelersuk[3,4], [1]Departments of Immunology, Erasmus MC, Rotterdam, Netherlands, [2]Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [3]Excellence Center for Medical Genetics, King Chulalongkorn Memorial Hospital, the Thai Red Cross Society, Bangkok, Thailand, [4]Center of Excellence for Medical Genetics, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [5]Departments of Internal Medicine, Erasmus MC, Rotterdam, Netherlands, [6]Departments of Pediatric Infectious Disease and Immunology, Erasmus MC, Rotterdam, Netherlands, [7]Division of Pediatric Hematology/Oncology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

592 **Adjunctive Hyperbaric Oxygen Therapy (HBOT) in Patients with Primary Immunodeficiency**

Lorena R Pereira, MD, Duke University Medical Center, Durham, NC and Daniel H Conway, MD, St. Christopher's Hospital for Children, Philadelphia, PA

593 **Chronic Granulomatous Disease in China: New Study and a Systematic Review**

Jing Wu[1,2], WeiFan Wang[1,2], Hui Zhang[1,2], Wei Zhao[3] and Tongxin Chen[1,2], [1]Department of Allergy and Immunology, Shanghai Children's Medical Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China, [2]Division of Immunology, Institute of Pediatric Translational Medicine, Shanghai Jiao Tong University School of Medicine, Shanghai, China, [3]Division of Allergy and Immunology, Department of Pediatrics, Virginia Commonwealth University

594 **Gastric Adenocarcinoma in the Setting of X-Linked Agammaglobulinemia (XLA) and HIV**

Sana Hasan, MD[1], Vagish Hemmige[1], Lisa R. Forbes, MD[2], Jordan S. Orange, MD, PhD, FAAAAI[3] and Joud Hajjar, MD[4], [1]Baylor College of Medicine, [2]Baylor College of Medicine-Texas Children's Hospital, Section of Immunology, Allergy, and Rheumatology, Houston, TX, [3]Texas Children's Hospital, Houston, TX, [4]Baylor Colleage of Medicine, Houston, TX

595 **Immunomodulators Use Unmasking Immunodeficiency in 3 Patients with Low IgA: Misdiagnosis or Complication?**

Carla Irani, MD, FAAAAI[1], Maya Boustani[2], Georges Maalouly[2] and Jacques Choucair[2], [1]Hotel Dieu de France hospital St Joseph University, Beirut, Lebanon, [2]Hotel Dieu de France hospital, St Joseph University, Beirut, Lebanon

596 **A Young Male with Systemic Lupus Erythematosus Presenting with Seizures Secondary to Posterior Reversible Encephalopathy Syndrome (PRES)**

Sima J. Patel[1], Jonathan Paramo, Medical Student[1] and Eugenio Capitle, MD[2], [1]Rutgers New Jersey Medical School, Newark, NJ, [2]Rutgers-New Jersey Medical School, Newark, NJ

597 **Chronic Breast Abscess in a Previously Healthy Adolescent Female Due to X-Linked Chronic Granulomatous Disease with Extreme Lyonization**

Vuong A. Nayima, DO[1], T. Prescott Atkinson, MD, PhD, FAAAAI[2], Peter D Ray[1], Robert T Russell[3] and Marilyn J Crain[3], [1]University of Alabama - Birmingham, Birmingham, AL, [2]University of Alabama at Birmingham Department of Pediatrics, Birmingham, AL, [3]University of Alabama - Birmingham

598 **Interleukin-21 Receptor Defect: A Report of Two Brothers**

Grace T. Padron, MD[1], Vivian P. Hernandez-Trujillo, MD, FAAAAI[1] and William R. Blouin, ARNP[2], [1]Miami Children's Hospital, Miami, FL, [2]Miami Children's Hospital, North Miami, FL

599 **Hemophagocytic Lymphohistiocytosis in Adults: Spectrum of Severity, Therapy and Outcome**

Hana Saleh, MD[1], Jennifer Petts, DO[1] and Zuhair K. Ballas, MD, FAAAAI[1,2], [1]University of Iowa Health Care, Iowa City, IA, [2]VA Medical Center, Iowa City, IA

600 **Variable Presentations of Gain of Function STAT1 Mutations within a Single Institution with Features Beyond Chronic Mucocutaneous Candidiasis**

Sheila M. Bina, MD, Jenni Y. Yoon, MD and Jennifer W. Leiding, MD, University of South Florida, St. Petersburg, FL

601 **A Young Adult Male with Chronic Mucocutaneous Candidiasis (CMC) with Signal Transduction and Activator of Transcription 1 (STAT 1) Mutation and Progressive Multifocal Leukoencephalopathy (PML)**

Kathryn Marie Ruda Wessell, DO[1], Steven Holland, MD[2], Andrea Lisco, MD[3], Chaim M. Roifman, MD[4], Haig Tcheurekdjian, MD, FAAAAI[5] and Robert W. Hostoffer, DO[5], [1]University Hospitals Regional Hospitals Cleveland, Ohio, South Euclid, OH, [2]National Institutes of Health, Bethesda, MD, [3]University Hospitals Case Medical Center Cleveland Ohio, [4]The Hospital for Sick Children, Toronto, ON, Canada, [5]Allergy/Immunology Associates, Inc., South Euclid, OH

602 **STAT3 Signaling Hypersensitivity in a Child with Unicentric Castleman's Disease**

Charlotte H Rivas, University of Texas Medical School, Houston, TX and Dat Q. Tran, MD, University of Texas Medical School at Houston, Houston, TX

Expression Quantification and Structure of Allergens

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603 **The Major Allergens of Birch Pollen and Cow Milk, Bet v 1 and Bos d 5, Are Structurally Related to Human Lipocalin 2, Enabling Them to Manipulate T-Helper Cells Depending on Their Load with Siderophore-Bound Iron**

Erika Jensen-Jarolim, MD[1,2], Cristina Gomez-Casado, PhD, Ass.Prof.[3], Luis F F Pacios, PhD, Prof.[4], Gerlinde Hofstetter, MSc, BSc[5], Nadine Mothes-Luksch, MD[6], Georg A Roth, MD[7], Josef Singer, MD, PhD[2], Araceli Diaz-Perales, PhD, Prof[3] and Franziska Roth-Walter, PhD, Ass.Prof.[5], [1]Comparative Medicine, Messerli Research Institute of the University of Veterinary Medicine Vienna, Medical University Vienna and University

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Vienna, Austria, [2]Institute for Pathophysiology and Allergy Research, Center of Pathophysiology, Infectiology and Immunology, Medical University of Vienna, Austria, Vienna, Austria, [3]Biotechnology Department, Center for Plant Biotechnology and Genomics, Madrid, Spain, [4]Biotechnology Department, Center for Plant Biotechnology and Genomics, Technical University of Madrid, Madrid, Spain, [5]Comparative Medicine, Messerli Research Institute of the University of Veterinary Medicine Vienna, Medical University Vienna and University Vienna, Vienna, Austria, [6]AllergyCare, Molecular Diagnostics and Study Center, Vienna, Austria, [7]Department of Anesthesiology, General Intensive Care and Pain Medicine, Medical University of Vienna, Vienna, Austria

604 Analysis of GST Allergen Cross-Reactivity in a North American Population for Molecular Diagnosis

Geoffrey Mueller, PhD[1], Lars Pedersen[1], Jill Glesner, BS[2], Lori L Edwards[1], Josefina Zakzuk[3], Robert London[1], Luisa Karla P. Arruda, MD, PhD, FAAAAI[4], Martin D. Chapman, PhD, FAAAAI[2], Luis Caraballo, MD, PhD[3] and Anna Pomes, PhD, FAAAAI[2], [1]National Institute of Environmental Health Sciences, NIH, Research Triangle Park, NC, [2]Indoor Biotechnologies, Inc., Charlottesville, VA, [3]Institute for Immunological Research/ University of Cartagena, Cartagena, Colombia, [4]Ribeirao Preto Medical School - University of Sao Paulo, Ribeirao Preto, Brazil

605 Structural and Stability Studies of Profilins Amb a 8 and Art v 4

Maksymilian Chruszcz, PhD[1], Lesa Offermann[1], John He[1], Makenzie Perdue[1] and Krzysztof Kowal, MD, PhD[2], [1]University of South Carolina, Columbia, SC, [2]Medical University of Bialystok, Bialystok, Poland

606 Expression, Purification, and Characterization of Recombinant Coptotermes Formosanus Tropomyosin

Aurora M Vargas[1], Casey C Grimm, PhD[2] and Christopher P Mattison, PhD[2], [1]Louisiana State University, Baton Rouge, LA, [2]USDA-ARS-SRRC, New Orleans, LA

607 Quantitative Binding Assay for Measuring Specific IgG Antibodies to Alpha-Gal Using the Neoglycoprotein Gal-α-1,3-Gal-β-1,4-Glcnac-Human Serum Albumin

Alexander J. Schuyler, BS, BA[1], Hayley R. James, BS[2], Theo Rispens, PhD[3], Lisa J. Workman, BA[4], Matthew S. Perzanowski, PhD[5], Eva Ronmark, PhD[6], Scott P. Commins, MD, PhD[7] and Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[7], [1]Department of Medicine, Division of Asthma, Allergy and Immunology, University of Virginia, Charlottesville, VA, [2]Eastern Virginia Medical School, Norfolk, VA, [3]Sanquin Research, Amsterdam, Netherlands, [4]University of Virginia, Charlottesville, VA, [5]Department of Environmental Health Sciences, Columbia University, New York, NY, [6]Department of Public Health and Clinical Medicine, The OLIN Unit, Umea University, Umea, Sweden, [7]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA

608 Cloning, Expression and Purification of Recombinant per a 5 from Periplaneta americana

Swati Sharma[1], Dhanapal Govindaraj[2] and Naveen Arora, PhD[1], [1]CSIR - Institute of Genomics and Integrative Biology, Delhi, India, [2]CSIR Institute of Genomics and Integrative Biology, New Delhi, India

609 Cross-Reactivity Among Pho d 2 and Profilins from Different Pollen Allergenic Sources

Raquel Moya, M. Angeles López Matas, Raquel Reyes, Victor M Iraola and Jerónimo Carnés, Laboratorios LETI, Tres Cantos, Spain

610 Immunoglobulin E to Allergen Components of House Dust Mite in Children with Allergic Disease

Jong-seo Yoon, Dept. of Pediatrics The Catholic University of Korea, Sulmui Won, The Catholic University of Korea, Eu Kyoung Lee, Dept. of Pediatrics, College of Medicine, The Catholic University of Korea, Seoul, South Korea, Hwan Soo Kim, MD, Dept of Pediatrics, College of Medicine, The Catholic University of Korea, Yoon Hong Chun, Dept. of Pediatrics, College of Medicine, The Catholic University of Korea, Hyun Hee Kim, MD, PhD, Dept. of Pediatrics Bucheon St. Mary's Hospital The Catholic University of Korea, Bucheon-si, South Korea and 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

611 Utility of Recombinant Allergens in the Diagnosis of Patients with Rhinoconjunctivitis and / or Asthma Sensitized to Pollens Cupressus, Platanus, Olea and Phleum

E. Alejo Almánzar[1], J.M. Escobar Montalvo[1], V. Ruiz Sancho[2], L. Herraez Herrera[2], A. Enriquez Matas[2] and R. Vives Conesa[3], [1]Hospital Universitario 12 de Octubre, Madrid, Spain, [2]Hospital Universitario 12 de Octubre, [3]Hosptial Universitario 12 de Octubre

Patterns of Sensitization Across the Globe

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612 Factors Contributing to Poor Asthma Control in Children

Bayan H. Alzahrani[1], Batoul A Basalom[1], Afnan T Qurban[1], Fayssal M Farahat[2,3], Ghassan A Sukkar[4] and Loie T Goronfolah, MD, FAAAAI[3,4], [1]Umm AlQura University, Saudi Arabia, [2]King Abdullah International Medical Research Center, King Abdulaziz Medical city, Jeddah, Saudi Arabia, [3]King Saud bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia, [4]King Abdulaziz Medical City, Jeddah, Saudi Arabia

613 Aerobiological Study in Lima (PERÚ)

Oscar Calderón, MD[1], Silvia Uriarte, MD[2], Santiago Quirce, MD, PhD[1] and Joaquín Sastre, MD, PhD, FAAAAI[2], [1]Hospital La Paz Institute for Health Research (IdiPAZ), Department of Allergy, Madrid, Spain, [2]Fundación Jiménez Díaz, Madrid, Spain

614 Entopy: Where Art Thou Entopy?

Allen D. Adinoff, MD, FAAAAI, Colorado Allergy and Asthma Center, Denver, CO, Katherine S. Tsai, MD, Colorado Allergy & Asthma Centers, Arvada, CO and Martha Steffen, PA-C, Colorado Allergy and Asthma, Highlands Ranch, CO

615 Allergic Skin Prick Test Results in Thai Children with Respiratory Allergy in 2011-2013

Wanwipa Chaimongkol, MD, Jittima Veskitkul, MD, Punchama Pacharn, MD, Orathai Jirapongsananuruk, MD, Pakit Vichyanond, MD, FAAAAI and Nualanong Visitsunthorn, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicines, Siriraj Hospital, Mahidol University, Bangkok, Thailand, Bangkok, Thailand

616 Exposure and Sensitization to Dust Mites in Peruvian Cities

Silvia Uriarte, MD[1], Oscar Calderón, MD[2], Joaquín Sastre, MD, PhD, FAAAAI[1], Santiago Quirce, MD, PhD[2] and Victor M Iraola[3], [1]Fundación Jiménez Díaz, Madrid, Spain, [2]Hospital La Paz Institute for Health Research (IdiPAZ), Department of Allergy, Madrid, Spain, [3]Laboratorios LETI, Tres Cantos, Spain

617 Differences in Both Total and Specific Ig E Against Mites, Cockroach and Ascaris Lumbricoides Among Colombian Asthmatic Children in a Poor Communities within the Colombian Caribbean Coast

Eduardo Alberto Egea Sr., MD[1], Daryluz Mendoza, Mrs[2], Jorge Acosta, Dr[1], Gloria Egea, Mrs[1], Fernado De lacruz[1] and Gloria Tulia Garavito De Egea, MD, PhD[3], [1]Universidad del Norte, Barranquilla, Colombia, [2]Universidad del Atlantico, Barranquilla, Colombia, [3]UNIVERSIDAD DEL NORTE, Barranquilla, Colombia

618 Skin Reactivity to Inhalant Allergens in Allergic Children and Adolescents from a Specialized Outpatient Clinic – Value of the Skin Index

Ana Carolina Itikawa, Medical student, Marcia Mallozi, MD,

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Gustavo Wandalsen, MD and Dirceu Sole, MD, PhD, FAAAAI, Federal University of São Paulo, São Paulo, Brazil

619 Allergic Sensitization and Home Allergy Triggers in Preschool Population in Hermosillo, Sonora, Mexico

Guadalupe Corella[1], Andrea Romo[2], Antonio Rascón[3], Claudia Gallego-Corella[4], Jose Flores[5], Clara Alvarez[5], David Turcotte, ScD[6] and Javier Esquer[5], [1]Health, Nutrition and Environment, Department of Chemical and Biological Sciences, University of Sonora, Mexico, Hermosillo, Mexico, [2]Department of Chemical and Biological Sciences, University of Sonora, Mexico, Hermosillo, Mexico, [3]Health, Nutrition and Environment, Department of Chemical and Biological Sciences,University of Sonora, Mexico, Hermosillo, Mexico, [4]Medicine Faculty, Xochicalco University, Tijuana, Mexico, [5]Department of Industrial Engineering, University of Sonora, Mexico, Hermosillo, Mexico., [6]Center for Family, Work and Community, University of Massachusetts Lowell, Lowell, MA

620 The Prevelence of Aeroallergen Sensitization on Patients of the Allergy Service of Hospital Da Crianca De Brasilia, Brasilia- Brazil

Vanessa S P Campos[1], Luciana lilian Luciana[2], Herminio P Ramos[2], Clarissa H Dumas[2], Claudia F Valente[3], Valeria B Rodrigues[3] and Wellington Borges[3], [1]HBFD, brasilia, Brazil, [2]HBDF, brasilia, Brazil, [3]HBDF

HAE and Angioedema

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621 Efficacy Correlates with Plasma Levels in Opus-1, a Proof-of-Concept Study of Oral Kallikrein Inhibitor BCX4161 As a Prophylaxis Against Attacks of Hereditary Angioedema (HAE)

Emel Aygören-Pürsün[1], Markus Magerl[2], Jochen Graff[3], Inmaculada Martinez-Saguer[4], Wolfhart Kreuz[4], Hilary Longhurst[5], Iman Nasr[5], Murat Bas[6], Ulrich Straßen[6], Jian Zong[7], Lei Fang[7], Melanie Cornpropst[8], Sylvia Dobo[8], Phil Collis[8], William Sheridan[8] and Marcus Maurer[2], [1]Department for Children and Adolescents, University Hospital, Frankfurt, Germany, [2]Department of Dermatology and Allergy, Charité – Universitätsmedizin, Berlin, Germany, [3]Institute of Clinical Pharmacology/KSRM, University Hospital, Frankfurt, Germany, [4]Haemophilia Centre Rhine Main, Mörfelden-Walldorf, Germany, [5]Department of Immunology, Barts Health NHS Trust, London, United Kingdom, [6]HNO-Klinik, Klinikum rechts der Isar, Technische Universität München, Munich, Germany, [7]Pharstat, Inc., Durham, NC, [8]BioCryst Pharmaceuticals, Durham, NC

622 Pharmacokinetics of Subcutaneous C1 Esterase Inhibitor (human) with Recombinant Human Hyaluronidase for the Prevention of Angioedema Attacks in Patients with Hereditary Angioedema

William R. Lumry, MD, FAAAAI[1], H. Henry Li, MD, PhD[2], Markus Magerl[3], Marcus Maurer, MD[4], Jonathan A. Bernstein, MD, FAAAAI[5], Marc A. Riedl, MD, MS[6], Murat Bas[7], Aleena Banerji, MD[8], Kevin Rockich, PhD[9] and Jennifer Schranz, MD[9], [1]AARA Research Center, Dallas, TX, [2]Institute for Asthma and Allergy, Chevy Chase, MD, [3]Department of Dermatology and Allergy, Charité – Universitätsmedizin, Berlin, Germany, [4]Charité – Universitätsmedizin, Berlin, Germany, [5]University of Cincinnati Medical Center, Cincinnati, OH, [6]University of California, San Diego, La Jolla, CA, [7]HNO-Klinik, Klinikum rechts der Isar, Technische Universität München, Munich, Germany, [8]Massachusetts General Hospital, Boston, MA, [9]Shire, Wayne, PA

623 Clinical Usage of a C1 Esterase Inhibitor Concentrate for Hereditary Angioedema: Final Results from a Large International Registry

James W. Baker, MD, FAAAAI[1], Anette Bygum, MD[2], Paula J Busse, MD, FAAAAI[3], Jonathan M. Edelman, MD[4], William R. Lumry, MD, FAAAAI[5], Thomas Machnig[6], Inmaculada Martinez-Saguer, MD[7] and Mikhail Rojavin, PhD[4], [1]James W. Baker, MD, LLC, Lake Oswego, OR, [2]Denmark HAE Centre, Department of Dermatology and Allergy Centre, Odense University Hospital, Odense, Denmark, [3]Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY, [4]Clinical Research and Development, CSL Behring LLC, King of Prussia, PA, [5]Allergy and Asthma Specialists, Dallas, TX, [6]CSL Behring GmbH, Marburg, Germany, [7]Haemophilia Centre Rhine Main, Mörfelden-Walldorf, Germany

624 Efficiency and Safety of Long Term Prophylaxis with Berinert during Hereditary Angioedema Pregnancies: Data from the French Register Cobra

Laurence Bouillet, National Reference Centre for Angioedema, Internal Medicine Department, Grenoble University Hospital, Grenoble, France and Isabelle Boccon-Gibod, Grenoble University Hospital, Grenoble, France

625 Efficacy and Safety of a C1 Esterase Inhibitor Concentrate for Long-Term Prophylaxis in Hereditary Angioedema: Findings from a Large International Registry

Timothy J. Craig, DO, FAAAAI[1], Jonathan M. Edelman, MD[2], Henrike Feuersenger[3], Michael M. Frank, MD, FAAAAI[4], Mikhail Rojavin, PhD[2], Ralph Shapiro, MD[5], Arthur B. Vegh, MD, FAAAAI[6] and Walter A Wuillemin[7], [1]Penn State University College of Medicine, Hershey, PA, [2]Clinical Research and Development, CSL Behring LLC, King of Prussia, PA, [3]CSL Behring GmbH, Marburg, Germany, [4]Duke University Medical Center, Durham, NC, [5]Midwest Immunology Clinic, Plymouth, MN, [6]University of Washington, Tacoma, WA, [7]University of Bern

626 Hereditary Angioedema: Clinical Characteristics and Treatment Response with Berinert in a French Cohort in Patient Under 16 Years Old

Isabelle Boccon-Gibod, Grenoble University Hospital, Grenoble, France, Anne Pagnier, Grenoble university hospital, Grenoble, France, David Launay, 4Internal medicine department, CHRI Lille, France, Lille, France, Jerome Laurent, MD, Hopital Saint Joseph, Paris, France, Bernard Floccard, Lyon university hospital, Lyon, France, Ludovic Martin, Dermatology department, CHU Angers, France, France, Gisèle Kanny, MD, PhD, University of Lorraine, Vandoeuvre-les-Nancy, France; CHU Nancy Hopital Central, Nancy, France, Hasan Catovic, CSLBehring laboratory, Olivier Fain, Saint Antoine University Hospital, AP-HP, Paris, Anne Gompel, 11 Gynenocology department, Cochin university hospital, AP-HP, Paris, France and Laurence Bouillet, National Reference Centre for Angioedema, Internal Medicine Department, Grenoble University Hospital, Grenoble, France

627 The Icatibant Outcome Survey: More Than 1500 Icatibant-Treated Attacks in Patients with Type I or II Hereditary Angioedema

Marcus Maurer, Department of Dermatology and Allergy, Allergie-Centrum-Charité, Charité - Universitätsmedizin Berlin, Berlin, Germany, Teresa Caballero, Hospital La Paz Institute for Health Research (IdiPaz), Biomedical Research Network on Rare Diseases (CIBERER, U754), Madrid, Spain, Werner Aberer, Department of Dermatology and Venereology, Medical University of Graz, Graz, Austria, Andrea Zanichelli, MD, Dipartimento di Scienze Biomediche e Cliniche Luigi Sacco, Università degli Studi di Milano-Ospedale Luigi Sacco, Milano, Italy, Laurence Bouillet, National Reference Centre for Angioedema, Internal Medicine Department, Grenoble University Hospital, Grenoble, France, Vincent Fabien, Shire, Zug, Switzerland and Hilary Longhurst, Department of Immunology, Barts Health NHS Trust, London, United Kingdom

628 History of Misdiagnosis in Patients with Hereditary Angioedema Participating in the Icatibant Outcome Survey

Andrea Zanichelli, MD, Dipartimento di Scienze Biomediche e Cliniche Luigi Sacco, Università degli Studi di Milano-Ospedale

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Luigi Sacco, Milano, Italy, Hilary Longhurst, Department of Immunology, Barts Health NHS Trust, London, United Kingdom, Marcus Maurer, Department of Dermatology and Allergy, Allergie-Centrum-Charité, Charité - Universitätsmedizin Berlin, Berlin, Germany, Laurence Bouillet, National Reference Centre for Angioedema, Internal Medicine Department, Grenoble University Hospital, Grenoble, France, Werner Aberer, Department of Dermatology and Venereology, Medical University of Graz, Graz, Austria, Vincent Fabien, Shire, Zug, Switzerland and Teresa Caballero, Hospital La Paz Institute for Health Research (IdiPaz), Biomedical Research Network on Rare Diseases (CIBERER, U754), Madrid, Spain

629 Development and Characterization of an Anti-FXIIa Monoclonal Antibody for the Treatment of Hereditary Angioedema

Zhihui (Helen) Cao[1], Mark Biondo[1], Veronika Rayzman[1], Matthew Hardy[2], Anne McDonald[1], Samantha Busfield[1], Marc W. Nolte[3], Michael Wilson[1], Andrew Nash[1] and Con Panousis[1], [1]CSL Ltd, Melbourne, Australia, [2]CSL Ltd, M, Australia, [3]CSL Behring, Marburg, Australia

630 Barriers to the Self-Administration of Medication in the Treatment of Hereditary Angioedema (HAE)

Adrian Wang, Medical Student, MSII, Andrew Fouche, Medical Student, MS IV and Timothy J. Craig, DO, FAAAAI, Penn State University College of Medicine, Hershey, PA

631 Assessment of Adherence to Hereditary Angioedema Guidelines in Pediatric Population

Vinitha Reddy, MD, Penn State Hershey Medical Center, Hershey, PA and Timothy J. Craig, DO, FAAAAI, Penn State University College of Medicine, Hershey, PA

632 Hereditary Angioedema with Normal C1 Inhibitor: An Italian Survey

Valeria Bafunno, PhD[1], Maria Bova[2], Andrea Zanichelli, MD[3], Chiara Suffritti, PhD[3], Vincenzo Montinaro, MD[4], Massimo Triggiani, MD[5], Maurizio Margaglione, MD[1] and Marco Cicardi, MD[3], [1]Medical Genetics, Department of Clinical and Experimental Medicine, University of Foggia, Foggia, Italy, [2]Division of Clinical Immunology and Allergy, University 'Federico II', Naples, Italy, [3]Department of Biomedical and Clinical Sciences "L.Sacco" University of Milan, L.Sacco Hospital, Milan, Italy, [4]Division of Nephrology and Center for the Diagnosis and Treatment of Hereditary Angioedema, Department of Emergency and Organ Transplantation, University "Aldo Moro" Bari, Azienda Ospedaliero-Universitaria "Consorziale Policlinico", Bari, Italy, [5]Division of Allergy and Clinical Immunology, University of Salerno, Salerno, Italy

633 First Report of Colombian Registry for Hereditary Angioedema

Maria M Olivares, MD[1], Rosa Farfan, MD[2], Jorge Sanchez, MD[3,4], Maria C Ortega-Lopez, MD[5,6], Eduardo Jr De Zubiria, MD[7], Jairo A. Rodriguez, MD, PhD[8], Carlos E Olmos, MD[9], Catalina Gomez, MD[9], Jorge Rabal, MD[10], Alejandro Carreno, MD[11], Alejandro Echenique, MD[11] and Susana Diez-Zuloaga, MD[2,12], [1]Clinica Medellin sede Poblado, Medellin, Colombia, [2]Universidad de Antioquia, Medellin, Colombia, [3]Group of clínical and experimental Allergy (GACE), University of Antioquia, medellin, Colombia, [4]Foundation for the Develoment of Medical and Biological Science (FUNDEMEB)., [5]Hospital Militar Central, Bogota, Colombia, [6]Fundación Universitaria de Ciencias de la Salud, Bogota, Colombia, [7]Centro de Alergia e inmunologia, Bogota, Colombia, [8]Universidad Surcolombiana, Huila, Colombia, [9]CAYRE IPS, Bogota, Colombia, [10]Organizacion Clinica General del norte, Barranquilla, Colombia, [11]Centro de alergologia Alejandro Carreño SAS, Santa Marta, Colombia, [12]IPS Universitaria Universidad de Antioquia, Medellin, Colombia

634 Hereditary Angioedema Deaths: A Review from the Romanian Registry

D. Moldovan[1], E. Mihály[2], N. Bara[3], V. Nădăsan[1] and Zs. Jeremiás[2], [1]University of Medicine and Pharmacy, Tirgu-Mures, Romania, [2]Mures County Hospital, Tirgu-Mures, Romania, [3]Romanian Network for Hereditary Angioedema, Tirgu-Mures, Romania

635 New Mutations in SERPING1, the Gene Coding for C1 Inhibitor, in Patients with Hereditary Angioedema in Brazil

Adriana S Moreno, PhD[1,2], Luana Delcaro, BSc[1], Marina M Dias, Chem[1], Solange R Valle, MD, PhD[3], Alfeu T França, MD[3], Soloni Levy, MD[3], Persio Roxo Jr, MD, PhD[4], Wilson da Silva Junior[2,5] and Luisa Karla P. Arruda, MD, PhD, FAAAAI[1], [1]Ribeirao Preto Medical School - University of Sao Paulo, Ribeirao Preto, Brazil, [2]Center for Medical Genomics, Clinical Hospital of Ribeirão Preto Medical School, University of São Paulo, Ribeirão Preto, Brazil, Brazil, [3]Clementino Fraga Filho University Hospital- UFRJ, Rio de Janeiro, Brazil, [4]Department of Pediatrics, Ribeirão Preto Medical School, University of São Paulo, Ribeirão Preto, Brazil, Brazil, [5]Department of Genetics, School of Medicine of Ribeirao Preto - FMRP, Ribeirao Preto, Brazil

636 Successful Management of Hereditary Angioedema (HAE) and Thrombophilia during Pregnancy: A Case Study

Inmaculada Martinez-Saguer, Haemophilia Centre Rhine Main, Moerfelden-Walldorf, Germany and Wolfhart Kreuz, Haemophilia Centre Rhine Main, Mörfelden-Walldorf, Germany

637 Genetic Analysis As a Practical Tool to Diagnose Hereditary Angioedema with Normal C1 Inhibitor: A Case Report

Luisa Karla P. Arruda, MD, PhD, FAAAAI[1], Luana Delcaro, BSc[1], Priscila B. Botelho Palhas, MD[1], Marina M Dias, Chem[1], Valdair F. Muglia, MD, PhD[1], Erick C. Castelli, PhD[2], Konrad Bork, MD[3] and Adriana S Moreno, PhD[1], [1]Ribeirao Preto Medical School - University of Sao Paulo, Ribeirao Preto, Brazil, [2]School of Medicine of Botucatu - University of the State of São Paulo, Botucatu, Brazil, [3]Department of Dermatology, Johannes Gutenberg University, Mainz, Germany, Mainz, Germany

638 Clinical and Genetic Investigation in a Family Segregating Different Types of Angioedema, Including a Case of Hereditary Angioedema Type-III

Lisa Fu, MD[1], Sirui Zhou, MSc[1,2], Guy Rouleau, MD, PhD FRCP(C)[1] and Fanny Silviu-Dan, MD, FAAAAI[1], [1]McGill University, [2]Université de Montréal

639 Hereditary Angioedema Type III in Young Male Siblings

Kristyn E. Anthony, MD, Tulane University, New Orleans, LA and Jane M. El-Dahr, MD, Tulane University School of Medicine, New Orleans, LA

640 A Type III Hereditary Angioedema 45y-Old Female Patient Presents with a Rare Complication of Acute Atraumatic Compartment Syndrome in Arms and Legs: A Case Report

Maria Luz Lara-Marquez, MD, PhD, University of California, San Diego, CA and Marc A. Riedl, MD, MS, University of California, San Diego, La Jolla, CA

641 Hereditary Angioedema with Normal C1-INH with Versus without a Specific Mutation in the F12 Gene

Konrad Bork, MD, Department of Dermatology, Johannes Gutenberg University, Mainz, Germany, Mainz, Germany, Karin Wulff, University Medicine, Ernst Moritz Arndt University, Greifswald, Germany, Guenther Witzke, Department of Dermatology, Johannes Gutenberg University, Mainz, Germany and Jochen Hardt, Department of Medical Psychology and Medical Sociology, Johannes Gutenberg University, Mainz, Germany

642 High Molecular Weight Kininogen Cleavage in Idiopathic Angioedema

Giulia M Azin, MD, Chiara Suffritti, PhD, Maddalena A Wu, MD, Andrea Zanichelli, MD, Lorena M Maggioni, PhD and Marco Cicardi, MD, Department of Biomedical and Clinical Sciences "L.Sacco" University of Milan, L.Sacco Hospital, Milan, Italy

643 Profile of Seasonal Differences in Angioedema Presenting to an Inner City Hospital

Karyn Winkler, MD, Tukisa Smith, MD, Ashlei Mathew, MD and Rauno Joks, MD, Center for Allergy and Asthma Research, SUNY Downstate Medical Center

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644 **Epidemiology of Angioedema without Wheels in an Allergy and Immunology Clinic**
Eloisa Malbran[1,2], Alejandro Malbran, MD[3], Diego Fernandez Romero[1], Maria Cecilia Juri, MD[1] and Blas Javier Larrauri[1], [1]Unidad de Alergia, Asma e Inmunologia Clinica, Capital Federal, Argentina, [2]Hospital Britanico de Buenos Aires, Capital Federal, Argentina, [3]Unidad de Alergia, Asma e Inmunologia Clinica, capital federal

645 **Angioedema without Urticaria, at the Emergency Department**
Marta Seoane, MD[1], Maria Elisa Caralli, MD[1], Sarah Micozzi, MD[2], Dasha Roa Medellin, MD[1] and Mercedes Saenz de Santa Maria, MD[2], [1]Hospital General Universitario Gregorio Marañón, Allergy Department, Madrid, Spain, [2]Hospital General Universitario Gregorio Marañón. Allergy Department., Madrid, Spain

646 **A Novel Form of Recurrent Angioedema**
Brendan Wong and Peter Vadas, MD, PhD, St. Michael's Hospital, Toronto, ON, Canada

Anaphylaxis and Insect Hypersensitivity

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Monday, February 23rd, 2015, 9:45 AM - 10:45 AM

647 **Anaphylaxis to Mint in a 5 Year Old Boy: A Case Report**
Leah K. Middelberg, MD and Joyce C. Rabbat, MD, Loyola University Medical Center

648 **Deficiencies in STAT3 Signaling Confers Resistance to Histamine/PAF Induced Vascular Permeability in Autosomal Dominant-Hyper IgE Syndrome (AD-HIES)**
Michael P. O'Connell, PhD[1], Valerie Hox, MD, PhD[1], Celeste Nelson, NP[1], Thomas DiMaggio, BSN[1], Nina Jones, RN, BSN[2], Paul Sackstein[1], Alexandra F Freeman, MD[3], Ana Olivera, PhD[1], Dean D. Metcalfe, MD[4] and Joshua D. Milner, MD[1], [1]Laboratory of Allergic Diseases, NIAID/NIH, Bethesda, MD, [2]Frederick National Laboratory for Clinical Research, Frederick, MD, [3]NIH/NIAID, Laboratory of Clinical Infectious Diseases, Bethesda, MD, [4]Laboratory of Allergic Diseases, NIAID, NIH, Bethesda, MD

649 **Loss of IL-4Rα-Mediated PI3K Signaling Accelerates the Onset and Progression of IgE/Mast Cell-Mediated Reactions**
David Xiao Yang Wu, PhD, Lisa Waggoner, Yi-Ting Tsai, Yui-Hsi Wang, PhD and Simon P. Hogan, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

650 **The Role of Basophils and Pro-Allergic Cytokines, TSLP and IL-33, in Cutaneously-Sensitized Food Allergy**
Taichiro Muto[1], Ayumi Fukuoka[2], Kazufumi Matsushita[2] and Tomohiro Yoshimoto[1,2], [1]Department of Immunology and Medical Zoology, Hyogo College of Medicine, [2]Laboratory of Allergic Diseases, Institute for Advanced Medical Sciences, Hyogo College of Medicine

651 **C-Care: Impact of Labeling in Food Induced Anaphylaxis in Children Treated at the Montreal Children's Hospital**
Sarah De Schryver[1], Ann Elaine Clarke, MD, MSc[2], Sebastien La Vieille, MD[3], Reza Alizadehfar, MD[4], Alizee Dery[5], Christopher Mill, BSc[6], Lawrence Joseph, PhD[7], Harley Eisman, MD[8], Judy Morris, MD, MSc[9] and Moshe Ben-Shoshan, MD, MSc[4], [1]Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Canada, Montreal, QC, [2]Division of Rheumatology, Department of Medicine, University of Calgary, Calgary, AB, Canada, [3]Food Directorate, Health Canada, Ottawa, ON, Canada, [4]Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Montreal, QC, Canada, [5]Department of Experimental Medicine, McGill University, Montreal, QC, Canada, [6]School of Population and Public Health, University of British Columbia, Vancouver, BC, [7]Departments of Epidemiology and Biostatistics, McGill University, Montreal, QC, Canada, [8]Emergency Department, Department of Pediatrics, Montreal Children's Hospital, Montreal, QC, Canada, [9]Department of Emergency Medicine, Hôpital du Sacré-Cœur, Montreal, QC, Canada

652 **C-Care: Patient Characteristics Associated with Allerject™ Versus Epipen™ Auto-Injector Prescription Across Three Montreal Hospitals**
Bhairavi Balram, Department of Medicine, McGill University, Montreal, QC, 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, Reza Alizadehfar, MD, Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Montreal, QC, Canada, Alizee Dery, Division of Pediatric Allergy and Clinical Immunology, Department of Pediatrics, McGill University Health Center, Montreal, QC, Canada, Christopher Mill, BSc, Division of Clinical Epidemiology, Department of Medicine, McGill University Health Centre, Montreal, QC, Canada, Harley Eisman, MD, Emergency Department, Department of Pediatrics, Montreal Children's Hospital, Montreal, QC, Canada, Judy Morris, MD, MSc, Department of Emergency Medicine, Hôpital du Sacré-Cœur, Montreal, QC, Canada, Jocelyn Gravel, MD, St Justine Hospital, Montreal, QC, Anne Des Roches, MD, FRCPC, FAAAAI, Division of Allergy and Clinical Immunology, Montreal, QC and Moshe Ben-Shoshan, Department of Paediatrics, Montreal Children's Hospital, Montreal, QC, Canada

653 **Anaphylaxis Cases Presenting to the Emergency Center over a Two Year Period in Montreal, Canada**
Bahar Torabi, MD[1], Judy Morris, MD, MSc[2], Ann Clarke, MD, MSc[3], Sebastien La Vieille, MD[4], Reza Alizadehfar, MD[1], Lawrence Joseph, PhD[5,6] and Moshe Ben-Shoshan, MD, MSc[1], [1]Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Montreal, QC, Canada, [2]Department of Emergency Medicine, Hôpital du Sacré-Cœur, Montreal, QC, Canada, [3]Division of Rheumatology, Department of Medicine, University of Calgary, Calgary, AB, Canada, [4]Food Directorate, Health Canada, Ottawa, ON, Canada, [5]Departments of Epidemiology and Biostatistics, McGill University, Montreal, QC, Canada, [6]Division of Clinical Epidemiology, Department of Medicine, McGill University Health Center, Montreal, QC, Canada

654 **Tryptase Levels in Children Presenting with Anaphylaxis to the Montreal Children's Hospital -2014 Update**
Michelle Halbrich, MD[1], Ann Clarke, MD, MSc[2], Sebastien La Vieille, MD[3], Harley Eisman, MD[4,5], Reza Alizadehfar, MD[5,6], Lawrence Joseph, PhD[5], Judy Morris, MD, MSc[7] and Moshe Ben-Shoshan, MD, MSc[5,8], [1]Winnipeg Clinic, Winnipeg, MB, Canada, [2]Division of Rheumatology, Department of Medicine, University of Calgary, Calgary, AB, Canada, [3]Food Directorate, Health Canada, Ottawa, ON, Canada, [4]Emergency Department, Department of Pediatrics, Montreal Children's Hospital, Montreal, QC, Canada, [5]McGill University, Montreal, QC, Canada, [6]Montreal Children's Hospital, Montreal, QC, Canada, [7]Department of Emergency Medicine, Hôpital du Sacré-Cœur, Montreal, QC, Canada, [8]Montreal Children's Hospital, Montreal, Canada

655 **Variability in the Recognition and Management of Food Induced Anaphylaxis in Pediatric Emergency Departments and Urgent Care Centers**
Christopher Brooks[1], Alexa Coffman[1], Elizabeth Erwin, MD[2] and Irene Mikhail, MD[2], [1]The Ohio State University College of Medicine, Columbus, OH, [2]Nationwide Children's Hospital, Columbus, OH

656 **How Good Is the Management of Anaphylaxis in the Emergency Room (ER)? a UK Center Experience**
Iman Nasr[1], Joanna Lukawska, MD[2,3], Runa Ali, MD[2], Ikram Nasr, MRCP[4], Jason Pott[2] and Tim Harris[2], [1]Department

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of Immunology, Barts Health NHS Trust, London, United Kingdom, [2]Royal London Hospital, London, United Kingdom, [3]Kings College London, London, United Kingdom, [4]Guys and St Thomas' Hospital, London, United Kingdom

657 Anaphylaxis in a Rural Emergency Department: The Dartmouth-Hitchcock Experience

Mark J. O'Connor, MD and Martha K. Elias, MD, Dartmouth-Hitchcock Medical Center, Lebanon, NH

658 Management of Children with Anaphylaxis in an Urban Emergency Department

Jonathan A Hemler, MD, Vanderbilt University Asthma, Sinus, and Allergy Program, Nashville, TN; Children's National Medical Center, Washington, DC and Hemant P. Sharma, MD MHS FAAAAI, Children's National Medical Center, Division of Allergy and Immunology, Washington, DC

659 An Evaluation of the Treatment of Anaphylaxis in a Pediatric Emergency Room Setting

Vivian T. Aranez, MD[1], Maria G. Lennox, MD[1], Manisha Relan, MD[2], Haiping Qiao[1], Brian Wrotniak[1] and Heather K. Lehman, MD[1], [1]Women & Children's Hospital of Buffalo, Buffalo, NY, [2]Certified Allergy and Asthma Consultants, Albany, NY

660 Inpatient Management and Discharge Planning for Children Admitted for Food-Induced Anaphylaxis

Kasey Strothman, MD[1,2], Daniel Scherzer, MD[2], Peter Mustillo, MD, FAAAAI[2] and Rebecca Scherzer, MD[2], [1]Wexner Medical Center at The Ohio State University, Columbus, OH, [2]Nationwide Children's Hospital, Columbus, OH

661 Incidence of Biphasic Anaphylactic Reactions: A Systematic Review and Meta-Analysis

Kaitlin Penney[1], Bhairavi Balram[2], Jordan Trevisonno[2] and Moshe Ben-Shoshan[1], [1]Department of Paediatrics, Montreal Children's Hospital, Montreal, QC, Canada, [2]Department of Medicine, McGill University, Montreal, QC, Canada

662 Pre-Hospital Use of Epinephrine for Treatment of Anaphylaxis in Children and Adolescents

Melissa Lee, DO and David R. Stukus, MD, FAAAAI, Nationwide Children's Hospital, Columbus, OH

663 Ketotifen: A Role in the Treatment of Idiopathic Anaphylaxis

Zhenhong Li, MD, PhD, AMC, Albany, NY and Jocelyn Celestin, MD, FAAAAI, Albany Medical College, Albany, NY

664 Delayed Urticarial and Anaphylactic Reactions to Red Meat: Age of Onset, Severity, and Immunology Among 353 Cases and 140 Controls

Scott P. Commins, MD, PhD[1], Alexander J. Schuyler, BS, BA[2], Lisa J. Workman, BA[3], Luis A. Matos, MD, MBA, FAAAAI[4], Saju S. Eapen, MD[4], Charles J. Lane, MD[5], Theo Rispens, PhD[6], Peter W. Heymann, MD[7], Timothy F. Platts-Mills, MD, MSc[8] and Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[1], [1]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA, [2]Department of Medicine, Division of Asthma, Allergy and Immunology, University of Virginia, Charlottesville, VA, [3]University of Virginia, Charlottesville, VA, [4]Asthma and Allergy Center, Roanoke, VA, [5]Allergy Partners, Lynchburg, VA, [6]Sanquin Research, Amsterdam, Netherlands, [7]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [8]Department of Emergency Medicine, University of North Carolina, Chapel Hill, NC

665 Rapid Onset Anaphylaxis to Red Meat in Three Siblings from Uganda

Andrea Fong, MD, FRCPC[1], Alexander J. Schuyler, BS, BA[2], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[3] and Allan Becker, MD, FRCPC[1], [1]University of Manitoba, Winnipeg, MB, Canada, [2]Department of Medicine, Division of Asthma, Allergy and Immunology, University of Virginia, Charlottesville, VA, [3]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA

666 Recurrent Anaphylaxis Due to Delayed Allergy to Mammalian Meat in a Patient with Mastocytosis

Sean P. Brady, MD, Deborah Novack, MD, PhD and Anthony Kulczycki Jr, MD, FAAAAI, Washington University School of Medicine, St. Louis, MO

667 Recurrence Rates of Anaphylaxis in Children

Andrew O'Keefe, MD[1,2], Yvan St. Pierre, MSc[3], Christopher Mill, BSc[4], Jennifer Mill[5], Alizee Dery[5], Yuka Asai, MD[6,7], Harley Eisman, MD[8], Sebastien La Vieille, MD[9], Reza Alizadehfar, MD[10], Lawrence Joseph, PhD[11], Judy Morris, MD, MSc[12], Ann Clarke, MD, MSc[13] and Moshe Ben-Shoshan, MD, MSc[10], [1]Discipline of Pediatrics, Faculty of Medicine, Memorial University, St. John's, NF, Canada, [2]Division of Pediatric Allergy and Clinical Immunology, Montreal Children's Hospital, Canada, [3]Division of Clinical Epidemiology, Department of Medicine, McGill University Health Center, QC, Canada, [4]School of Population and Public Health, University of British Columbia, Vancouver, BC, [5]Division of Pediatric Allergy and Clinical Immunology, Department of Pediatrics, McGill University Health Center, Montreal, QC, Canada, [6]Division of Dermatology, Department of Medicine, McGill University Health Centre, Montreal, QC, Canada, [7]Division of Clinical Epidemiology, Department of Medicine, McGill University Health Centre, Montreal, QC, Canada, [8]Emergency Department, Department of Pediatrics, Montreal Children's Hospital, Montreal, QC, Canada, [9]Food Directorate, Health Canada, Ottawa, ON, Canada, [10]Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Montreal, QC, Canada, [11]Division of Clinical Epidemiology, Department of Medicine, McGill University Health Center, Montreal, QC, Canada, [12]Department of Emergency Medicine, Hôpital du Sacré-Cœur, Montreal, QC, Canada, [13]Division of Rheumatology, Department of Medicine, University of Calgary, Calgary, AB, Canada

668 Food Dependent Exercise-Induced Anaphylaxis - a Component Resolved Approach to Evaluate Suspected Cross-Reactive Ltp Sensitization

Luis Delgado, MD[1,2], Teresa Vieira[3], Diana Silva[1,2], Ana Maria Pereira[4] and Andre M. Moreira, MD[1,2], [1]Laboratory of Immunology, Basic and Clinical Immunology Unit, Faculty of Medicine, University of Porto, Porto, Portugal, [2]Allergy and Clinical Immunology Department, Centro Hospitalar São João, EPE, Porto, Portugal, [3]Allergy and Clinical Immunology Department, Unidade Local de Saúde do Alto Minho, EPE, Viana do Castelo, Portugal, [4]Immunology Lab, Department of Clinical Pathology, Centro Hospitalar São João, EPE, Porto, Portugal

669 Cholinergic Anaphylaxis: An Under-Recognized Entity

Angela Sinilaite, St. Michael's Hospital, Toronto, ON, Canada

670 Food-Induced Anaphylaxis in Thailand: A 10 Years Data from a Tertiary Care Center in Bangkok

Wat Mitthamsiri, MD, Division of Allergy and Clinical Immunology, Department of Internal Medicine, Faculty of Medicine, Chulalongkorn University and King Chulalongkorn Memorial Hospital, Bangkok, Thailand, Sirimon Hwangkhunnatham, MD, Department of Internal Medicine, Faculty of Medicine, Chulalongkorn University and King Chulalongkorn Memorial Hospital, Bangkok, Thailand and Kiat Ruxrungtham, MD, Chulalongkorn University, Bangkok, Thailand

671 Cyclical Anaphylaxis: A Review of the Literature and a Novel Approach to Treatment

Andrea E. Burke, MD[1], Nina Lakhani, MD, FRCPC[2], Peter Vadas, MD, PhD[2,3] and Jason Kihyuk Lee, MD, FRCPC[4,5], [1]Northern Ontario School of Medicine, Sudbury, ON, Canada, [2]University of Toronto, Toronto, ON, Canada, [3]St. Michael's Hospital, Toronto, ON, Canada, [4]University of Toronto, ON, Canada, [5]St. Michael's Hospital, Division of Allergy and Clinical Immunology, Toronto, ON, Canada

672 Causes of Anaphylaxis in the Pediatric Population

Beatriz Ameiro, MD[1], Gabriela A. Zambrano, MD[1], Miguel Guzmán, MD[1], Cristina Morales, MD[1], Blanca Noguerado, MD[1],

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María L. Baeza, MD, PhD[1] and Alberto Alvarez-Perea, MD[2], [1]Department of Allergy, Gregorio Marañón University Hospital, Madrid, Spain, [2]Hospital Materno Infantil Gregorio Marañón, Pediatric Allergy Department, Madrid, Spain

673 Survey on Experiences and Knowledge Status about Anaphylaxis By Academic Members in Korea

Jae Won Jeong, Inje University Ilsan Paik Hospital, Goyang-si, South Korea, Chan Sun PARK, Inje University Haeundae Paik Hospital, Busan, South Korea and Mi Young KIM, Busan Paik Hospital, Busan, South Korea

674 Epinephrine Autoinjector Use One Year after Training: A Randomised Controlled Comparison of Two Different Devices

Robert J. Boyle, MBChB, PhD[1], Annabella Procktor, PhD[1], Matthew Hodes[2], Jared G Smith[3], Claudia Gore, MD[2], Helen E. Cox, FRCPCHMD[4], Paul J. Turner, FRACP, PhD[1], Tom Marrs, MD[5,6], Heather Hanna, RN MSc[1], Katherine Phillips, RGN[1], John O. Warner, MD[7], Camila Pinto, BSc[1] and Thisayanagam Umasunthar, MD[1], [1]Imperial College London, United Kingdom, [2]Imperial College London, [3]St Georges University, [4]Imperial College Healthcare NHS Trust, London, United Kingdom, [5]Kings College London, United Kingdom, [6]Guys and St Thomas NHS Foundation Trust, [7]Imperial College, London, United Kingdom

675 The Race Study: Comparison of Carrying Time, Confidence in Epinephrine Auto-Injector (EAI) Use, and Experience with EAI Training Among Patients with Auvi-Q Versus Epipen

Jay M. Portnoy[1], Wenhui Wei[2], Augustina Ogbonnaya[3], Dionne M. Hines[3], Rolin L. Wade[3] and William Daley[2], [1]Department of Pediatric Allergy & Immunology, Children's Mercy Hospital & Clinics, Kansas City, MO, [2]Sanofi US, Bridgewater, NJ, [3]IMS Health Inc., Alexandria, VA

676 The Race Study: Confidence and Training Experience with Epinephrine Auto-Injectors (EAIs) Among Patients at Risk of Anaphylaxis

William Daley[1], Wenhui Wei[1], Augustina Ogbonnaya[2], Dionne M. Hines[2], Rolin L. Wade[2] and Jay M. Portnoy[3], [1]Sanofi US, Bridgewater, NJ, [2]IMS Health Inc., Alexandria, VA, [3]Department of Pediatric Allergy & Immunology, Children's Mercy Hospital & Clinics, Kansas City, MO

677 The Race Study: Predictors of Carrying Epinephrine Auto-Injector Devices (EAIs)

Wenhui Wei[1], Augustina Ogbonnaya[2], Dionne M. Hines[2], Rolin L. Wade[2], William Daley[1] and Jay M. Portnoy[3], [1]Sanofi US, Bridgewater, NJ, [2]IMS Health Inc., Alexandria, VA, [3]Department of Pediatric Allergy & Immunology, Children's Mercy Hospital & Clinics, Kansas City, MO

678 Designing Auto-Injectors for Children: Effect of Form Factor on the Human Factors of Efficient Drug Delivery

Ana Barbir[1], Mark Janelli[1], Ray A. Wolf, PharmD[2] and Jack Dennerlein[1], [1]Northeastern University, [2]Mylan Specialty L.P., PA

679 Adherence to the Treatment Choices of Anaphylaxis: An Epidemiological View of the Pediatric Patients

Mehtap Haktanir Abul, MD[1], Fazil Orhan[2], Taner Karakas[2], Zekiye Ilke Kilic Topcu[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

680 Using Video Technology to Improve Epinephrine Auto-Injector Use

Ashish Asawa, MD[1], Aasia I. Ghazi, MD[2] and Rana S. Bonds, MD, FAAAAI[1], [1]University of Texas Medical Branch, Galveston, TX, [2]Allergy and Asthma Specialists, Plano, TX

681 Parent / Child Perceptions of Children's Readiness to Self-Inject Epinephrine

Caitlin Shneider[1], Evan Wiley, BA[1], Brianna Lewis, MA[1], Melissa Rubes, MA[1], Eyal Shemesh, MD[1], Rachel Annunziato, PhD[1,2] and Scott H. Sicherer, MD[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Fordham University, Bronx, NY

682 School Staff Food Allergy (FA) Education Increases Epinephrine Coverage and Recognition of Allergic Reactions

Atoosa Kourosh, MD, MPH, Texas Children's Hospital, Houston, TX; Baylor College of Medicine, Houston, TX and C. M. Davis, Immunology, Allergy and Rheumatology, Department of Pediatrics, Baylor College of Medicine/Texas Children's Hospital, TX

683 Barriers to Treatment with Epinephrine for Anaphylaxis By School Nurses

Ashika Odhav, MD[1], Christina E. Ciaccio, MD, FAAAAI[1], Marc Serota, MD[2] and Paul J. Dowling, MD, FAAAAI[1], [1]Children's Mercy Hospital, Kansas City, MO, [2]University of Colorado Denver, Denver, CO

684 EpiPen4Schools Survey: Characteristics of Anaphylaxis and Common Triggers

Martha V. White, MD, FAAAAI[1], Diana Goss[2], Kelly Hollis[2], K Millar[2], Suyapa Silvia[2], Peter Siegel[2], Mary Elizabeth Bennett[3], Ray A. Wolf, PharmD[4], Margaret Wooddell[5] and Susan Hogue[2], [1]Institute for Asthma and Allergy, [2]RTI International, [3]Clarity Consulting LLC, [4]Mylan Specialty L.P., PA, [5]Mylan Specialty

685 Epinephrine Administration for Cases of Anaphylaxis in a US School Setting: Results from the EpiPen4Schools Survey

Margaret Wooddell[1], Diana Goss[2], Kelly Hollis[2], K Millar[2], Suyapa Silvia[2], Peter Siegel[2], Mary Elizabeth Bennett[3], Ray A. Wolf, PharmD[4], Susan Hogue[2] and Martha V. White, MD, FAAAAI[5], [1]Mylan Specialty, [2]RTI International, [3]Clarity Consulting LLC, [4]Mylan Specialty L.P., PA, [5]Institute for Asthma and Allergy

686 Occurrence of Anaphylaxis By School Grade Level and Staff Training: Findings from the EpiPen4Schools Survey

Susan Hogue[1], Mary Elizabeth Bennett[2], Diana Goss[1], Kelly Hollis[1], K Millar[1], Suyapa Silvia[1], Peter Siegel[1], Ray A. Wolf, PharmD[3], Margaret Wooddell[4] and Martha V. White, MD, FAAAAI[5], [1]RTI International, [2]Clarity Consulting LLC, [3]Mylan Specialty L.P., PA, [4]Mylan Specialty, [5]Institute for Asthma and Allergy

687 Serum Tryptase Concentrations in Patients with Hymenoptera Venom Allergy in Beekeeping Zone

Adile Berna Dursun, Damla Tufekci and Nese Canturk, Recep Tayyip Erdogan University, School of Medicine, Rize, Turkey

688 Physician Recognition and Management of Venom-Induced Anaphylaxis

Stephanie Eng, MD[1,2] and Magee L DeFelice, MD[1,2], [1]Nemours/AI duPont Hospital for Children, Wilmington, DE, [2]Thomas Jefferson University Hospital, Philadelphia, PA

689 Effect of Statin Drugs on Hymenoptera Venom Anaphylaxis Severity

Brodie Marks, St. Michael's Hospital, Toronto, ON, Canada

690 Clonal Mast Cell Disorderas in Patients with Severe Hymenoptera Allergy and Normal Serum Tryptase

Patrizia Bonadonna, MD, CME, Allergy Unit of Azienda Ospedaliera Universitaria Integrata Allergy Unit, Verona, Italy, Carla Lombardo, Allergy Unit, Azienda ospedale Università di Verona, Italy, Giovanni Passalacqua, MD, University of Genoa, Genoa, Italy, Roberta Zanotti, Department of Clinical and Experimental Medicine, Haematology Section, University of Verona, Italy, Cristian Caimmi, 5Department of Medicine, Section of Rheumatology, Azienda Ospedaliera Universitaria Integrata,Verona, Masimiliano Bonifacio, 6Clinical Chemistry and Haematology, Azienda Ospedaliera Universitaria Integrata of Verona, Verona, Italy, Livio Simioni, Department of Medicine, Allergy Service, Feltre (belluno), Italy, Beatrice Bilo, 10Allergy Unit, Department of Internal Medicine, Ospedali Riuniti, Ancona, Italy, Giovanni Marchi, Allergy Service, Legnago, Maurizio Franchini, Allergy Service, Jesolo (Venezia) and Moira Busa, Dermatology Uni, Mirano (Venice)

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691 **Severe Anaphylaxis to Flying Hymenoptera Stings As the Presenting Sign of Indolent Systemic Mastocytosis: News to US?**
Thad L. Ocampo, MD and James M. Quinn, MD, FAAAAI, Wilford Hall Ambulatory Surgical Center, San Antonio, TX

Subcutaneous Immunotherapy

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692 **Cluster Immunotherapy Build-up Has Better Adherence Rates but Greater Risk of Mild to Moderate Systemic Reactions**
Andrew M. Smith, MD, MS, FAAAAI, Charles M. Rogers, MD and Dorian J. Carroll, P.A.-C., Allergy Associates of Utah, Murray, UT

693 **The Safety of Cluster Immunotherapy Compared to Conventional Immunotherapy**
Roy A. Orden, MD, Dea M. Cunningham, RN and Jody R. Tversky, MD, Johns Hopkins University School of Medicine, Baltimore, MD

694 **Experience with Epinephrine Delivery in Immunotherapy-Associated Systemic Reactions**
Priscilla H. Wong, MD[1], Karla E. Adams, MD[2], Geoffrey S. Carlson, MD[1] and James M. Quinn, MD, FAAAAI[1], [1]Wilford Hall Ambulatory Surgical Center, San Antonio, TX, [2]Mike O'Callaghan Federal Medical Center, Nellis AFB, NV

695 **Diurnal Variations in Subcutaneous Allergen Immunotherapy Reactions**
Aakash Bavishi[1], Jacqueline A Pongracic, MD, FAAAAI[1], Leslie C. Grammer, MD, FAAAAI[2], Paul A. Greenberger, MD, FAAAAI[3] and Anna B. Fishbein, MD, MSci[4,5], [1]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [2]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Northwestern University - Feinberg School of Medicine, Chicago, IL, [4]Division of Allergy & Immunology, Department of Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL, [5]Northwestern University McGraw Medical Center, Chicago, IL

696 **The Impact of Asthma Control and Higher Maintenance Doses on Immunotherapy Safety: Year 5 of the AAAAI/ACAAI Surveillance Study**
Tolly Epstein, MD, MS, Division of Immunology,Allergy, & Rheumatology, University of Cincinnati, Cincinnati, OH, Gary M. Liss, MD, MS, FRCPC, University of Toronto, Toronto, ON, Canada, Karen J. Murphy-Berendts, BS RRT CCRC, Bernstein Clinical Research Center, LLC, Cincinnati, OH and David I. Bernstein, MD, FAAAAI, Bernstein Clinical Research Center, LLC and University of Cincinnati, Cincinnati, OH

697 **Changes in Allergen Specific IgG4 and IgE after Subcutaneous Immunotherapy in Children Under 4 Years of Age**
Daniel Rodriguez, MD, Jacobi Medical Center, Bronx, NY, Gabriele de Vos, MD, Allergy and Immunology, Albert Einstein College of Medicine, Bronx, NY and Keshav Achar, MD, Albert Einstein College of Medicine, NY

698 **Subcutaneous Allergen Immunotherapy (SCIT) and Its Effects on Irritability and Sleep in Patients with Allergic Rhinitis (AR) Utilizing a Structured Questionnaire**
Jewmaull Reed, University Consultants in Allergy and Immunology, Maria Talamo, John H. Stroger Hospital of Cook County, Chicago, IL and Mary C. Tobin, MD, University Consultants in Asthma and Allergy, Chicago, IL

699 **Blomia Tropicalis Allergy in Two Different Regions of South Africa**
Ashley C. Jeevarathnum, MD, Steve Biko Academic Hospital, Pretoria, South Africa, Refiloe Masekela, MD, Cert Pulm Paed, Steve Biko Academic Hospital, Centurion, South Africa, Robin J. Green, MD, PhD, FAAAAI, Department of Paediatrics and Child Health, University of Pretoria, South Africa, Piet Becker, PhD, MRC, South Africa, Pretoria, South Africa and Andre van Niekerk, MD, University of Pretoria, South Africa

700 **Omalizumab As an Add-on to Allergen-Specific Immunotherapy: A Systematic Review**
Salman A Radwi[1], Amr Al-alwani[2], Loie T Goronfolah, MD, FAAAAI[3,4], Amr S Albanna, MD, MSc[4] and Emad A Koshak, MD, FAAAAI[1,5], [1]King Abdulaziz University, Jeddah, Saudi Arabia, [2]University of Dammam, Dammam, Saudi Arabia, [3]King Abdulaziz Medical City, Jeddah, Saudi Arabia, [4]King Saud bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia, [5]Albaha University, Albaha, Saudi Arabia

Rhinitis

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701 **Cellular Responses to the Major Allergen of Olea Europaea in Subjects with Local and Systemic Allergic Rhinitis**
Paloma Campo, MD, PhD[1], Mayte Villalba, PhD[2], Carmen Rondon, MD, PhD[1], Esther Barrionuevo Sanchez[1,3], Luisa Galindo, RN[4,5], JC Lopez-Rodriguez[2,6], Maria J Torres, MD, PhD[1], Miguel Blanca, MD, PhD[7] and Cristobalina Mayorga, PhD[8], [1]Allergy Unit, Regional University Hospital of Málaga, IBIMA, UMA, Málaga, Spain, [2]Department of Biochemistry and Molecular Biology, Faculty of Chemistry, Madrid, Spain, [3]Regional Hospital Malaga, Malaga, Spain, [4]Allergy Service, Regional Hospital Malaga, Spain, [5]Allergy Unit, Regional University Hospital of Málaga, IBIMA, UMA, Spain, [6]ftuefuh, Spain, [7]Allergy Service, IBIMA-Regional University Hospital of Malaga, Málaga, Spain, [8]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain

702 **Observational Study of the Factors Influencing Symptom Score Assessments in Studies of House Dust Mite-Induced Rhinoconjunctivitis**
Fiona Lisboa, BSc[1], Rod Hafner, PhD[2], Stephen Pawsey, MD[1] and Paul H. Ratner, MD, FAAAAI[3], [1]Circassia Ltd, [2]Circassia Ltd, Oxford, United Kingdom, [3]Sylvana Research, San Antonio, TX

703 **Once-Daily Treatment with Beclomethasone Dipropionate (BDP) Nasal Aerosol Is Effective in Improving Total Nasal Symptom Scores (TNSS) in Children with Seasonal Allergic Rhinitis (SAR) Regardless of Baseline Symptom Severity**
Calvin Small, MD, MS, Teva Branded Pharmaceutical Products R&D, Inc, Lyndon E. Mansfield, MD, FAAAAI, Allergy, Immunology, & Asthma, El Paso, TX, Niran J. Amar, MD, FAAAAI, Allergy Asthma Research Institute, Waco, TX and Nathan Segall, MD, Georgia Allergy & Respiratory, Stockbridge, GA

704 **Once-Daily Treatment with Beclomethasone Dipropionate Nasal Aerosol Is Effective in Improving Total Nasal Symptom Scores (TNSS) in Children with Perennial Allergic Rhinitis (PAR) Regardless of Baseline Symptom Severity**
Niran J. Amar, MD, FAAAAI, Allergy Asthma Research Institute, Waco, TX, William E. Berger, MD, MBA, FAAAAI, Allergy & Asthma Associates of Southern California, Mission Viejo, CA, Robert L. Jacobs, MD, Biogenics Research Institute, San Antonio, TX and Calvin Small, MD, MS, Teva Branded Pharmaceutical Products R&D, Inc

705 **Cetirizine Improves Both Ocular and Nasal Allergy Symptoms in Subjects with Perennial Allergic Rhinitis**
Eduardo Urdaneta, MD[1], Qiong Du, MS[2], Mei-Miau Wu, Dr PH[3], Kathleen B. Franklin, BSN, RN[1] and Mitesh Patel, PharmD[1],

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[1]McNeil Consumer Healthcare, Fort Washington, PA, [2]Johnson & Johnson Consumer Products, China, Shanghai, China, [3]J & J Consumer Products, US, Morris Plains, NJ

706 **Quantification of the Distribution of Azelastine HCl/Fluticasone Propionate Nasal Spray in an Anatomical Model of the Human Nasal Cavity**

Alexander D'Addio, PhD, Meda Pharmaceuticals, Nancy Ruiz, MD, Meda Pharmaceuticals, Somerset, NJ, Michael Mayer, PhD, Next Breath, LLC, 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

707 **Efficacy of Azelastine HCl/Fluticasone Propionate Nasal Spray in the Treatment of Nasal Congestion in Patients with Seasonal Allergic Rhinitis (SAR)**

William E. Berger, MD, MBA, FAAAAI, Allergy & Asthma Associates of Southern California, Mission Viejo, CA, Jonathan A. Bernstein, MD, FAAAAI, Division of Immunology Allergy & Rheumatology, University of Cincinnati Medical Center, Cincinnati, OH, Eli O. Meltzer, MD, FAAAAI, Allergy and Asthma Medical Group & Research Center, San Diego, CA, Paul H. Ratner, MD, FAAAAI, Sylvana Research, San Antonio, TX and Nancy Ruiz, MD, Meda Pharmaceuticals, Somerset, NJ

708 **Patient-Reported Clinical Characteristics in a Randomized Controlled Trial in Seasonal Allergic Rhinitis (SAR)**

Jonathan A. Bernstein, MD, FAAAAI, Division of Immunology Allergy & Rheumatology, University of Cincinnati Medical Center, Cincinnati, OH and Nancy Ruiz, MD, Meda Pharmaceuticals, Somerset, NJ

709 **Effect of ONO-4053, a DP1 (prostaglandin D2 receptor) Antagonist, on Antigen-Induced Nasal Congestion**

Shinsuke Yamaguchi, Yutaka Okada, Yoko Matsunaga and Fumio Nambu, Ono Pharmaceutical Co., Ltd.

710 **Effect of ONO-4053, a DP1 (prostaglandin D2 receptor) Antagonist, on Prostaglandin D2-Induced Nasal Congestion**

Yutaka Okada, Shinsuke Yamaguchi, Yoko Matsunaga and Fumio Nambu, Ono Pharmaceutical Co., Ltd.

711 **3-Dimensional and 2-Dimensional CT-Imaging of the Sinus Airways in a Model of Allergic Sinus Congestion**

Walter C. Spear, MSc, Bill T. Ameredes, PhD, Igor Patrikeev, PhD, Massoud Motamedi, MD and Spotswood Miller, University of Texas Medical Branch, Galveston, TX

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Eosinophils in the Mechanisms of Disease

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712 **Prolonged RSK and RPS6 Phosphorylations By IL-3 Increases Translation in Human Eosinophils**

Stephane Esnault[1], Elizabeth Kelly[1], Mats Johansson[1], Zhong-Jian Shen[2], James S Malter[2] and Nizar N. Jarjour, MD[1], [1]University of Wisconsin and Public Health, Madison, WI, [2]University of Texas Southwestern Medical Center, Dallas, TX

713 **The Association Between Severity of Total Eosinophilic Count and Disease Categories**

Shunya Kaneshita, MD[1], Mitsumasa Kishimoto, MD, PhD[1], Fumio Omata, MD, MPH, PhD[2], Masei Suda, MD[1], Chisun Min, MD[1], Yuri Ohara, MD[1], Ryo Rokutanda, MD[1], Hisanori Shimizu, MD[1], Tokutaro Tsuda, MD, PhD[1], Ken-ichi Yamaguchi, MD[1], Akira Takeda, MD, PhD[3], Yukio Matsui, MD[1] and Masato Okada, MD, FAAAAI[1], [1]St.Luke's International Hospital, Tokyo, Japan, [2]St.Luke's Life Science Institute, ,Tokyo, Japan, [3]International University of Health and Welfare Hospital, Tochigi, Japan

714 **Priming for Degranulation in Eosinophils Stimulated with Interleukin-5 (IL-5) Is Reversible**

Konrad Pazdrak, MD, PhD, Susan Stafford, Maria R Maroto, MD, Samantha Sheller and Alexander Kurosky, PhD, University of Texas Medical Branch, Galveston, TX

715 **Cyclophilin D Regulates Eosinophil Survival**

Xiang Zhu, PhD, Jeffrey D. Molkentin, PhD and Nives Zimmermann, MD, FAAAAI, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

716 **A Novel Therapeutic Target for the Treatment of Eosinophilic Disorders**

Fanny Legrand[1], Alexandra Alpaugh[1], Rustom Falahati[2], Michelle Makiya[1] and Amy D Klion, MD[1], [1]National Institutes of Health, Bethesda, MD, [2]Allakos, Inc., San Carlos, CA

717 **Eosinophil Peroxidase As an Autoimmune Target in Eosinophilic Airway Disorders**

Manali Mukherjee, PhD[1], Katherine Radford, MSc[1], Gi-Yueng Cheng[1], James J Lee, PhD[2] and Parameswaran K. Nair, MD, PhD, FRCP, FRCPC[1], [1]Firestone Institute for Respiratory Health, Hamilton, ON, Canada, [2]Mayo Clinic Arizona, Scottsdale, AZ

718 **Cytokine and Chemokine Analysis in Bronchoalveolar Lavage Fluid of Acute Eosinophilic Pneumonia**

Kazuyuki Nakagome, MD, PhD[1,2], Takehito Kobayashi, MD, PhD[2], Tomoyuki Soma, MD[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

719 **Procaterol Suppresses Epithelial to Mesenchymal Transition (EMT) of Bronchial Epithelial Cells Induced By Eosinophils**

Keigo Kainuma, MD[1], Takao Fujisawa, MD, FAAAAI[2], Koa Hosoki, MD, PhD[3], Masaaki Toda[4], Etsuko Harada[4], Chelakkot-Govindalayathila A. L.[4], D'Alessandro-Gabazza C. N.[4] and Gabazza, E. C.[4], [1]Allergy Center and Department of Clinical Research Mie National Hospital, Japan, tsu, Japan, [2]Allergy Center and Department of Clinical Research Mie National Hospital, [3]University of Texas Medical Branch, Galveston, TX, [4]Department of Immunology, Mie University Graduate School of Medicine, Tsu, Japan

720 **Increased Expression of Leukotriene C4 Synthase Is a Feature of Circulating CD34+ Hematopoietic Stem Cells but Not Circulating Eosinophils in Aspirin-Exacerbated Respiratory Disease (AERD)**

Mary Grace Baker, MD, Yale-New Haven Hospital, New Haven, CT, Julie Negri, BS, University of Virginia, Charlottesville, VA, John W. Steinke, PhD, FAAAAI, Asthma and Allergic Disease Center, Carter Center for Immunology Research, University of Virginia, Charlottesville, VA and Larry Borish, MD, FAAAAI, University of Virginia, Department of Medicine, Division of Asthma, Allergy and Immunology, Charlottesville, VA

721 **Nasal Allergen Challenge (NAC) Induced Eosinophilia - the Allergic Rhinitis Clinical Investigator Collaborative (AR-CIC)**

Jenny Thiele, MSc[1,2], Daniel Adams, BSc[1], Mena Soliman, MBChB[1,2], Lisa Steacy, BSc[1] and Anne 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

722 **Differential Exposure of Eosinophils to Cytokines Leads to an Activated Phenotype in the Airways Inducing Pulmonary IL-13 Responses That Are Eosinophil Dependent**

Elizabeth A. Jacobsen, PhD, Dana C Colbert, Katie R Zellner, Cheryl A Protheroe, William E LeSuer, Nancy A Lee, PhD and James J Lee, PhD, Mayo Clinic Arizona, Scottsdale, AZ

723 **Preferential Production of TNFα, Compared to IL-4 and IFNγ, By Differentiating Eosinophil-Basophil Cord Blood Progenitors**

Pia Reece, PhD[1], Claudia C.K. Hui, PhD[2] and Judah A Denburg, MD, FRCPC, FAAAAI[1], [1]Division of Clinical Immunology and Allergy, Department of Medicine, McMaster University, Hamilton, ON, Canada, [2]Division of Clinical Immunology & Allergy, McMaster University, Hamilton, ON, Canada

Mechanisms of T Cells and Signaling in Disease

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724 Pharmacological Characterization of T Cell-Induce Bronchoconstriction in the Mice
Akio Mori, MD, PhD[1], Satoshi Kouyama, MSc[1], Miyako Yamaguchi[1], Yo Iijima[1], Akemi Ohtomo-Abe, PhD[1], Hiroaki Hayashi, MD[1], Kentaro Watarai, MD[1], Chihiro Mitsui, MD[1], Chiyako Oshikata, MD[1], Kiyoshi Sekiya, MD[1], Takahiro Tsuburai, MD, PhD[1], Yuji Maeda, MD[1], Mamoru Ohtomo, MD[1], Yuma Fukutomi, MD[1], Masami Taniguchi, MD, PhD[1], Kazuo Akiyama, MD[1], Takayuki Ohtomo, PhD[2] and Osamu Kaminuma, PhD[3], [1]National Hospital Organization, Sagamihara National Hospital, Sagamihara, Japan, [2]Tokyo University of Pharmacy and Life Science, Tokyo, Japan, [3]Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan

725 C5a Mediated Induction of Phosphorylated P38 MAPK Expression By Blood T Lymphocytes in Adults with Allergic Asthma
Kobkul Chotikanatis, MD[1,2], Seto M Chice, MS[2], Helen G. Durkin, PhD[2,3] and Rauno O. Joks, MD, FAAAAI[1,4], [1]Department of Medicine, SUNY Downstate Medical Center, Brooklyn, NY, [2]Center for Allergy and Asthma Research, SUNY Downstate, Brooklyn, NY, [3]Department of Pathology, Center for Allergy and Asthma Research, State University of New York Downstate Medical Center, Brooklyn, NY, [4]Center for Allergy and Asthma Research at SUNY Downstate Medical Center, Brooklyn, NY

726 NMDA Receptor Triggering Leads CD4+ T Cells Cytokine Balance Towards Type 2 Dominant
Kanami Orihara, PhD[1,2], Kent T. HayGlass, PhD[3], Akio Matsuda, PhD[1], Hirohisa Saito, MD, PhD[1] and Kenji Matsumoto, MD, PhD[1], [1]Department of Allergy and Immunology, National Research Institute for Child Health and Development, Tokyo, Japan, [2]Waseda Institute for Advanced Study, Waseda University, Tokyo, Japan, [3]University of Manitoba, Winnipeg, MB, Canada

727 Distinct Patterns and Magnitude of T Cell Responses Are Associated with Seasonal Exposure to Timothy Grass Allergens
Denise Hinz, La Jolla Institute for Allergy and Immunology, La Jolla, CA

728 The Th2/Th17 Predominant Endotype of Severe Asthma Is Associated with Increased IL1β, C3 and Their Downstream Signaling Molecules in Bronchoalveolar Lavage
Rafeul Alam, MD, PhD, FAAAAI, Iram Zafar, MS, Chaoyu Irvin, MS, Yingfang Song, MD, James Good, MD, Donald Rollins, MD, Magdalena M Gorska, MD, PhD and Richard J. Martin, MD, National Jewish Health, Denver, CO

729 Gamma-Secretase Inhibitor Alleviates Acute Airway Inflammation of Allergic Asthma in Mice By Down-Regulating Th17 Cell Differentiation
W. X. Zhang, MD[1], Xueya Zhang, MD[1], Anqun Sheng, MD[1], Cuiye Weng, MD[1], Tingting Zhu, MD[1], Changchong Li, MD[1] and Wei Zhao, MD, PhD, FAAAAI[2], [1]Yuying Children's Hospital, Wenzhou, China, [2]Division of Allergy and Immunology, Department of Pediatrics, Virginia Commonwealth University, Richmond, Virginia, 23298, Richmond, VA

730 Percentages of Activated and Proliferating T-Regulatory Cells Correlate with Peanut-Specific Immunoglobulin-E Level in Peanut Allergic Children
Kuang-Chih Hsiao, MBChB[1,2], Lalita Jindal[1,2], Anne-Louise Ponsonby, PhD[1,3], Monique Baker-Mackie[1], Cassandra Lee[1], Paul Licciardi, PhD[1,4] and Mimi L. K. Tang, FRACP, PhD, FAAAAI[5,6], [1]Murdoch Childrens Research Institute, Australia, [2]The Royal Children's Hospital, Australia, [3]Murdoch Children Research Institute, Parkville, Australia, [4]The University of Melbourne, Australia, [5]Royal Children's Hospital and Murdoch Childrens Research Institute, Melbourne, Australia, [6]Murdoch Children's Research Institute, Melbourne, Australia

731 Phenotypic Analysis of Peanut-Responsive T Cells at Baseline in Subjects Enrolled in CoFAR6, a Randomized Placebo-Controlled Epicutaneous Immunotherapy (EPIT) Trial for the Treatment of Peanut Allergy
David Chiang, MS[1], A. Wesley Burks, MD[2], Wendy Davidson, PhD[3], Peter Dawson, PhD[4], Alexander Grishin, PhD[1], Alice Henning, MS[4], Stacie M. Jones, MD[5], Donald Y.M. Leung, MD, PhD, FAAAAI[6], Robert W. Lindblad, MD[4], Andrew H Liu, MD, FAAAAI[6], Amy M. Scurlock, MD[7], Scott H. Sicherer, MD[8], Brian P. Vickery, MD[9], Robert A. Wood, MD[10], Hugh A. Sampson, MD[11] and Cecilia Berin, PhD[8], [1]The Icahn School of Medicine at Mount Sinai, New York, NY, [2]University of North Carolina at Chapel Hill, Chapel Hill, NC, [3]National Institutes of Health, Bethesda, MD, [4]The EMMES Corporation, Rockville, MD, [5]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR, [6]National Jewish Health, Denver, CO, [7]Slot 512-13, UAMS/AR Children's Hospital, Little Rock, AR, [8]Icahn School of Medicine at Mount Sinai, New York, NY, [9]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, [10]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [11]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

732 Epicutaneous but Not Oral Immunotherapy Induces Antigen-Specific Gastrointestinal Tregs and Protects Against Food-Induced Anaphylaxis
Leticia Tordesillas, PhD[1], Lucie Mondoulet, PhD[2], Pierre Henri Benhamou, MD[2], Hugh A. Sampson, MD[3] and Cecilia Berin, PhD[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]DBV Technologies, Bagneux, France, [3]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

733 Effects of Cigarette Smoke Extract and Nicotine on Regulator of G Protein Signaling-2 Expression in Human Airway Smooth Muscle and Bronchial Epithelial Cells
Farnaz Tabatabaian, MD[1], Michael Teng, PhD[2], Kim C. Tran[2], Diane Allen-Gipson, PhD[3], Zhi Tian, PhD[3], Richard F. Lockey, MD[4], Yan Xie, PhD[5], Yaping Tu, PhD[6] and Thomas B. Casale, MD, FAAAAI[7], [1]Departement of Allergy and Immunology, University of South Florida Department of Pediatrics All Children's Hospital, St. Petersburg, FL, [2]Division of Allergy and Immunology, Department of Internal Medicine, and the Joy McCann Culverhouse Airway Diseases Research Center, University of South Florida Morsani College of Medicine, Tampa, FL, [3]Department of Pharm Sciences at University of South Florida, Tampa, FL, [4]Division of Allergy and Immunology, Department of Internal Medicine, University of South Florida, Morsani College of Medicine, Tampa, FL, [5]Creighton University School of Medicine, [6]Creighton University School of Medicine, Omaha, NE, [7]University of South Florida Morsani College of Medicine, Tampa, FL

734 Decreases in GM-CSF Release and Intracellular Levels of GM-CSF By Human Airway Smooth Muscle Cells in Response to Carbon Monoxide and Anoxia
KarryAnne Karin Belanger[1], Bill T. Ameredes, PhD[1] and Jazmin Ruiz, MPH, PhD[2], [1]University of Texas Medical Branch, Galveston, TX, [2]U.S. Environmental Protection Agency, Research Triangle Park, NC

735 Cataloguing the Effects of Genetic Variants in 5' Upstream Regions of Eicosanoid Related Genes
James R. Perkins[1], Jose A Cornejo-Garcia, PhD[2], Inmaculada Doña, MD, PhD[3], Natalia Blanca-López, MD, PhD[4], Maria del Carmen Plaza-Serón, Bsc[5], Juan A Ranea[6], Veronique Godineau[7], Cristobalina Mayorga, PhD[7], Maria J Torres, MD, PhD[8], Gabriela Canto, MD, PhD[4] and Miguel Blanca, MD, PhD[3], [1]IBIMA - Instute for biomedical research malaga, [2]Research Laboratory, Carlos Haya Hospital, Malaga, Spain, [3]Allergy Service, IBIMA-Regional University Hospital of Malaga, Málaga, Spain, [4]Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain, [5]Allergy Service, Infanta Leonor Hospital, Madrid, Spain, [6]University of

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Malaga, Spain, [7]Research Laboratory, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain, [8]Allergy Service, IBIMA-Regional University Hospital of Malaga-UMA, Málaga, Spain

Epidemiology and Asthma Risk Factors

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736 Maternal Prenatal Intake of Fructose Is Associated with Asthma in Children

Lakiea S Wright, MD, MAT[1,2], Sheryl Rifas-Shiman, MPH[1,3], Emily Oken, MD[4], Matthew Gillman, MD, SM[1,3], Augusto A. Litonjua, MD, MPH[5] and Diane R. Gold, MD, MPH[1,6], [1]Harvard Medical School, Boston, MA, [2]Brigham and Women's Hospital Division of Rhematology, Immunology & Allergy, Boston, MA, [3]Department of Population Medicine, Harvard Pilgrim Health Care Institute, Harvard Medical School, Boston, MA, [4]Harvard Medical School, [5]Channing Division of Network Medicine, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, [6]Channing Laboratory, Brigham and Women's Hospital, Boston, MA

737 Higher Serum 5-Methyltetrahydrofolate (5-MTHF) Levels Are Associated with Lower Risk of Wheeze in the National Health and Nutrition Examination Survey (NHANES)

Emily C. McGowan, MD, Elizabeth C. Matsui, MD, MHS and Corinne Keet, MD, PhD, Johns Hopkins University School of Medicine, Baltimore, MD

738 Relationships Among Eosinophils, Asthma, and Sex in a High-Risk Birth Cohort

Frederick J Rubner, MD[1], Daniel J. Jackson, MD[2], Christopher J. Tisler, MT[1], Victoria Rajamanickam[3], James E. Gern, MD, FAAAAI[1] and Robert F. Lemanske Jr, MD, FAAAAI[1], [1]University of Wisconsin School of Medicine and Public Health, Madison, WI, [2]Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, WI, [3]University of Wisconsin Hospitals and Clinics

739 Time Trends in the Prevalence of Asthma in Japanese Children

Akira Akasawa, MD, PhD[1], Koichi Yoshida, MD[1], Yuichi Adachi, MD, PhD[2], Hiroshi Odajima, MD, PhD[3], Mari Sasaki, MD[1] and Mayumi Furukawa, MD[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

740 Longitudinal Patterns of Skin Prick Test Sensitization in Early Childhood Predicts Risk for Asthma at Age 7

Jessica S. Tan, MD, MPH[1], Cole Brokamp[2], Grace K. LeMasters, PhD[3], David I. Bernstein, MD, FAAAAI[4], Gurjit K. Khurana Hershey, MD, PhD, FAAAAI[5], James E. Lockey, MD, MS, FAAAAI[6], Manuel S. Villareal, MD, FAAAAI[1] and Patrick Ryan, PhD[5], [1]University of Cincinnati Medical Center, Cincinnati, OH, [2]University of Cincinnati, [3]University of Cincinnati, Cincinnati, OH, [4]Bernstein Allergy Group, Cincinnati, OH, [5]Cincinnati Children's Hospital Medical Center, Cincinnati, OH, [6]University of Cincinnati College of Medicine, Cincinnati, OH

Immune Mechanisms in Allergic Disease: The Immunology of Allergy

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741 Neonatal Exposure to Microbial Phosphorylcholine Dampens the Development of HDM Allergy Later in Life

Preeyam S. Patel, Graduate Student and John F. Kearney, University of Alabama at Birmingham, Birmingham, AL

742 Levels of Regulatory B Cells in Allergic Rhinitis and Non-Allergic Individuals

Alexander S. Kim, MD, Marina Miller, MD, PhD, Sean Lund, MS, Peter Rosenthal, BS, Rachel Baum, BS, Andrew Beppu, BS, Taylor Doherty, MD, FAAAAI and David H. Broide, MB, ChB, FAAAAI, University of California San Diego, La Jolla, CA

743 Potential Immunoregulatory Roles of Natural Killer Cells in Children with Atopic Dermatitis

Gunnur Deniz[1], Esin aktas Cetin[1], Nilgun Akdeniz[1], Safa Baris[2], Yildiz Camcioglu[3] and Isil B. Barlan[2], [1]Istanbul University, DETAE, Department of Immunology, Istanbul, Turkey, [2]Marmara University, Division of Pediatric Allergy and Immunology, Istanbul, Turkey, [3]Istanbul University, Cerrahpasa Faculty of Medicine, Department of Pediatric Infections Disease, Istanbul, Turkey

744 Release of High-Mobility Group Box-1 (HMGB1) in the Airways of Children with Viral Lower Respiratory Tract Infections

Chelsea R Schlegel[1], Teodora Ivanciuc, PhD[2], Roberto P. Garofalo, MD[2], Kimberly H Palkowetz[2], Kelly A Fuller[2], John P. Kelley, MD[2], Meera Rani Gupta, MD[2] and Antonella Casola, MD[2], [1]Department of Pediatrics, University of Texas Medical Branch, Galveston, TX, [2]University of Texas Medical Branch, Galveston, TX

745 Ovarian Hormones Increase IL-17A Production from Th17 Cells through an IL-23R and Let-7f Mediated Pathway in Severe Asthma

Dawn C. Newcomb, PhD[1], Jacqueline-Yvonne Cephus, BS[2], R. Stokes Peebles Jr, MD, FAAAAI[3], Daniel E. Dulek, MD[4], Madison Boswell[2], Emily W. Langley, MD[5], Amy S. Feldman, MD[6], John M. Fahrenholz, MD, FAAAAI[7], Weisong Zhou, PhD[3] and Kasia Goleniewska[3], [1]Vanderbilt University School of Medicine, Nashville, VA, [2]Allergy, Pulmonary, and Critical Care Medicine; Department of Medicine; Vanderbilt University School of Medicine, Nashville, TN, [3]Vanderbilt University School of Medicine, Nashville, TN, [4]Pediatric Infectious Diseases; Department of Pediatrics; Vanderbilt University School of Medicine, Nashville, TN, [5]Division of Allergy, Pulmonary, and Critical Care Medicine, Department of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee, [6]Division of Allergy, Pulmonary, and Critical Care Medicine, Department of Medicine, and Center for Asthma and Environmental Sciences Research, Vanderbilt University School of Medicine, Nashville, TN, [7]Vanderbilt University Medical Center, Nashville, TN

Assessing Air Pollution and Allergen Effects

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746 Detection of Airborne *Juniperus* Pollen By Conventional and Real-Time PCR from Burkard Air Samples

Rashmi Prava Mohanty, MS[1], Mark A Buchheim, PhD[2], James Anderson[3] and Estelle Levetin, PhD, FAAAAI[1], [1]University of Tulsa, Tulsa, OK, [2]University of Tulsa, [3]oshtech inc.

747 Magnifying: The Truth behind Fungal Spore Counts

Josh D. McLoud, University of Tulsa, OK and Estelle Levetin, PhD, FAAAAI, University of Tulsa, Tulsa, OK

748 A Systematic Analysis of Pollen Transcriptomes from Plant Allergens Reveals Conserved Targets of Immune Responses

Luise Sternberg[1], Jason Greenbaum[2], Veronique M. Schulten[2], Victoria Tripple[2], Denise Baker[2], April Frazier[2], Heidi Hofer[3], Michael Wallner [3], Alessandro Sette, Biol. Sci.[2] and Bjoern Peters[2], [1]La Jolla Institute for Allergy & Immunology, La Jolla, CA, [2]La Jolla Institute for Allergy and Immunology, La Jolla, CA, [3]University of Salzburg, Salzburg, Austria

749 Molecular Characterization & Epitope Mapping of Recombinant Rice Chitinase

Naveen Arora, PhD, Ankita Mishra and Swati Sharma, CSIR - Institute of Genomics and Integrative Biology, Delhi, India

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750 **The GIS-Based Ecological Association Between Ambient Ozone and Allergic Diseases at the Sub-District Level in Seoul, Korea**
Sungchul Seo, The Enviornmental Health Center for Asthma, Korea University, Seoul; Allergy Immunology Center, Seoul, South Korea, Dohyeong Kim, Public Policy and Geospatial Information Sciences, School of Economic, Political and Policy Sciences, University of Texas at Dallas, Richardson, TX, Su-Jin Min, Public Policy and Political Economy Program School of Economic, Political and Policy Sciences University of Texas at Dallas, Richardson, TX and Ji Tae Choung, MD, Department of Pediatrics, Korea University Hospital, Seoul, South Korea; The Environmental Health Center for Asthma

Novel Insights in Drug Allergy

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751 **Adverse Reactions Associated with Oral and Parenteral Cephalosporin Use: A Retrospective Population-Based Analysis**
Eric M. Macy, MD, FAAAAI, Southern California Permanente Medical Group, San Diego, CA and Richard Contreras, MS, Kaiser Permanente Southern California Department of Research and Evaluation, Pasadena, CA

752 **Impact of a Clinical Guideline for Prescribing Antibiotics to Inpatients with Reported Penicillin or Cephalosporin Allergies**
Kimberly G Blumenthal, MD[1,2], Erica S Shenoy, MD, PhD[2,3], Christy Varughese, Pharm.D.[3,4], Shelley Hurwitz, PhD[5], David Hooper, MD[3] and Aleena Banerji, MD[1], [1]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [2]Medical Practice Evaluation Center, Department of Medicine, Massachusetts General Hospital, Boston, MA, [3]Division of Infectious Diseases, Infection Control Unit, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [4]Department of Pharmacy, Massachusetts General Hospital, Boston, MA, [5]Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

753 **The Effect of Misoprostol in Aspirin Exacerbated Respiratory Disease Undergoing Aspirin Challenge**
Kristen M Dazy, MD, Katharine M. Woessner, MD, FAAAAI, Ronald A. Simon, MD, FAAAAI and Andrew A. White, MD, FAAAAI, Scripps Clinic Medical Group, San Diego, CA

754 **Clinical Utility of Skin Testing Six Weeks after a Carboplatin Induced Hypersensitivity Reaction**
Timothy P. Lax, MD[1], Aidan Long, MD, FAAAAI[2], Johnson T. Wong, MD, FAAAAI[3], Michael T. Wilson, MD, PhD[3] and Aleena Banerji, MD[2], [1]Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, Boston, MA, [2]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [3]Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA

755 **Rituximab Hypersensitivity: Evaluation, Implications of Skin Testing, Potential Mechanisms, and Desensitization**
Johnson T. Wong, MD, FAAAAI[1], Aleena Banerji, MD[2], Timothy P. Lax, MD[3] and Aidan Long, MD, FAAAAI[2], [1]Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [2]Division of Rheumatology, Allergy and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, [3]Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, Boston, MA

Novel Insights in Food Allergy

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Monday, February 23rd, 2015, 2:00 PM - 3:15 PM

756 **Safety of Food Allergy Clinical Trials: The Consortium for Food Allergy Research's 10 Years of Experience**
Robert W. Lindblad, MD[1], Peter Dawson, PhD[1], Robert A. Wood, MD[2], Alice Henning, MS[3], Scott H. Sicherer, MD[4], Tamara T. Perry, MD[5], Stacie M. Jones, MD[6], Brian P. Vickery, MD[7], A. Wesley Burks, MD[8], Andrew H Liu, MD, FAAAAI[9], Donald Y.M. Leung, MD, PhD, FAAAAI[9] and Hugh A. Sampson, MD[10], [1]The EMMES Corporation, [2]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [3]The EMMES Corporation, Rockville, MD, [4]Icahn School of Medicine at Mount Sinai, New York, NY, [5]University of Arkansas for Medical Sciences, Little Rock, AR, [6]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR, [7]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA, [8]University of North Carolina at Chapel Hill, Chapel Hill, NC, [9]National Jewish Health, Denver, CO, [10]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

757 **Increasing Tolerance to Less Extensively Heat-Denatured (baked) Milk Products in Milk-Allergic Children**
Anna H. Nowak-Wegrzyn, MD, FAAAAI, Icahn School of Medicine at Mount Sinai, New York, NY, Beth D. Strong, RN CCRC, Icahn School of medicine at Mount Sinia, New York, NY, Kaitie Fernandez, Rho Federal Systems Division, Inc., Chapel Hill, NC, Chapel Hill, NC, Tee Bahnson, BS, MPH, Rho Federal Systems Division, Inc., Chapel Hill, NC and Hugh A. Sampson, MD, Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

758 **Safety, Clinical and Immunologic Efficacy of a Chinese Herbal Medicine (FAHF-2) for Food Allergy**
Julie Wang, MD, FAAAAI[1], Stacie M. Jones, MD[2], Jacqueline A Pongracic, MD, FAAAAI[3], Ying Song, MD[1], Nan Yang, PhD[1], Scott H. Sicherer, MD[1], Melanie M. Makhija, MD, MS[4], Rachel Glick Robison, MD[3], Erin Moshier, MS[1], James Godbold, PhD[1], Hugh A. Sampson, MD[5] and Xiu-Min Li, MD, MS[6], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Arkansas Children's Hospital, Little Rock, AR, [3]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [4]Division of Allergy and Immunology, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [5]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [6]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY

759 **Investigation of Peanut Oral Immunotherapy Using CpG/Peanut-Nanoparticles in a Murine Model of Peanut Allergy**
Kamal D. Srivastava, PhD[1], Alyssa Siefert[2], Tarek Fahmy, PhD[2], Michael J Caplan, MD[2], Xiu-Min Li, MD, MS[3] and Hugh A. Sampson, MD[4], [1]Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, [2]Yale University, New Haven, CT, [3]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, [4]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA

760 **Pioglitazone Attenuates Peanut Induced Anaphylaxis in a Mouse Model of Peanut Allergy**
Amy M. Scurlock, MD[1], James D Sikes[2], Jennifer N Payne[2], Suzanne E House[3] and Stacie M. Jones, MD[4], [1]Slot 512-13,

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UAMS/AR Children's Hospital, Little Rock, AR, [2]UAMS/AR Children's Hospital, Little Rock, AR, [3]University of Arkansas for Medical Sciences, Little Rock, AR, [4]Slot 512-13, University of Arkansas for Medical Sciences, Little Rock, AR

Immunotherapy, Vaccines, Drug Adherence, and Drug Interactions

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761 Impact of Allergen Immunotherapy Labeling and Dosing Diversity at the "Big 10" Universities' Health Services
Christine L. Holland, MD, The University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI, Kiela Samuels, PharmD, University of Michigan Health System, Ann Arbor, MI, Georgiana M. Sanders, MD, MS, FAAAAI, University MI Medical Center, Ann Arbor, MI and Marilyn R Karam, MD, University of Michigan, Division of Allergy and Clinical Immunology, Ann Arbor, MI, MI

762 Long-Term Adherence to Self-Injectable Epinephrine Prescription
Joyce XW Lee, MD, Anil M Patel, MD, Andrew Q Pham, MD, Sabrina T Lee, BS, Jeffrey B Flores and Joseph S Yusin, MD, FAAAAI, VA Greater Los Angeles Health Care System, Los Angeles, CA

763 A Cost-Effective Analysis of the U.S. Varicella Zoster Virus (VZV) Vaccination Program with Consideration for Delayed Onset of Asthma Following Vzv Infection
Jared B. Ditkowsky, BA&Sc.[1], Stephan Kohlhoff, MD[1], Jonathan Silverberg, MD, PhD, MPH[2] and Tamar A. Smith-Norowitz, PhD[1], [1]Department of Pediatrics, State University of New York Downstate Medical Center, Brooklyn, NY, [2]Department of Dermatology, Northwestern University School of Medicine, Chicago, IL

764 Association Between Acetaminophen and Asthma Morbidity in a Latino Population
Nana Sarkoah Fenny, MD[1], Elizabeth Nguyen, BS[2], Joshua Galanter, MD[3], Sam Oh, PhD, MPH[3], Celeste Eng, BS[3], Fred Lurmann, MS[4], Rajesh Kumar, MD, MS, FAAAAI[5,6], Harold J. Farber, MD, MSPH[7], Denise Serebrisky, MD[8], Luisa Borrell, DDS, PhD[9], Saunak Sen, PhD[10], William Rodriguez-Cintron, MD[11], Jose Rodriguez-Santana, MD[12], Esteban Gonza Burchard, MD, MPH[3] and Pedro C. Avila, MD, FAAAAI[1], [1]Feinberg School of Medicine, Northwestern University, Chicago, IL, [2]Department of Medicine, University of California, San Francisco, California, San Francisco, CA, [3]Department of Medicine, University of California, San Francisco, San Francisco, CA, [4]Sonoma Technology, Inc., Petaluma, CA, [5]Children's Memorial Hospital, Chicago, IL, [6]Pediatric allergy, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [7]Baylor College of Medicine and Texas Children's Hospital, Houston, TX, [8]Pediatric Pulmonary Division, Jacobi Medical Center, Bronx, NY, [9]Department of Health Sciences, Graduate Program in Public Health, Lehman College, City University of New York, Bronx, NY, [10]Department of Epidemiology and Biostatistics, University of California, San Francisco, San Francisco, CA, [11]Veterans Caribbean Health Care System, San Juan, PR, [12]Centro de Neumologia Pediatrica, San Juan, PR

765 Factors Associated with Rates of Influenza Vaccination in Allergy and Primary Care Clinics
Melissa K. Skupin, MD[1], Suzanne Havstad, MA[2], Ganesa R Wegienka, PhD[2] and Christian G. Nageotte, MD[1], [1]Henry Ford Health System, Detroit, MI, [2]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI

Chronic Rhinosinusitis

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766 Complement Activation in Nasal Tissue of Patients with Chronic Rhinosinusitis
Griet A Van Roey[1], Christopher C Vanison[1], He Huang, MS[2], Robert C. Kern, MD[2], Rakesh K. Chandra, MD[3], Stephanie Shintani Smith[1], David B. Conley, MD[1], Kathryn E. Hulse, PhD[4], Atsushi Kato, PhD[5], Lydia Suh, BSc[4], Roderick G. Carter, BSc[4], Robert P. Schleimer, PhD, FAAAAI[4] and Bruce Tan, MD[2,6], [1]Northwestern University, [2]Department of Otolaryngology, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Department of Otolaryngology, Vanderbilt University, Nashville, TN, [4]Department of Medicine, Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL, [5]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [6]Northwestern University - Feinberg School of Medicine, Chicago, IL

767 Interleukin-25 As a Novel Therapeutic Target in Nasal Polyps of Chronic Rhinosinusitis
Dong-Kyu Kim[1], Hyun-Woo Shin[2], Min-Hyun Park[3], Kyung Mi Eun[3], Mingyu Lee[2], Daeho So[2], IG Kong[4], Ji-Hun Mo[5], Min-Suk Yang[3], Hong Ryul Jin[3], Jong-Wan Park[2] and Dae Woo Kim, MD[3], [1]Chuncheon Sacred Heart Hospital, Hallym University College of Medicine, South Korea, [2]Seoul National University College of Medicine, Pharmacology and Biomedical Science, Ischemic/Hypoxic Disease Institute, South Korea, [3]Seoul National University Hospital and Boramae Medical Center, South Korea, [4]Healthcare System Gangnam Center, Seoul National University Hospital, South Korea, [5]Dankook University College of Medicine, Cheonan, South Korea

768 A Newly Established Murine Model of Nasal Polyps Demonstrates B Cell Activation, Similar to Human Nasal Polyps
Dong-Young Kim, MD[1,2], Sun Hye Lee, PhD[1], Dae Woo Kim, MD[2], Chae-Seo Rhee, MD[2], Roderick G. Carter, BSc[1], Robert P. Schleimer, PhD, FAAAAI[1] and Seong Ho Cho, MD[1], [1]Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, [2]Department of Otorhinolaryngology-Head and Neck Surgery, Seoul National University College of Medicine, Seoul, South Korea

769 Innate Lymphoid Cell and Mast Cell Distributions in Chronic Rhinosinusitis Subtypes
Caroline J. Padro Dietz, PhD, Aravind Yadav, MD, Faramarz Ashoori, MD, Samer Fakhri, MD, Martin Citardi, MD and Amber U. Luong, MD, PhD, University of Texas Health Science Center at Houston, Houston, TX

770 Allergic Sensitization, High Local IL-5 and IgE Predict Surgical Outcome 12 Years after Endoscopic Sinus Surgery for Chronic Rhinosinusitis with Nasal Polyposis
Philippe Gevaert, MD, Ghent University Hospital, Gent, Belgium, Lien Calus, MD, Ghent University Hospital, Belgium, Ghent, Belgium, Nicholas van Bruaene, MD, Ghent University Hospital, Ghent, Belgium, Thibaut Van Zele, MD, Ghent University Hospital, Belgium, Gent, Belgium and Claus Bachert, MD, PhD, Upper Airway Research Laboratory (URL), Ghent University Hospital, Ghent, Belgium

Mechanisms of Atopic Diseases: IgE, Basophils, and Mast Cells, Oh My!

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Monday, February 23rd, 2015, 2:00 PM - 3:15 PM

771 IgE Is Necessary for Pulmonary Vascular Leak during a Respiratory Viral Infection
Brian T. Kelly, MD, MA, Desire Hunter, Jennifer L Santoro, BS and Mitchell H. Grayson, MD, FAAAAI, Medical College of Wisconsin, Milwaukee, WI

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772 **Rhinovirus Infection Modulates the Activation Status of Circulating Basophils and Dendritic Cells**
Rachana Agrawal, PhD[1], Peter W. Heymann, MD[1], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[2] and Judith A. Woodfolk, MBChB, PhD, FAAAAI[1], [1]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [2]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA

773 **Alternaria alternata Induces Mast Cell Activation in an IgE-Independent Fashion**
Lora G. Bankova, MD[1], Li Li[1], Joshua A. Boyce, MD, FAAAAI[2], K. Frank Austen, MD, FAAAAI[1], Yoshihide Kanaoka, MD, PhD[1] and Nora A. Barrett, MD, FAAAAI[1], [1]Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA, [2]Brigham and Women's Hospital, Division of Rheumatology, Immunology, and Allergy, Boston, MA

774 **Prostaglandin E2 Deficiency Permits Leukotriene E4-Selective Airway Hyperresponsiveness and Mast Cell Activation**
Tao Liu, PhD and Joshua A. Boyce, MD, FAAAAI, Harvard Medical School, Brigham and Womens Hospital, Boston, MA

775 **The Fcεriβ Homologue, MS4A4, Promotes Fcεri-Dependent Human Mast Cell Degranulation By Facilitating PLCγ1 Signaling**
Glenn Cruse, PhD[1], Michael A Beaven, PhD[2], Stephen C Music[3], Peter Bradding, DM[4] and Dean D. Metcalfe, MD[1], [1]Laboratory of Allergic Diseases, NIAID, NIH, Bethesda, MD, [2]Laboratory of Molecular Immunology, NHLBI, NIH, Bethesda, MD, [3]Laboratory of Allergic Diseases, NIAID, NIH, [4]University of Leicester, Leicester, United Kingdom

High-Risk Asthma Phenotypes and Asthma Exacerbations

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Tuesday, February 24th, 2015, 9:45 AM - 10:45 AM

776 **Comparison Efficacy and Safety of Inhaled Magnesium Sulfate to Intravenous Magnesium Sulfate in Childhood Severe Asthma Exacerbation**
Sureerat Watanatham, MD, Gun Pongsamart, MD, Mukda Vangveeravong, MD and Tassalapa Daengsuwan, MD, Queen Sirikit National Institute of Child Health, Bangkok, Thailand

777 **The Relationship Between Age, Weight and Asthma Severity in Children Admitted to the Hospital with Asthma**
Anne E. Borgmeyer, MSN, RN, CPNP, AE-C[1], Robert C. Strunk IV, MD, FAAAAI[2] and Angela Niesen, MPH[1], [1]St. Louis Children's Hospital, Saint Louis, MO, [2]Washington University School of Medicine, Saint Louis, MO

778 **Asthma Exacerbations and in-Hospital Mortality: Insights from the Nationwide Inpatient Sample**
Bani Preet Kaur, MD[1], Shilkumar Arora, MD[2], Sidakpal S Panaich, MD[3], Harpreet Sagar, MD[3] and Diane Levine, MD[3], [1]Wayne State University/Detroit Medical Center, Detroit, MI, [2]Icahn School of Medicine at Mount Sinai, [3]Wayne State University/Detroit Medical Center

779 **Asthma Exacerbations, Length of Stay and Hospitalization Costs: Insights from the Nationwide Inpatient Sample**
Shilkumar Arora, MD[1], Bani Preet Kaur, MD[2], Sidakpal S Panaich, MD[3], Harpreet Sagar, MD[3] and Diane Levine, MD[3], [1]Icahn School of Medicine at Mount Sinai, [2]Wayne State University/Detroit Medical Center, Detroit, MI, [3]Wayne State University/Detroit Medical Center

780 **Positive Intradermal Mold Skin Testing Correlates with Past and Future Asthma Emergency Room Visits and Hospitalizations**
Efren L. Rael, MD, FAAAAI, Allergy/Immunology, Penn State University College of Medicine, Hershey, PA

781 **Multiple Hospitalizations for Childhood Asthma: Predictors and Risk Factors**
Bella Lerman, DO[1] and Ejaz Yousef, MD, FAAAI[1,2], [1]Marshfield Clinic, Marshfield, WI, [2]Marshfield Clinic, MARSHFIELD, WI

782 **Asthma and Asthma Exacerbation Exists in Infants (<1 year) and Can be Treated Effectively with Inhaled Corticosteroids**
Benjamin Volovitz, Head of Asthma Clinic (ret.), Schneider Children's Hospital, Tel-Aviv, Israel

783 **Comparisons of Etiology and Clinical Feature of Wheezing Bronchitis Among Lower Respiratory Tract Infections in Hospitalized Young Children in Southern Taiwan**
Yung-Feng Huang[1], Chih-An Chou[1], Ying-Yao Chen[1] and Yao-Shen Chen[2], [1]Department of Pediatrics, Kaohsiung Veterans General Hospital, Taiwan, [2]Section of Infectious Diseases, Kaohsiung Veterans, Taiwan

784 **Observing Medical Insurance Claims Data in a High Risk Asthma Population and Targeting Behavioral Patterns to Improve Controller Medication Compliance and Reduce Emergency Department Visits**
Sweeti Bhakta-Jain, MD, UTHSC Department of Pediatrics, Memphis, TN, Christie F. Michael, MD, University of Tennessee Division of Clinical Immunology, Memphis, TN and Christina Underhill, Ph. D, LeBonheur Childrens Hospital, Division of Community Health and Well-Being

Asthma Barriers and Comorbidities

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785 **Relationship of S100A9 (S100 Calcium binding Protein A9) with Neutophilic Inflammation in Murine Asthma Model**
Jong-Sook Park, MD, Tae-Hyeong Lee, PhD student, Hye-Rim Shin, MS, Hyun Ji Song, MS, Jeong-Dong Kim, MS and Choon-Sik Park, MD, Soonchunhyang University Bucheon Hospital, Bucheon, South Korea

786 **The Contribution of Peptide-MHC Affinity to the Efficacy of Peptide Immunotherapy in a Murine Model of Allergic Airways Disease**
Daniel M. Moldaver[1,2], Tarandeep Singh[1,2], Melissa Babra[1,2], Christopher Rudulier[1], Mantej S. Bharhani[1,2], Jennifer Wattie[1,2], Marianne van Hage, MD, PhD[3], Mark D. Inman, MD, PhD[1,2] and Mark Larché, PhD[1,2], [1]McMaster University, Hamilton, ON, Canada, [2]Firestone Institute for Respiratory Health, Hamilton, ON, Canada, [3]Karolinska Institutet, Department of Medicina Solna, Clinical Immunology and Allergy Unit, Stockholm, Sweden

787 **Daily Low-Dose Aspirin Use Leads to a Delay in Diagnosis of Aspirin Exacerbated Respiratory Disease**
Kathleen Lee-Sarwar[1,2], Christina Johns, BA[3], Tanya M. Laidlaw, MD, FAAAAI[3,4] and Katherine N. Cahill, MD[2,3], [1]Brigham and Women's Hospital, Department of Medicine, Boston, MA, [2]Harvard Medical School, Boston, MA, [3]Brigham and Women's Hospital, Division of Rheumatology, Immunology and Allergy, Boston, MA, [4]Brigham and Women's Hospital, Division of Rheumatology, Immunology, and Allergy, Boston, MA

788 **Comparative Serum Hyaluronan Levels in Patients with Aspirin-Exacerbated Respiratory Disease, Asthma, and Healthy Controls**
Alexei Gonzalez-Estrada, MD[1], Alana Majors, PhD[2], Lisa Ruple[2], Suzy AA Comhair, PhD[2], Xiaofeng Wang, PhD[3], Ewa Nizankowska-Mogilnicka, MD, PhD[4] and Mark A. Aronica, MD[1,2], [1]Respiratory Institute, Cleveland Clinic, [2]Department of Pathobiology, Cleveland Clinic, [3]Quantitative Health Sciences, Cleveland Clinic, [4]Jagiellonian University School Medicine, Krakow, Poland

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789 **Risk Factors for Depression in Rural Adolescents with Asthma**
Jeana S. Bush, MD[1], Dennis R. Ownby, MD, FAAAAI[1], Jennifer L. Waller, PhD[2] and Martha S. Tingen, PhD[2], [1]Department of Pediatrics, Georgia Regents University, Augusta, GA, [2]Georgia Regents University, Augusta, GA

790 **Component-Resolved Diagnostic: Study of Dermatophagoides Pteronyssinus Major Allergen Molecules in a Southern Chinese Cohort**
Luo Wenting[1], Zeng Guangqiao[2], Sun Baoqing, Professor[2], Zheng Peiyan[3], Huang Huimin[2] and Wei Nili[2], [1]First Affiliated Hospital of Guangzhou Medical University, Guanghzou, China, [2]First Affiliated Hospital of Guangzhou Medical University, Guangzhou, China, [3]Guangzhou Institute of Respiratory Disease, China

791 **Use of Wheeze Monitor Device in the Ambulatory Setting**
Ricardo A. Tan, MD, FAAAAI, California Allergy and Asthma Medical Group, Los Angeles, CA and Sheldon L. Spector, MD, FAAAAI, California Allergy & Asthma Medical Group, Los Angeles, CA

792 **Validity of Asthma Diagnosis in Residency Primary Care Clinics**
Suneet Dullet, Syeda Hamadani and Gina Rossetti, University of Southern California, Los Angeles, CA

Allergy and Asthma Potpourri

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793 **Parental Willingness to Participate in Infant Primary Asthma Prevention Trial**
Hector Rodriguez, MD[1], Tebeb Gebretsadik, MPH[1,2], Alexandra S. Connolly[1], Donald H. Arnold, MD, MPH[1,3], Emma K. Larkin, PhD[1], Pingsheng Wu, PhD, MS[1,2] and Tina V. Hartert, MD, MPH[1], [1]Division of Allergy, Pulmonary and Critical Care Medicine; Center for Asthma Research, Vanderbilt University School of Medicine, Nashville, TN, [2]Department of Biostatistics, Vanderbilt University School of Medicine, Nashville, TN, [3]Departments of Pediatrics and Emergency Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee

794 **Healthy, Non-Allergic Subjects Do Not Develop Allergic Symptoms When Co-Mingled with Symptomatic Allergic Subjects and Exposed to Airborne Allergen in an Environmental Exposure Chamber (EEC)**
Rishi Patel[1], Erin Beattie, PhD[2], Renea Modeste, BSc[2] and AnneMarie Salapatek, PhD[3], [1]University of Southampton, mississauga, ON, Canada, [2]Inflamax Research, mississauga, ON, Canada, [3]Inflamax Research, Mississauga, ON, Canada

795 **Response to Ragweed Allergen Provocation in the Red Maple Trials Allergen Challenge Theatre**
Suzanne Kelly, PhD, Jacob Karsh, MD, Jimmy Yang, MBA and William H. Yang, MD, Red Maple Trials Inc., Ottawa, ON, Canada

796 **Risk Factors for Recurrent Wheezing – International Study of Wheezing in Infants (EISL) Phase 3**
Carolina Aranda[1], Gustavo Wandalsen, MD[1], Ligia Fonzar[1], Ana Caroline C. Dela Bianca, MD, PhD[1], Javier Mallol[2] and Dirceu Sole, MD, PhD, FAAAAI[1], [1]Federal University of São Paulo, São Paulo, Brazil, [2]University of Santiago de Chile

797 **Field Performance of a New Technology with the Potential to Identify Allergy and Asthma Triggers**
Julian Gordon, PhD[1], Prasanthi Gandhi, MBA, MPH[1], Jack A Gilbert[2,3] and Jarrad T Hampton-Marcell[2,3], [1]Inspirotec LLC, Glenview, IL, [2]Argonne National Laboratory, Lemont, IL, [3]Department of Ecology and Evolution, University of Chicago, Chicago, IL

798 **Objective Phenotypes in Gulf War Illness with Chronic Fatigue Syndrome**
Jianing Shi, PhD[1], Rakib Rayhan, MS[2], James N Baraniuk, MD[3] and Richard G Baraniuk, PhD[1], [1]Rice University, Houston, TX, [2]Georgetown University, Washington, DC, [3]Georgetown University Medical Center, Washington, DC

Food Allergy II

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799 **Positive Oral Peanut Challenge Following Negative Percutaneous Skin Testing, Serum Whole Peanut IgE and Component Testing in Previously Documented Peanut Allergic Child**
Katherine S Tille, MD, Wilford Hall Ambulatory Surgical Center, Lackland AFB, TX and Christopher W. Calabria, MD, Dilley Allergy and Asthma Specialists, San Antonio, TX

800 **Skin Prick Test with Heated Fruit for Differentiating Fruit Allergy with Systemic Reaction from That with Oral Reaction**
Osamu Natsume, MD[1,2], Tatsuki Fukuie, MD, PhD[2], Ryuhei Yasuoka, MD[2], Iwao Tajima, MD[2], Takeshi Chiba, MD[1], Mai Kondo, MD[1], Tomohide Taguchi, MD[2], Masami Narita, MD, PhD[3], Masaki Futamura, MD[1], Hiroshi Kitazawa, MD, PhD[1] and Yukihiro Ohya, MD, PhD[1], [1]Division of Allergy, National Center for Child Health and Development, Tokyo, Japan, [2]Department of Pediatrics, Hamamatsu University School of Medicine, Shizuoka, Japan, [3]Division of Allergy, Department of Medical Subspecialties, National Center for Child Health and Development, tokyo, Japan

801 **Clinical and Immunologic Characteristics of Peanut Allergy in Patient with Coexistent Birch Pollen Sensitivity**
Matthew Haaland[1], Marta Bejuk[2,3], Wilma Hopman[3,4] and R. Borici-Mazi[5,6], [1]Queen's University, Canada, [2]Department of Pediatrics, [3]Queen's University, [4]Clinical Research Unit, Kingston General Hospital, ON, [5]Division of Allergy and Immunology, [6]Queen's University, Kingston, ON, Canada

802 **Predicting Shrimp Allergy Using Skin Prick Test, Specific IgE to Shrimp and Rpen a1 in Area with High Prevalence of House Dust Mite Sensitization**
Jaichat Mekaroonkamol, MD[1], Pantipa Chatchatee, MD[2], Jarungchit Ngamphaiboon, MD[2], Piyawadee Lertchanaruengrith, MD[1] and Narissara Suratannon, MD[2], [1]King Chulalongkorn Memorial Hospital, Bangkok, Thailand, [2]Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

803 **A Sensitive Immunoassay for Invertebrate Tropomyosin Allergens in Foods, Inhalants, Ticks and Worms**
Stephanie Filep[1], Bryan Smith[1], Kristina Reid Black[1], Eva-Maria King, PhD[1], Greg A. Plunkett, PhD[2] and Martin D. Chapman, PhD, FAAAAI[1], [1]Indoor Biotechnologies, Inc., Charlottesville, VA, [2]ALK-Abelló, Inc, Round Rock, TX

804 **Efficacy of Peanut and Soybean-Specific IgE Probability Curves Derived from Two Different Serologic Methods (3g and immunoCAP)**
Kiyotake Ogura[1], Sakura Sato[1], Kazuko Kutsuwada[1], Yasunori Sato[2] and Motohiro Ebisawa, MD, PhD, FAAAAI[1], [1]Clinical Research Center for Allergy and Rheumatology, Sagamihara National Hospital, Kanagawa, Japan, [2]Department of Biostatistics, Clinical Research Center Chiba University

805 **Immunological and Proteomic Analysis of Proteins from Three Soybean Lines Were Tested to Identify Proteins Commonly Bound By IgE from Sensitized Subjects**
Mei Lu, Food Allergy Research and Resource Program, University of Nebraska, Lincoln, NE, Ron L Cerny, University of Nebraska, Lincoln, NE and Richard E. Goodman, FAAAAI, Food Allergy

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Research and Resource Program, University of Nebraska-Lincoln, Lincoln, NE

806 Trends in Soy IgE Levels in Food Allergic Patients
Edith Schussler, MD[1], Manish Ramesh, MD, PhD[2], Jacob D. Kattan, MD[1] and Julie Wang, MD, FAAAAI[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Montefiore Medical Center, New York, NY

807 Trends in Repeat Cows Milk Sige Levels
Maureen Egan, MD[1], Manish Ramesh, MD, PhD[2], Tricia D. Lee, MD[3], Jacob D. Kattan, MD[1] and Julie Wang, MD, FAAAAI[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]Mount Sinai School of Medicine, New York, NY, [3]Icahn School of Medicine at Mount Sinai

808 Analysis of IgE Antibodies in Several Food Allergy Syndromes By Serial Dilutions of Serum on Immunocap with Whole and Component Allergens
Anubha Tripathi, MD[1], Lisa J. Workman, BA[1], Scott P. Commins, MD, PhD[1], Elizabeth A. Erwin, MD[2] and Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[1], [1]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA, [2]Division of Allergy & Immunology, Nationwide Children's Hospital, Columbus, OH

809 Component-Resolved Diagnostics for Diagnosis of Peanut Allergy in Korean Children
Hye-young Kim, Department of Pediatrics, College of Medicine, Pusan National University, Pusan, South Korea, Jihyun Kim, MD, PhD, Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea, Youngshin Han, PhD, Sungkyunkwan University School of Medicine, Samsung Medical Center, Seoul, South Korea and Kang Mo Ahn, Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, South Korea

810 Is the Allergen-Specific Basophil Activation Test (BAT) Predictive of Oral Food Challenge (OFC) Outcomes?
Vijaya Knight, MD, PhD, National Jewish Health, Denver, CO

811 The Safety of the Oral Food Challenge Test with the Small Amount of Wheat for the High Risk Patients
Toshinori Nakamura, MD[1], Takanori Imai, MD[2], Mayu Shimizu[3], Taro Kamiya[3] and Kazuo Itahashi, MD, PhD[4], [1]Department of pediatrics, Showa University, [2]Showa University, Tokyo, Japan, [3]Showa University, [4]Department of Pediatrics, Showa University

812 Late Reactions in Food-Allergic Children after Double-Blind, Placebo-Controlled Food Challenges
Jacquelien Saleh-Langenberg, BSc[1,2], Bertine M.J. Flokstra-de Blok, PhD[2,3], Nahlah AlAgla[1], Boudewijn J. Kollen[2] and Anthony E.J. Dubois, MD, PhD[1,2], [1]University of Groningen, University Medical Centre Groningen, Department of Pediatric Pulmonology and Pediatric Allergy, Groningen, Netherlands, [2]University of Groningen, University Medical Centre Groningen, GRIAC Research Institute, Groningen, Netherlands, [3]University of Groningen, University Medical Centre Groningen, Department of General Practice, Groningen, Netherlands

813 Are There Symptoms and Signs Related to a Positive Oral Cow's Milk Challenge in Brazilian Suspected Children?
Ana Carolina Rozalem, MD[1], Renata R. Cocco[2], Lucila Camargo, MD[3], Marcia Mallozi, MD[4] and Dirceu Sole, MD, PhD, FAAAAI[4], [1]Federal University of Sao Paulo, Sao Paulo, Brazil, [2]Federal University of São Paulo, [3]UNIFESP, São Paulo, Brazil, [4]Federal University of São Paulo, São Paulo, Brazil

814 Accidental Exposures to Known Food Allergens: Lessons from Pediatric Emergency Departments and Urgent Care Centers
Alexa Coffman[1], Christopher Brooks[1], Elizabeth Erwin, MD[2] and Irene Mikhail, MD[2], [1]The Ohio State University College of Medicine, Columbus, OH, [2]Nationwide Children's Hospital, Columbus, OH

815 An Assessment of Knowledge on Identifying Tree Nuts and Tree Nut Products Among Parents and Children in Pediatric Allergy Clinic
Alana B. Kekevian, DO, Nemours A.I. duPont Hospital for Children-Division of Allergy and Immunology, Wilmington, DE and Trong V. Le, MD, Nemours A.I duPont Hospital for Children Divison of Allergy and Immunology, Wilmington, DE

816 Inflammatory Bowel Disease and Food Allergies
Elizabeth Feuille, MD[1], Claire Ceballos, NP[1], Keith Benkov, MD, FAAAAI[1] 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

817 Allergy to Galacto-Oligosaccharides in an Atopic Population in Singapore
Jian Yi Soh, MRCPCH[1], Chiung-Hui Huang, PhD[2], Wen Chin Chiang, MD, FAAAAI[3], Genevieve Llanora, MD[1], Alison Joanne Lee, MRCPCH[1], Wenyin Loh, MRCPCH[4], Cherlyn Yue Lin Chin[5], Victoria Yu Jia Tay[5], Yiong Huak Chan[6], Dianne Delsing, PhD[7] and Bee-Wah Lee, MD, FAAAAI[1], [1]Department of Paediatrics, National University Hospital, Singapore, [2]Department of Paediatrics, National University of Singapore, Singapore, [3]Department of Paediatrics, Kandang Kerbau Women's and Children's Hospital, Singapore, [4]Department of Paediatrics, Kandang Kerbau Women's and Children's Hospital, Singapore, Singapore, [5]Yong Loo Lin School of Medicine, National University of Singapore, Singapore, [6]Biostatistics Unit, National University of Singapore, Singapore, [7]Friesland Campina, Amersfoort, Netherlands

818 The Relationship Between Eliciting Dose and Reaction Severity to Food Allergens
Jianmei Zhu, PhD, Régis Pouillot, PhD, Ernest K. Kwegyir-Afful, PhD, Stefano Luccioli, MD and Steven M. Gendel, PhD, Center for Food Safety and Applied Nutrition, Food and Drug Administration, College Park, MD

819 Is Peanut Hypersensitivity in Children Related to Household Consumption?
Maria Pedrosa, MD[1], Miguel Garcia-Boyano, MD[2], Elsa Phillips-Angles, MD[1], Santiago Quirce, MD, PhD[1] and Teresa Boyano-Martinez Sr., MD[1], [1]Dept. Allergy. Hospital La Paz Institute for Health Research (IdiPaz), Madrid, Spain, [2]Facultad Medicina. Universidad Complutense, Madrid, Spain

820 Clinical Characteristics of Peanut Allergic Patients in a Midwest, Suburban-Based, Private Allergy Practice
John A. Eckman, MD, FAAAAI[1], Tiffany Forde[2], Lawrence J. Newman, MD, FAAAAI[1] and Steven A. Sutton, MD, FAAAAI[1], [1]Allergy and Asthma Associates, Inc., Cincinnati, OH, [2]TriHealth Hatton Research Institute

821 Peanut Allergy: An Epidemiologic Analysis of a Large Database
Frederick E. Leickly, MD, MPH, FAAAAI, Riley Hospital for Children at Indiana University Health North, Carmel, IN; Riley Hospital dor Children at IU Health, Indianapolis, IN, Girish V. Vitalpur, MD, FAAAAI, Riley Hospital for Children at Indiana University Health, Indianapolis, IN and Kirsten Kloepfer, MD, MS, Indiana University, Indianapolis, IN

822 Gastrointestinal Phenotype of Cow's Milk Food Allergy: Prevalence
Victor Matheu, MD, PhD[1], Paloma Poza-Guedes, MD[2], Ruperto Gonzalez, MD, PhD[2] and Inmaculada Sánchez-Machín, MD[3], [1]Hospital Quiron Tenerife, Santa Cruz de Tenerife, Spain, [2]Alergocan, Santa Cruz de Tenerife, Spain, [3]Clinica Tecnosana Tenerife, El Rosario, Spain

823 A Novel Description of Polyarthralgia with Alpha-Gal Allergy
Aaron K. Pinion, DO, University of Kansas Medical Center and Selina A. Gierer, DO, University of Kansas, Kansas City, KS

824 Survey on Food Allergy in Elementary School Children; Relationship Between Food Allergy and Other Allergic Diseases
Meeyong Shin, MD, Soonchunhyang University Hospital, Bucheon, Bucheon, South Korea

825 The Association Between Food Allergy and Habitual Snoring in Young Children

Chuleeporn Kongmeesook, MD[1], Suparat Sirivimonpan, MD[1], Narissara Suratannon, MD[1], Pantipa Chatchatee, MD[1], Suchada Sritippayawan, MD[2] and Jarungchit Ngamphaiboon, MD[1], [1]Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, [2]Division of pulmonology and critical caremedicine, Department of Pediatrics, Faculty of Medicine, Chulalongkorn university, Bangkok, Thailand

826 Allergy to Legumes in Adults: Descriptive Features

Maria Luisa Somoza, MD, Natalia Blanca-López, MD, PhD, Diana Perez Alzate, MD, Maria Isabel Garcimartin, MD, Francisco Javier Ruano, Ana Antón-Laiseca, MD and Gabriela Canto, MD, PhD, Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain

827 Antigens in Glupearl 19S Were Developed By Acid-Heat Treatment

Masashi Nakamura[1,2], Akiko Yagami[1], Kazuhiro Hara[2], Akiyo Sano[1], Tsukane Kobayashi[1] and Kayoko Matsunaga[1], [1]Department of Dermatology, Fujita Health University School of Medicine, Aichi, Japan, [2]General Research and Development Institute, Hoyu Co., Ltd., Aichi, Japan

828 The F3A-App: Interactive Software for Children with Food Allergies

Elizabeth L McQuaid, PhD, ABPP[1], Michael L Farrow, MA[2], Cynthia Esteban, MSN, MPH[3], Barbara N Jandasek, PhD[1], Susan A. Rudders, MD[3], Dawn McDaniel, PhD[4] and Josh Spitalnick, PhD, ABPP[5], [1]Bradley/Hasbro Children's Research Center, Department of Psychiatry, Rhode Island Hospital, Alpert Medical School of Brown University, Providence, RI, [2]University of Rhode Island, Kingston, RI, [3]Division of Asthma and Allergy, Department of Pediatrics, Rhode Island Hospital, Alpert School of Medicine at Brown University, Providence, RI, [4]Virtually Better, Inc, Decatur, GA, [5]Citrine Tchnologies, LLC, Atlanta, GA

829 Allergy to Cereals in an Area Population of Madrid -Spain: Clinical Features

Diana Perez Alzate, MD, Natalia Blanca-López, MD, PhD, Maria Luisa Somoza, MD, Maria Isabel Garcimartin, MD, Francisco Ruano Pérez, Ana Antón-Laiseca, MD and Gabriela Canto, MD, PhD, Allergy Unit. Infanta Leonor University Hospital, Madrid, Spain

830 An Association Between Pediatric Food Allergy and Food Deserts

Alison L. Humphrey, MD[1], Benjamin C. Wilson[2], Mamta Reddy, MD[1], Jodi A. Shroba, MSN, RN, CPNP[1] and Christina E. Ciaccio, MD, FAAAAI[1], [1]Children's Mercy Hospital, Kansas City, MO, [2]University of Missouri Kansas City, Kansas City, MO

831 Parental Perceptions of Causes of Food Allergy

Shelby N. Elenburg, MD, University of Tennessee Health Science Center, Memphis, TN and Jay A. Lieberman, MD, University of Tennessee, Memphis, TN

832 Persisting Food Allergen Sensitization after Allogeneic Hematopoietic Stem Cell Transplantation for DOCK8 Deficiency

Corinne Savides Happel, MD[1], Kelly D. Stone, MD, PhD, FAAAAI[2], Dennis D. Hickstein, MD[3], Alexandra F Freeman, MD[4] and Helen C. Su, MD, PhD[1], [1]NIH/NIAID, Laboratory of Host Defenses, Bethesda, MD, [2]NIH/NIAID, Laboratory of Allergic Diseases, Bethesda, MD, [3]NIH/NCI, Department of Experimental Transplantation and Immunology, Bethesda, MD, [4]NIH/NIAID, Laboratory of Clinical Infectious Diseases, Bethesda, MD

833 Transient Peanut Allergy Following Solid Organ Transplant

Erin J. Klaffky, MD, PhD[1], Carolyn R. Word, MD[1], Christina Ortiz, MD[2], Walter Oliveira[2], Lisa J. Workman, BA[3] and Julia Wisniewski[2], [1]University of Virginia, Charlottesville, VA, [2]University of Virginia, [3]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA

834 Stratification of Health Risk Posed By Allergic Responses at Peanut Threshold Doses: A Pilot Study

Stefano Luccioli, MD[1], Jianmei Zhu, PhD[1], David Mark Fleischer, MD[2], Whitney Hiemstra, RN[3], Edwin H Kim, MD, MS[4], Susan B. Leung, RN[3], Robert W. Lindblad, MD[5], Kim E. Mudd, RN MSN CCRP[6], Rene Reames, RN[3], Pamela H. Steele, MSN, CPNP, AE-C[4], Hugh A. Sampson, MD[7], Scott H. Sicherer, MD[8], Brian P. Vickery, MD[9] and Ernest K. Kwegyir-Afful, PhD[1], [1]Center for Food Safety and Applied Nutrition, Food and Drug Administration, College Park, MD, [2]Childrens Hospital Colorado, Aurora, CO, [3]Department of Pediatrics, Division of Allergy-Immunology, National Jewish Health, Denver, CO, [4]University of North Carolina at Chapel Hill, Chapel Hill, NC, [5]The EMMES Corporation, [6]Johns Hopkins University School of Medicine, Baltimore, MD, [7]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, NY, USA, [8]Icahn School of Medicine at Mount Sinai, New York, NY, [9]Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina, USA

835 Assessing the Risk Reduction Achieved By Lowering the Regulatory Threshold for Sulfite Labeling in Foods to Asthmatics

Ernest K. Kwegyir-Afful, PhD, Lauren Brookmire, MS, Romina Shah, PhD and Stefano Luccioli, MD, Center for Food Safety and Applied Nutrition, Food and Drug Administration, College Park, MD

836 (1) Childhood Food Allergy and the Hygiene Hypothesis

Ashley Dyer, MPH, Ann and Robert H. Lurie Children's Hospital, Chicago; Northwestern University Feinberg School of Medicine, Chicago, IL, Ruchi Gupta, MD, MPH, Northwestern Feinberg School of Medicine, Chicago, IL, Anne Marie Singh, MD, Division of Allergy-Immunology, Department of Pediatrics, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, Bridget Smith, PhD, Ann, Chicago, IL, Xiaobin Wang, MD, MPH, ScD, Johns Hopkins University School of Public Health, Baltimore, MD and Jacqueline A Pongracic, MD, FAAAAI, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL

837 The Effect of Pediatric Food Allergy on Caregiver Quality of Life: A Study in Asian Population

Pantipa Chatchatee, MD, Thipaporn Furangseroj, MD, Narissara Suratannon, MD and Jarungchit Ngamphaiboon, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

838 Oral Cowxs Milk Immunotherapy: Relevant Cofactors during Long-Term Follow-up

Paloma Poza-Guedes[1], Ruperto González, MD, PhD[2], Inmaculada Sanchez-Machín, MD[3] and Victor Matheu, MD, PhD[1], [1]Hospital del Tórax-Ofra, Sta Cruz de Tenerife, Spain, [2]Hospital Ofra-Tórax, S/C de Tenerife, Spain, [3]Hospital del Tòrax-Ofra, SC Tenerife, Spain

839 Sensitization to Food and Spt Wheal Magnitud Among Children Attending to an Allergy Service in a Major Mexican City Near the United States

Adrian Yong Rodriguez, MD[1], Sandra N. Gonzalez-Diaz, MD, PhD, FAAAAI[2], Alejandra Macias-Weinmann, MD[2], Alfredo Arias-Cruz, MD[2], Samuel Palma Gomez, MD[3], Rafael Perez-Vanzzini, MD[3] and Julio J Gutierrez-Mujica, MD[3], [1]Allergy and Clinical Immunology Regional Center, University Hospital Monterrey, Monterrey, Mexico, [2]Allergy and Clinical Immunology Regional Center, Monterrey University Hospital, Monterrey, Mexico, [3]Allergy and Clinical Immunology Regional Center Monterrey University Hospital, Monterrey, Mexico

840 Specific IgE Value and Skin Prick Test of Sesame Allergy in Children: Role of Peanut and Tree Nut Cross-Reactivity

Karen S. Tuano, MD, Baylor College of Medicine, Houston, TX and Carla M. Davis, MD, Baylor College of Medicine and Texas Children's Hospital, Section of Immunology, Allergy and Rheumatology, Houston, TX

TUESDAY

841 **Oral Immunotherapy for Fish Allergy Using a Hypoallergenic Decomposed Fish Meat**
Y Nakajima[1], Y. Kondo[2], Y. Mori[3], S. Otaka[4], Y. Okubo[5], K. Tanaka[4], K. Yamawaki[6], C. Inuo[7], N. Hirata[8], S. Suzuki[4], I. Tsuge[7], T. Kondo[9], K. Osajima[10], Y. Itagaki[11] and A. Urisu[12], [1]Department of Pediatrics, Second Teaching Hospital, Fujita Health University, Nagoya, 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 Pediatrics, The Second Teaching Hospital, Fujita Health University, Japan, [5]Department of Pediatrics, School of Medicine, Fujita Health University, Japan, [6]Department of Pediatrics, School of Medicine, Fujita Health University, [7]Department of Pediatrics, School of Medicine, Fujita Health University, Toyoake, Japan, [8]Department of Pediatrics, The Second Teaching Hospital, Fujita Health University, [9]Senmi Ekisu Co.,Ltd, Japan, [10]Senmi Ekisu Co.,Ltd, [11]Department of Health and Nutrition, Faculty of Human Science, Hokkaido Bunkyo University, Japan, [12]Fujita Health University, Nagoya, Japan

842 **Successful Specific Oral Tolerance Induction with Hake in an Allergic Child Detecting Fish in Cooking Steam**
Carmen M. Damelio, MD, Departament of Allergy Clinica Universidad de Navarra, PAMPLONA, Spain

843 **Severe Food Allergy to Cow's Milk Treated with Oral Immunotherapy Along with Omalizumab**
Giovanni B. Pajno, MD, FAAAAI[1], Lucia Caminiti[1,2], Giuseppe Crisafulli[1,2], Stefania Arasi[1,2], Fernanda Chiera[3] and Giuseppina Salzano[4], [1]University of Messina, Messina, Italy, [2]Dept of Pediatrics, Allergy Unit, University of Messina, [3]Department of Pediatrics -University of Messina, Messina, Italy, [4]Dept of Pediatrics, Allergy Unit, University of Messina, Italy

Atopic Dermatitis and Immune-Mediated Skin Diseases

5205
Tuesday, February 24th, 2015, 9:45 AM - 10:45 AM

844 **Correlation Between Palmar Hyperlinearity and Early Childhood Atopic Dermatitis with Filaggrin Gene Null Mutations**
Tatsuki Fukuie, MD, PhD[1], Ryuhei Yasuoka, MD[1], Jun-ichi Sakabe, PhD[2], Toshiharu Fujiyama, MD, PhD[2], Yoshiki Tokura, MD, PhD[2] and Tomohide Taguchi, MD[1], [1]Department of Pediatrics, Hamamatsu University School of Medicine, Shizuoka, Japan, [2]Department of Dermatology, Hamamatsu University School of Medicine, Shizuoka, Japan

845 **Clinical Features of Patients with Filaggrin Gene Mutations in Childhood Atopic Dermatitis**
Ryuhei Yasuoka, MD[1], Tatsuki Fukuie, MD, PhD[1], Jun-ichi Sakabe, PhD[2], Yoshiki Tokura, MD, PhD[2] and Tomohide Taguchi, MD[1], [1]Department of Pediatrics, Hamamatsu University School of Medicine, Shizuoka, Japan, [2]Department of Dermatology, Hamamatsu University School of Medicine, Shizuoka, Japan

846 **Duration of Breastfeeding Modulates the Effect of Filaggrin Variants on the Risk of Eczema Early in Life: Results from the Isle of Wight Birth Cohort**
Ali H. Ziyab, PhD[1], Wilfried Karmaus, MD, DrMed, MPH[2], Hongmei Zhang, PhD[2], John W. Holloway, PhD[3], Susan L. Ewart, DVM, PhD[4] and Syed H. Arshad, DM, FRCP[5],6, [1]Kuwait University, Kuwait, [2]University of Memphis, Memphis, TN, [3]University of Southampton, Southampton, United Kingdom, [4]Michigan State University, East Lansing, MI, [5]The David Hide Asthma and Allergy Research Centre, United Kingdom, [6]University of Southampton, United Kingdom

847 **Filaggrin Gene Polymorphism Pro478Ser, but Not Loss-of-Function Mutations Mp.Arg501Ter or C.2282del4, Relates with Atopic Dermatitis Severity and Increased Staphylococcal aureus Colonization in Adult Patients**
Liliana Rocha[1], Cristina Lopes, MD[2,3], Susana Fernandes[4], Oksana Sokhatska[5], Jose Soares[6], Freni Tavaria[7], Manuela Pintado[7], Andre M. Moreira, MD[8,9] and Luis Delgado, MD[8,10], [1]Genetics Departament, Faculty of Medicine, University of Porto, Portugal, Porto, Portugal, [2]Laboratory of Immunology, Basic and Clinical Immunology Unit, Faculty of Medicine, University of Porto, Portugal, Porto, Portugal, [3]Allergy Unit, Pedro Hispano Hospital, Matosinhos, Portugal, [4]Genetics Department Medical faculty Porto University, [5]Immunology Laboratory, Medical Faculty, Porto University, [6]Biology and Fine Chemistry Unit, Biotechnology Faculty, Catholic University, Porto, Portugal, [7]Biology and Fine Chemistry Unit, Biotechnology Faculty, Catholic University, Portugal, [8]Laboratory of Immunology, Basic and Clinical Immunology Unit, Faculty of Medicine, University of Porto, Porto, Portugal, [9]Allergy and Clinical Immunology Department, Centro Hospitalar São João, EPE, Porto, Portugal, [10]Immunology Lab, Department of Clinical Pathology, Porto, Portugal

848 **Evaluation of Gene Expression Using a Skin Tape Stripping Method**
Byung Eui Kim, MD, PhD[1], Un Ha Lee[2,3], Peter Sang Kim[3] and Donald Y.M. Leung, MD, PhD, FAAAAI[1], [1]National Jewish Health, Denver, CO, [2]Inje University, Paik Hospital, [3]National Jewish Health

849 **Short-Term Effect of Airborne Formaldehyde on Skin Barrier Function in Atopic Dermatitis**
Jihyun Kim, MD, PhD[1], Youngshin Han, PhD[2], Joong Hyun Ahn, MS[3], Sang-Il Lee, MD, PhD[4], Kyu Hong Lee, PhD[5] and Kangmo Ahn, MD, PhD[1,4], [1]Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea, [2]Sungkyunkwan University School of Medicine, Samsung Medical Center, Seoul, South Korea, [3]Samsung Biomedical Research Institute, [4]Samsung Medical Center, Seoul, South Korea, [5]Korea Institute of Toxicology

850 **Dominant Proportion of Staphylcoccus Aureus in the Skin of Atopic Dermatitis Patients through Metagenomic Analysis**
Min-Hye Kim[1], Yoon-Keun Kim, MD, PhD[1] and Young-Joo Cho, MD, PhD[2], [1]Department of Internal Medicine, Ewha Womans University Medical Center, Seoul, South Korea, [2]Ewha Women's University, College of Medicine, Seoul, South Korea

851 **Higher Plasma Adiponectin Levels in Patients with Atopic Dermatitis**
Ammar K. Daoud, MD, FAAAAI[1], Rana A Shbat, Masters Student[2], Omar F. Khabour[3], Mohammad A Shakhatreh[3] and Ayman M. Abu Awad[4], [1]Faculty of Medicine, Jordan University of Science and Technology (J.U.S.T), Irbid, Jordan, [2]Faculty of Graduate Studies - JUST, Jordan, [3]Faculty of Applied Medical Sciences - JUST, Jordan, [4]Royal Medical Services, Jordan

852 **Activity of Natural Moisturizing Factor Forming Enzyme Bleomycin Hydrolase in Atopic Dermatitis Affected By Disease Control Status and Seasonal Change**
Takeshi Chiba, MD, Division of Allergy, National Center for Child Health and Development, Tokyo, Japan

853 **Serum microRNA Expression in Maternal Blood or in Cord Blood As Biomarkers of Atopic Dermatitis at One Year of Age**
Yuzaburo Inoue, MD, PhD[1], Shingo Ochiai, MS[2,3], Akifumi Eguchi, PhD[3], Takeshi Yamamoto, MD[1], Fumiya Yamaide, MD, PhD[1], Yoshinori Morita, MD, PhD[1], Taiji Nakano, MD, PhD[1], Takayasu Arima, MD, PhD[1], Hiroyuki Kojima, MD, PhD[1], Hiroko Suzuki, MD[4], Yoshiharu Matsuno, PhD[2,3], Chisato Mori, MD, PhD[2,3], Toshitada Takemori, MD, PhD[5], Yoichi Kohno, MD, PhD[6] and Naoki Shimojo, MD, PhD[1], [1]Department of Pediatrics, Graduate School of Medicine, Chiba University, [2]Department of

TUESDAY

Bioenvironmental Medicine, Graduate School of Medicine, Chiba University, [3]Centre for Preventive Medical Science, Chiba University, [4]Chiba medical center, [5]RIKEN Center for Integrative Medical Sciences, [6]Chiba Rosai Hospital

854 Vitamin D Deficiency As a Risk Factor of Atopic Dermatitis in Korean Female Adolescents

Kyung Suk Lee, MD, PhD[1], Jun-Hyuk Song, MD[2], Yeong-Ho Rha, MD, PhD[2] and Sun-Hee Choi, MD, PhD[3], [1]Hanyang University Hospital, Seoul, South Korea, [2]Kyung Hee University Hospital, Seoul, South Korea, [3]Kyung Hee University Hospital at Gangdong, Seoul, South Korea

855 Phenotypes of Atopic Dermatitis in School Children

Eun Lee[1], Si Hyeon Lee[2], Ji-Won Kwon[3], Song I Yang, MD[4], Young Ho Jung, MD[3], Hyung-Young Kim[5], Ju-Hee Seo, MD[6], Byoung-Ju Kim, MD, PhD[7], Hyo-Bin Kim, MD, PhD[8], So Yeon Lee, MD, PhD[9], Ho-Jang Kwon, MD, PhD[10] and Soo-Jong Hong, MD, PhD[4], [1]Department of Pediatrics, Childhood Asthma Atopy Center, Research Center for Standardization of Allergic Diseases, Asan Medical Center, University of Ulsan College of Medicine, [2]2Asan Institute for Life Sciences, University of ulsan College of Medicine, [3]3Department of Pediatrics, Bundang CHA Medical Center, CHA University College of Medicine, [4]Childhood Asthma Atopy Center, Department of Pediatrics, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, [5]Department of Pediatrics, Pusan National University Yangsan Hospital, Yangsan, [6]Department of Pediatrics, Korea Cancer Center Hospital, Seoul, South Korea, [7]Department of Pediatrics, Hae-undae Paik Hospital, Inje University College of Medicine, Busan, South Korea, [8]Department of Pediatrics,Inje University Sanggye Paik Hospital, Seoul, South Korea, [9]Department of Pediatrics, Hallym University College of Medicine, Seoul, South Korea, [10]Dankook University, Cheonan

856 Effect of Prenatal Maternal Trait Anxiety on Atopic Dermatitis and Immunoglobulin E Level: Cocoa Study

Hyun-Ju Cho, MD[1], Hyoung Yoon Chang[1], Song-I Yang, MD[1], Eun Lee[1], Dong In Suh, MD[2], Youn Ho Shin, MD, PhD[3], Kangmo Ahn, MD, PhD[4], Kyung Won Kim, MD, PhD[5], Eun-jin Kim, PhD[6], Joo-Shil Lee[6], In Ae Choi[7], Kyung-Sook Lee[8], Yee-Jin Shin[9] and Soo-Jong Hong, MD, PhD[1], [1]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, [2]Department of Pediatrics, Seoul National University College of Medicine, Seoul, Seoul, South Korea, [3]Department of Pediatrics, CHA Medical Center, CHA University College of Medicine, Seoul, South Korea, [4]Department of Pediatrics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea, [5]Department of Pediatrics, Severance Children's Hospital, College of Medicine, Yonsei University, Seoul, Korea, Seoul, South Korea, [6]Allergy TF, Department of Immunology and Pathology, Korea National Institute of Health, Osong Health Technology Administration Complex, [7]Sewon Infant Child Development Center, Seoul, [8]Department of Rehabilitation, Hanshin University, Osan, [9]Department of Psychiatry, Yonsei University College of Medicine, Seoul

857 Relationship Between Breast-Feeding and Atopic Dermatitis in Early Childhood in Korean Children: Based on the Fourth and Fifth Korea National Health and Nutrition Examination Survey 2007–2012

Sun Hee Choi, MD, PhD, Kyung Hee University Hospital at Gangdong, Seoul, South Korea, Kyung Suk Lee, MD, PhD, Han Yang University Hospital, Seoul, South Korea and Yeong-Ho Rha, MD, PhD, Kyung Hee University Hospital, Seoul, South Korea

858 Natural History of Children with Food Triggered Atopic Dermatitis and Development of Immediate Reactions

Angela Chang, MD[1], Rachel Glick Robison, MD[1,2], Miao Cai, MS[3] and Anne Marie Singh, MD[1,3], [1]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, [2]Division of Allergy & Immunology, Department of Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL, [3]Division of Allergy-Immunology, Department of Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL

859 Assessment of Bronchial Hyperrespinsiveness to Methacholine in Children with Atopic Dermatitis

Geunhwa Park, Gwanghye general hospital and Sungwon Kim, Busan St. Mary's Hospital

860 Early Aggressive Intervention on Infantile Atopic Dermatitis Inhibits the Development of Food Allergy

Motoki Yomase, MD[1,2], Masami Narita, MD, PhD[1] and Yukihiro Ohya, MD, PhD[1], [1]Division of Allergy, National Center for Child Health and Development, Tokyo, Japan, [2]Division of Pediatrics,Japanese Red Cross Medical Center, Tokyo, Japan

861 Efficacy and Safety of Chitosan Coated Garments on Atopic Dermatitis Management: A Randomized Controlled Trial

Cristina Lopes, MD[1,2], Jose Soares[3], Freni Tavaria[4], Milton Severo[5], Ana Duarte, MD[6], Osvaldo Correia, MD[7], Manuela Pintado[4], Luis Delgado, MD[8] and Andre M. Moreira, MD[9], [1]Laboratory of Immunology, Basic and Clinical Immunology Unit, Faculty of Medicine, University of Porto, Portugal, Porto, Portugal, [2]Allergy Unit, Pedro Hispano Hospital, Matosinhos, Portugal, [3]Biology and Fine Chemistry Unit, Biotechnology Faculty, Catholic University, Porto, Portugal, [4]Biology and Fine Chemistry Unit, Biotechnology Faculty, Catholic University, Portugal, [5]Medical Faculty, Porto University, Porto, Portugal, [6]Epidermis Dermatology Center, Instituto Cuf, Porto, Portugal, [7]Epidermis Dermatology Center, Instituto Cuf, Portugal, [8]Laboratory of Immunology, Basic and Clinical Immunology Unit, Faculty of Medicine, University of Porto, Porto, Portugal, [9]Allergy and Clinical Immunology Department, Centro Hospitalar São João, EPE, Porto, Portugal

862 Combination Immunotropic Therapy of Atopic Dermatitis in Children: Cost-Benefit Analysis

Vladislava Derkach[1,2], Tatiana Slavyanskaya, MD, PhD[2,3] and Balgamaa Sangidorj[3], [1]Vladivostok State Medical University, Vladivostok, Russia, [2]Institute of Immunophysiology, Moscow, Russia, [3]Peoples' Friendship University of Russia, Moscow, Russia

863 Eosinophil Degranulation and the Release of Eosinophil Peroxidase Contributes to the Induced Inflammation Occurring in Mice Following Skin Exposure to TMA

Huijun Luo, PhD[1], Cheryl A Protheroe[1], Emily D Blum, PhD[2], Allison Fryer, PhD[3], Nancy A Lee, PhD[1], David B. Jacoby, MD[2] and James J Lee, PhD[1], [1]Mayo Clinic Arizona, Scottsdale, AZ, [2]Oregon Health and Science University, Portland, OR, [3]Oregon Health & Science University, Portland, OR

864 Skin Histopathology in Patients with Dermatologic Manifestations of Hypereosinophilic Syndrome

Paneez Khoury, MD[1], Chyi-chia R Lee, MD[1], Annalise O Abiodun, RN[1,2] and Amy D Klion, MD[1], [1]National Institutes of Health, Bethesda, MD, [2]University of Utah School of Medicine, Salt Lake City, UT

865 Adverse Vaccine Reactions in Children with Pediatric Mastocytosis

Alicia Clark, BA, National Institutes of Health, Bethesda, MD, Dean D. Metcalfe, MD, Laboratory of Allergic Diseases, NIAID, NIH, Bethesda, MD, Daly Cantave, MSN, Clinical Center, National Institutes of Health, Bethesda, MD, Linda M. Scott, MS, CRNP, Laboratory of Allergic Diseases, NIAID/NIH, Bethesda, MD and Melody C. Carter, MD, National Institutes of Health/NIAID/LAD, Bethesda, MD

866 Assessment of TNF-á, IFN-ã and IL-4 Levels in Patients with Oral Mucosal Lichen Planus

A.I. Kurchenko[1], G.N. Drannik[1], R.a. Rehuretska[1] and Lawrence M. DuBuske, MD, FAAAAI[2], [1]National Medical University, Kiev, Kiev, Ukraine, [2]George Washington University School of Medicine, Washington, DC

Sublingual Immunotherapy

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Tuesday, February 24th, 2015, 9:45 AM - 10:45 AM

867 Safety of a Sublingual Tablet of House Dust Mite Allergen Extracts in an Environmental Exposure Chamber Study
Michel Roux, MD, Agnès Viatte and Robert K. Zeldin, MD, Stallergenes S.A., Antony, France

868 Safety of the 300 IR and 500 IR Doses of a House Dust Mite Allergen Extracts Sublingual Tablet in Adults with Allergic Rhinitis
Hélène Nguyen, PharmD, Michel Roux, MD, Josiane Cognet-Sicé, PharmD and Robert K. Zeldin, MD, Stallergenes S.A., Antony, France

869 Clinical Outcome and Tolerability of a 2-Year Sublingual Allergen Immunotherapy (AIT) with a 5-Grass Pollen Tablet in Polyallergic Patients – Real-Life Medical Practice Data
Meike Hadler[1], Efstrathios Karagiannis[1], Kija Shah-Hosseini[2] and Ralph Mosges, MD, FAAAAI[2], [1]Stallergenes GmbH, Kamp-Lintfort, Germany, [2]Institute of Medical Statistics, Informatics and Epidemiology (IMSIE), Cologne, Germany

870 Sustained Efficacy Assessed By Number Needed to Treat for Timothy Grass Immunotherapy Tablets in the Treatment of Allergic Rhinitis with/without Conjunctivitis up to 2 Years after 3 Years of Treatment
Stephen R. Durham, MA, MD, FRCP[1], Amarjot Kaur, PhD[2], Gary Koch, PhD[3], Jay M. Portnoy[4], Jens S. Andersen, PhD[5], Ziliang Li, PhD[2], Jennifer Maloney, MD[2] and Hendrik Nolte, MD, PhD[2], [1]Royal Brompton and Harefield Hospitals NHS Trust, London, United Kingdom, [2]Merck & Co., Inc., Whitehouse Station, NJ, [3]Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC, [4]Department of Pediatric Allergy & Immunology, Children's Mercy Hospital & Clinics, Kansas City, MO, [5]ALK-Abelló, Hørsholm, Denmark

871 Treatment Effect of House Dust Mite Sublingual Immunotherapy Tablet for Allergic Rhinitis with/without Conjunctivitis
Hendrik Nolte, MD, PhD[1], Jennifer Maloney, MD[1], Amarjot Kaur, PhD[1], Harold S. Nelson, MD, FAAAAI[2], David I. Bernstein, MD, FAAAAI[3], Ziliang Li, PhD[1], Susan Lu, PharmD[1] and Friedrich Horak, MD[4], [1]Merck & Co., Inc., Whitehouse Station, NJ, [2]National Jewish Health, Denver, CO, [3]Bernstein Allergy Group, Cincinnati, OH, [4]Vienna Challenge Chamber, Vienna, Austria

872 The HDM Slit-Tablet Reduces Symptoms of House Dust Mite Allergic Rhinitis Independently of Asthma Status and Allergen Sensitisation Type; A Subgroup Analysis of Results from a Dbpc Phase III Trial (MERIT)
Joerg R. Kleine-Tebbe, MD, FAAAAI[1], Kjersti Moen[2], Dorte Rehm[2] and Pascal M. Demoly, MD, PhD[3], [1]Allergy & Asthma Center Westend, Berlin, Germany, [2]ALK, Denmark, Hoersholm, Denmark, [3]Arnaud de Villeneuve Hospital, Montpellier, France

873 Clinical and Immunological Assessment of Efficacy Specific Sublingual Immunotherapy in Respiratory Allergy Patients
L. Maslova, Republican Scientific and Practical Center for Epidemiology and Microbiology.Minsk, Minsk, Belarus, Leonid P. Titov, MD, PhD, Belarusian State Medical University, Minsk, Belarus and Lawrence M. DuBuske, MD, FAAAAI, George Washington University School of Medicine, Washington, DC

874 Ten-Year Experience with Sublingual Immunotherapy for Juniper Pollenosis
W. Donald Cooke, MD, Allergy and Asthma Specialists, Durango, CO

Rhinitis and Conjunctivitis

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Tuesday, February 24th, 2015, 9:45 AM - 10:45 AM

875 Polysomnographic Findings in Persistent Allergic Rhinitis
Bulent Bozkurt, MD, Department of Respiratory Medicine, Immunology and Allergy Unit, Medical Faculty Turgut Özal University, Ankara, Turkey, Kadriye Serife Ugur, MD, Department of Otorhinolaryngology, Head and Neck Surgery, Medical Faculty Turgut Özal University, Ankara, Turkey, Fatma Kucuker, MD, Department of Respiratory Medicine, Ordu State Hospital, Ordu, Turkey and Duygu Ozol, MD, Department of Respiratory Medicine, Sleep disorders Unit, Medical Faculty Turgut Özal University, Ankara, Turkey

876 Clinical Usefulness of Visual Analogue Scale to Monitor Symptoms of Allergic Rhinitis in Children
Toshiko Itazawa, MD, PhD, Miki Hamamichi, MD, Osamu Higuchi, MD, PhD, Motokazu Nakabayashi, MD, PhD, Yoshie Okabe, MD, PhD, Yoko S Adachi, MD, PhD and Yuichi Adachi, MD, PhD, Department of Pediatrics, University of Toyama, Toyama, Japan

877 Specific Nasal Provocation Test with Dermatophagoides Pteronyssinus Monitored By Acoustic Rhinometry in Children and Adolescents with Allergic Rhinitis and Controls
Fausto Y. Matsumoto, Gustavo Wandalsen, MD and Dirceu Sole, MD, PhD, FAAAAI, Federal University of São Paulo, São Paulo, Brazil

878 Correlation Between Serum 25-Hydroxyvitamin D Levels and Allergic Rhinitis in Children and Adolescents in Korea
Seo Hee Yoon, MD, PhD, Yoon Hee Kim, MD, Young A. Park, MD, In Suk Sol, Min Jung Kim, MD, Kyung Won Kim, MD, PhD, Myung Hyun Sohn, MD, PhD and Kyu Earn Kim, MD, PhD, Yonsei Univeresity Severance Children's Hospital Department of Pediatrics and Institute of Allergy, Seoul, South Korea

879 Calcium Glycerophosphate Nasal Spray Reduces Rhinitis Symptoms
Edward S. Schulman, MD, FAAAAI[1], Mary Hendry, R.N.[2], Michael Sherman, MD[2] and Margaret Weis, PhD[3], [1]Division of Pulmonary, Critical Care and Sleep Medicine, Drexel University College of Medicine, Philadelphia, PA, [2]Drexel University College of Medicine, Philadelphia, PA, [3]Texas Tech University Health Sciences Center, Amarillo, TX

880 A Randomized Controlled Trial of a Phytotherapic Compound Containing Boswellia Serrata and Bromeline for Seasonal Allergic Rhinitis Complicated By Upper Airways Recurrent Respiratory Infections
Maurizio Marogna, MD, Carol Braidi, MD, Chiara Colombo, MD, Fausto Colombo, MD and Loredana Palumbo, MD, Azienda Ospedaliera Fondazione Macchi, Cuasso al Monte, Varese, Italy

881 Inhibitory Effect of Phlai Capsule on the Histamine and Allergen-Induced Wheal and Flare Response on Skin Test Response Among Allergic Rhinitis Patients
Orapan Poachanukoon[1], Prapasri Kulalert, MD[2], Taweephol Dechatiwongse Na Ayudthaya[2] and Sittichai Koontongkaew[3], [1]Faculty of medicine, Thammasat University, Pathumtani, Thailand, [2]Thammasat University, Pathumtani, Thailand, [3]Thammasat University, Pathumtani

882 The Chinese Herbal Formula Seasonal Tea Alleviated Rhinitis and Conjunctivitis Symptoms in a Murine Ragweed Allergy Model
Lianzhu Zhang[1,2], Ying Song, MD[1], Banghao Liang[3] and Xiu-Min Li, MD, MS[1], [1]Icahn School of Medicine at Mount Sinai, New York, NY, [2]The Affiliated Hospital to Changchun University of Chinese Medicine, Changchun, China, [3]Mount Sinai School of Medicine

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883 **Efficacy of Fluticasone Propionate Nasal Spray on Ocular Symptoms Relief in Seasonal Allergic Rhinitis**
Paul H. Ratner, MD, FAAAAI, Sylvana Research, San Antonio, TX, Julius H. Van Bavel, MD, Isis Clinical Research, Austin, TX, Dale E. Mohar, MD, Kerrville Research Associates, Kerrville, TX, Robert L. Jacobs, MD, Biogenics Research Institute, San Antonio, TX, Frank Hampel, MD, Central Texas Health Research, William C. Howland III, MD, FAAAAI, The Allergy and Asthma Center of Austin, Austin, TX and Ritu Karwal, Glaxo Smith Kline, Parsippany, NJ

884 **Ocular Allergy Treatment Practical Impact Treatment (OAT-PIT) Trial**
Jayesh G. Kanuga, MD, FAAAAI, 1STARx Clinical Research Center, Edison, NJ and Leonard Bielory, MD, FAAAAI, Rutgers University, New Brunswick, NJ

885 **Ocular Papillary Changes on the Caruncle Surface in Allergic Conjunctivitis**
Milton M. Hom, OD, FAAO, Private Practice, Azusa, CA, Leslie E. O'Dell, OD, FAAO, The May Eye Care Center & Associates, Hanover, PA, Carl J. May, MD, The May Eye Center, Hanover, PA and Leonard Bielory, MD, FAAAAI, Rutgers University, New Brunswick, NJ

Infectious Agents and Asthma: Microbiome and Viruses

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Tuesday, February 24th, 2015, 2:00 PM - 3:15 PM

886 **Increased Airways Hyperresponsiveness and Inflammation in Influenza-Induced Murine Model of Asthma**
Eu Kyoung Lee, Dept. of Pediatrics, College of Medicine, The Catholic University of Korea, Seoul, South Korea, Sulmui Won, The Catholic University of Korea, Ji Hoon Kim, Dept. of Pediatrics College of Medicine, the Catholic University of Korea, Seoul, South Korea, Hwan Soo Kim, MD, Dept of Pediatrics, Colleg of Medicine, The Catholic University of Korea, Yoon Hong Chun, Dept. of Pediatrics, College of Medicine, The Catholic University of Korea, Jong-seo Yoon, Dept. of Pediatrics The Catholic University of Korea, Hyun Hee Kim, MD, PhD, Dept. of Pediatrics Bucheon St. Mary's Hospital The Catholic University of Korea, Bucheon-si, South Korea and 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

887 **Human Rhinovirus Species Induce Differential Antiviral and Inflammatory Responses in Peripheral Blood Mononuclear Cells**
Alalia W Berry, MD[1], Megan Yanny[2], Mark DeVries[3], Yury Bochkov, PhD[3], Victoria Rajamanickam[4], James E. Gern, MD, FAAAAI[3], Robert F. Lemanske Jr, MD, FAAAAI[3] and Daniel J. Jackson, MD[5], [1]University of Wisconsin School of Medicine and Public Health, [2]University of Wisconsin, [3]University of Wisconsin School of Medicine and Public Health, Madison, WI, [4]University of Wisconsin Hospitals and Clinics, [5]Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, WI

888 **Infant Gut Microbial Composition Alters IgE Response to Tetanus Toxoid Immunization**
Dennis R. Ownby, MD, FAAAAI[1], Alexandra R. Sitarik, MS[2], Kei Fujimura, PhD[3], Suzanne Havstad, MA[2], Haejin Kim, MD[4], Kevin Bobbitt, PhD[2], Kimberley J. Woodcroft, PhD[2], Edward M. Zoratti, MD, FAAAAI[4], Nicholas W. Lukacs, PhD[5], Homer A. Boushey Jr, MD, FAAAAI[6], Albert M Levin, PhD[2], Susan V. Lynch, PhD[3] and Christine Cole Johnson, PhD, MPH, FAAAAI[2], [1]Department of Pediatrics, Georgia Regents University, Augusta, GA, [2]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI, [3]University of California San Francisco, San Francisco, CA, [4]Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, [5]University of Michigan, Ann Arbor, MI, [6]University of California, San Francisco, San Francisco, CA

889 **Association of the Infant Gastrointestinal Microbiome with Nocturnal Symptoms in Children with Asthma**
Albert M. Levin, PhD[1], Suzanne Havstad, MA[1], Alexandra R. Sitarik, MS[1], Christine L.M. Joseph, PhD[1], Kei Fujimura, PhD[2], Ganesa R Wegienka, PhD[1], Edward M. Zoratti, MD, FAAAAI[3], Haejin Kim, MD[3], Christine Cole Johnson, PhD, MPH, FAAAAI[1], Homer A. Boushey Jr, MD, FAAAAI[4], Susan V. Lynch, PhD[2] and Dennis R. Ownby, MD, FAAAAI[5], [1]Department of Public Health Sciences, Henry Ford Health System, Detroit, MI, [2]University of California San Francisco, San Francisco, CA, [3]Division of Allergy and Clinical Immunology, Henry Ford Health System, Detroit, MI, [4]University of California, San Francisco, San Francisco, CA, [5]Department of Pediatrics, Georgia Regents University, Augusta, GA

890 **Decrease in Diversity of Nasal Microbiota during Wheezing Episodes in Preschool Children**
Gorka Alkorta-Aranburu, PhD[1], Catherine Igartua[1], Emily R Davenport[1], Katherine Naughton[1], So Watanabe, MD, PhD[2], Yoav Gilad, PhD[3], Robert F. Lemanske Jr, MD, FAAAAI[4], David M. Mauger, PhD[5], Carole Ober, PhD[6], Daniel J. Jackson, MD[7] and Jayant M. Pinto, MD[8], [1]The University of Chicago, [2]Showa University, Toyko, Japan, [3]University of Chicago, [4]University of Wisconsin School of Medicine and Public Health, Madison, WI, [5]Penn State University College of Medicine, Hershey, PA, [6]University of Chicago, Chicago, IL, [7]Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, WI, [8]The University of Chicago, Chicago, IL

Update on Immunodeficiency

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891 **Cytokines Production, Expression of CD40/CD40L and Correlation with Immunoglobulins in Patients with Ataxia-Telangiectasia**
Camila T M Pereira, MD[1], Beatriz T. C. Carvalho[2], Nadijane V S Ferreira[1], Milena K C Brunialti[1], Reinaldo Salomao, MD[1] and Danielle Bichueti Silva, MD[3], [1]UNIFESP-EPM, Sao Paulo, Brazil, [2]Federal University of São Paulo, [3]Universidade Federal de São Paulo, São Paulo, Brazil

892 **Multispecialty Prioritization of Evidence-Based Indications for Intravenous Immunoglobulin**
Jordan S. Orange, MD, PhD, FAAAAI[1], Matt Johnson, BA[2], Barb Lennert, RN, BSN, MAOM[3] and Katarzyna Puto, PharmD, MBA, BCOP, BCPS[3], [1]Texas Children's Hospital, Houston, TX, [2]ASD Healthcare, AmerisourceBergen, Frisco, TX, [3]Xcenda, AmerisourceBergen, Palm Harbor, FL

893 **Use of Enteral Immunoglobulin in NEMO Syndrome for Eradication of Persistent Symptomatic Norovirus Enteritis**
Shuya Wu, MD, PhD[1], Jordan S. Orange, MD, PhD, FAAAAI[1], Eric H Chiou, MD[2], Sarah K. Nicholas, MD[1], Filiz Odabasi Seeborg, MD, MPH[1] and I. Celine Hanson, MD, 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, Gastroenterology, Hepatology & Nutrition

894 **Undetectable Serum IgE Is a Sensitive and Specific Marker of Common Variable Immunodeficiency (CVID)**
Monica G. Lawrence, MD[1], Spencer Payne, MD[2], Lisa J. Workman, BA[3], Eva Ronmark, PhD[4], John M. Routes, MD, FAAAAI[5], Charlotte Cunningham-Rundles, MD, PhD, FAAAAI[6], Thomas A.E. Platts-Mills, MD, PhD, FAAAAI, FRS[3] and Larry

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Borish, MD, FAAAAI[1], [1]University of Virginia, Department of Medicine, Division of Asthma, Allergy and Immunology, Charlottesville, VA, [2]University of Virginia Department of Otolaryngology, Division of Rhinology and Endoscopic Sinus Surgery, Charlottesville, VA, [3]Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA, [4]Department of Public Health and Clinical Medicine, The OLIN Unit, Umea University, Umea, Sweden, [5]Medical College of Wisconsin, Milwaukee, WI, [6]Mt. Sinai Medical Center, New York, NY

895 **Thirteen Cases of Sustained Post-Rituximab Hypogammaglobulinemia**

Whitney M. Rassbach, MD, Mount Sinai School of Medicine, New York, NY and Charlotte Cunningham-Rundles, MD, PhD, FAAAAI, Mt. Sinai Medical Center, New York, NY

Dust and Diesel Exposures Alter Immune Responses

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896 **Wheeze, Recurrent Wheeze, Nd Rhinovirus and Respiratory Syncytial Virus Infections during the First 5 Years of Life; Observations from a Birth Cohort in Rural Ecuador**

Andrea Arevalo, Laboratorio de Investigaciones FEPIS, Quito, Ecuador; Pontificia Universidad Catolica del Ecuador, Quito, Ecuador, Martha Chico, Laboratorio de Investigacion FEPIS, Quito, Ecuador, Maritza Vaca, Laboratorio de Investigaciones FEPIS, Ecuador, Carlos Sandoval, Laboratorio de FEPIS, Ecuador and Philip J. Cooper, Pontificia Universidad Catolica del Ecuador; St. George's University, London, United Kingdom

897 **Diesel Exhaust Particles Exacerbate Allergic Rhinitis in Mice By Disrupting the Nasal Epithelial Barrier**

Ayumi Fukuoka[1], Kazufumi Matsushita[1], Hirohisa Takano[2] and Tomohiro Yoshimoto[1,3], [1]Laboratory of Allergic Diseases, Institute for Advanced Medical Sciences, Hyogo College of Medicine, [2]Environmental Health Division, Department of Environmental Engineering, Graduate School of Engineering, [3]Department of Immunology and Medical Zoology, Hyogo College of Medicine

898 **Inhalational Exposure to House Dust Conditions Pulmonary Conventional Dendritic Cells to Induce T Helper 2 Responses Against Innocuous Antigens**

Timothy P Moran, MD, PhD[1], Hideki Nakano, PhD[2], Keiko Nakano[2] and Donald Cook, PhD[2], [1]University of North Carolina, Chapel Hill, NC, [2]National Institute of Environmental Health Sciences, NIH, Research Triangle Park, NC

899 **The Impact of Age in the Airway Inflammatory Response to Organic Dust Exposure in Mice**

Joel K. Van De Graaff, MD[1], Kristina Bailey, MD[1], Elizabeth Klein[1], William West, MD[1], Todd Wyatt, PhD[2], Debra Romberger, MD[2] and Jill A. Poole, MD, FAAAAI[1], [1]University of Nebraska Medical Center, Omaha, NE, [2]UNMC, Omaha, NE

900 **Characterization of the T Cell Response Targeting Timothy Grass Antigens in Allergic, Healthy and Specific Immunotherapy-Treated Patients**

Véronique M. Schulten[1], Victoria Tripple[1], April Frazier[1], Rafeul Alam, MD, PhD, FAAAAI[2], David Broide[3], Alessandro Sette, Biol. Sci.[1] and Bjoern Peters[1], [1]La Jolla Institute for Allergy and Immunology, La Jolla, CA, [2]National Jewish Health, Denver, CO, [3]University of California, San Diego, La Jolla, CA

New Developments in Angioedema

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901 **Pathogenesis of Hereditary Angioedema with Normal C1 Inhibitor: Evidence for Abnormalities in Plasminogen Activator Inhibitors**

Kusumam Joseph, PhD[1], Baby G Tholanikunnel, PhD[2], Konrad Bork, MD[3] and Allen P. Kaplan, MD, FAAAAI[1], [1]Medical University of South Carolina, Charleston, SC, [2]Medical University of South Carolina, [3]Department of Dermatology, Johannes Gutenberg University, Mainz, Germany, Mainz, Germany

902 **The Icatibant Outcome Survey: Trigger Factors and Premonitory Symptoms of Angioedema Attacks in Patients with Hereditary Angioedema**

Teresa Caballero, Hospital La Paz Institute for Health Research (IdiPaz), Biomedical Research Network on Rare Diseases (CIBERER, U754), Madrid, Spain, Marcus Maurer, Department of Dermatology and Allergy, Allergie-Centrum-Charité, Charité - Universitätsmedizin Berlin, Berlin, Germany, Hilary Longhurst, Department of Immunology, Barts Health NHS Trust, London, United Kingdom, Werner Aberer, Department of Dermatology and Venereology, Medical University of Graz, Graz, Austria, Laurence Bouillet, National Reference Centre for Angioedema, Internal Medicine Department, Grenoble University Hospital, Grenoble, France, Vincent Fabien, Shire, Zug, Switzerland and Andrea Zanichelli, MD, Dipartimento di Scienze Biomediche e Cliniche Luigi Sacco, Università degli Studi di Milano-Ospedale Luigi Sacco, Milano, Italy

903 **BCX4161, an Oral Kallikrein Inhibitor, Showed Significant Benefits on Reducing Disease Burden and Improving Quality of Life in Subjects with Hereditary Angioedema in the Opus-1 Study**

Markus Magerl[1], Emel Aygören-Pürsün[2], Jochen Graff[3], Inmaculada Martinez-Saguer[4], Wolfhart Kreuz[4], Hilary Longhurst[5], Iman Nasr[5], Murat Bas[6], Ulrich Straßen[6], Karsten Weller[1], Lei Fang[7], Melanie Cornpropst[8], Sylvia Dobo[8], Phil Collis[8], William Sheridan[8] and Marcus Maurer[1], [1]Department of Dermatology and Allergy, Charité – Universitätsmedizin, Berlin, Germany, [2]Department for Children and Adolescents, University Hospital, Frankfurt, Germany, [3]Institute of Clinical Pharmacology/KSRM, University Hospital, Frankfurt, Germany, [4]Haemophilia Centre Rhine Main, Mörfelden-Walldorf, Germany, [5]Department of Immunology, Barts Health NHS Trust, London, United Kingdom, [6]HNO-Klinik, Klinikum rechts der Isar, Technische Universität München, Munich, Germany, [7]Pharstat, Inc., Durham, NC, [8]BioCryst Pharmaceuticals, Durham, NC

904 **Subcutaneous Human C1-Inhibitor with Recombinant Human Hyaluronidase for the Prevention of Angioedema Attacks in Patients with Hereditary Angioedema: Results of a Randomized, Double-Blind, Dose-Ranging, Crossover Study**

Marc A. Riedl, MD, MS[1], William R. Lumry, MD, FAAAAI[2], H. Henry Li, MD, PhD[3], Aleena Banerji, MD[4], Jonathan A. Bernstein, MD, FAAAAI[5], Murat Bas[6], Markus Magerl[7], Marcus Maurer, MD[8], Hongzi Chen, PhD[9] and Jennifer Schranz, MD[9], [1]University of California, San Diego, La Jolla, CA, [2]AARA Research Center, Dallas, TX, [3]Institute for Asthma and Allergy, Chevy Chase, MD, [4]Massachusetts General Hospital, Boston, MA, [5]University of Cincinnati Medical Center, Cincinnati, OH, [6]HNO-Klinik, Klinikum rechts der Isar, Technische Universität München, Munich, Germany, [7]Department of Dermatology and Allergy, Charité – Universitätsmedizin, Berlin, Germany, [8]Charité – Universitätsmedizin, Berlin, Germany, [9]Shire, Wayne, PA

905 **The Icatibant Outcome Survey: Observational Data in Patients with Angioedema Due to Acquired C1 Inhibitor (C1-INH) Deficiency**

Hilary Longhurst, Department of Immunology, Barts Health NHS Trust, London, United Kingdom, Andrea Zanichelli, MD,

Dipartimento di Scienze Biomediche e Cliniche Luigi Sacco, Università degli Studi di Milano-Ospedale Luigi Sacco, Milano, Italy, Teresa Caballero, Hospital La Paz Institute for Health Research (IdiPaz), Biomedical Research Network on Rare Diseases (CIBERER, U754), Madrid, Spain, Laurence Bouillet, National Reference Centre for Angioedema, Internal Medicine Department, Grenoble University Hospital, Grenoble, France, Werner Aberer, Department of Dermatology and Venereology, Medical University of Graz, Graz, Austria, Vincent Fabien, Shire, Zug, Switzerland and Marcus Maurer, Department of Dermatology and Allergy, Allergie-Centrum-Charité, Charité - Universitätsmedizin Berlin, Berlin, Germany

FPIES from a HEDQ Perspective

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906 **International Consensus Guidelines for Diagnosis and Management of Food Protein-Induced Enterocolitis Syndrome**
Jonathan M. Spergel, MD, PhD, FAAAAI[1], Anna H. Nowak-Wegrzyn, MD, FAAAAI[2], Fallon Schultz, MSW LCSW[3], Marion E. Groetch, MS, RD[2], Marisa Conte[4], Robert A. Wood, MD[5], Mirna Chehade, MD, MPH[2,6] and Matthew J. Greenhawt, MD, MBA, MSc[7], [1]The Children's Hospital of Philadelphia, Philadelphia, PA, [2]Icahn School of Medicine at Mount Sinai, New York, NY, [3]International FPIES Association (I-FPIES), Point Pleasant Beach, NJ, [4]University of Michigan, Taubman Health Sciences Library, Ann Arbor, MI, [5]Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA, [6]Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York, New York, USA, [7]Department of Internal Medicine, The University of Michigan Medical School, Division of Allergy and Clinical Immunology, Ann Arbor, MI

907 **Trends in Provider Management of Patients with Food Protein Induced Enterocolitis Syndrome**
J. Andrew Bird, MD, FAAAAI, UT Southwestern Medical Center, Dallas, TX, 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 and Anna H. Nowak-Wegrzyn, MD, FAAAAI, Icahn School of Medicine at Mount Sinai, New York, NY

908 **A New Valid and Reliable Parent Proxy Questionnaire to Measure the Impact of Food Protein Enterocolitis Syndrome on Children: The Fpies Quality of Life Questionnaire, Parent Form**
Jonathan O. Hourihane, MD, FAAAAI, University College Cork, Cork, Ireland, 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 and Audrey Dunn Galvin, University College Cork, Ireland

909 **Assessment of Self-Efficacy in Food Protein Induced Enterocolitis Syndrome**
Audrey Dunn Galvin, University College Cork, Ireland, Jonathan O. Hourihane, MD, FAAAAI, University College Cork, Cork, Ireland, Fallon Schultz, MSW LCSW, International FPIES Association (I-FPIES), Point Pleasant Beach, NJ 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

910 **Caregiver Quality of Life in Food Protein Enterocolitis Syndrome**
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, Fallon Schultz, MSW LCSW, International FPIES Association (I-FPIES), Point Pleasant Beach, NJ and Audrey Dunn Galvin, University College Cork, Ireland

Allergic Rhinitis: Epidemiology and Immunotherapy

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911 **Pre-Treatment Level of Specific Grass IgE Is Associated with Efficacy and Safety of a Timothy Grass Sublingual Immunotherapy Tablet**
Amarjot Kaur, PhD[1], Domingo Barber, MD[2], Ziliang Li, PhD[1], Jennifer Maloney, MD[1] and Hendrik Nolte, MD, PhD[1], [1]Merck & Co., Inc., Whitehouse Station, NJ, [2]Universidad San Pablo-CEU, Madrid, Spain

912 **Epinephrine Use in Clinical Trials of Sublingual Immunotherapy Tablets for Treatment of Allergic Rhinitis with/without Conjunctivitis**
Jennifer Maloney, MD[1], Thomas B. Casale, MD, FAAAAI[2], Richard F. Lockey, MD[2], Harold S. Nelson, MD, FAAAAI[3], Bodil Svanholm Fogh, MSc[4], Amarjot Kaur, PhD[1] and Hendrik Nolte, MD, PhD[1], [1]Merck & Co., Inc., Whitehouse Station, NJ, [2]University of South Florida Morsani College of Medicine, Tampa, FL, [3]National Jewish Health, Denver, CO, [4]ALK-Abello, Horsholm, Denmark

913 **Allergen Sensitivity Profile of Subjects with Allergic Rhinitis with/without Conjunctivitis Participating in Clinical Trials of Timothy Grass and Short Ragweed Sublingual Immunotherapy Tablets**
David I. Bernstein, MD, FAAAAI[1], Harold S. Nelson, MD, FAAAAI[2], Peter S. Creticos, MD, FAAAAI[3,4], Sandra M. Gawchik, DO, FAAAAI[5], David P. Skoner, MD[6,7], Amarjot Kaur, PhD[8], Ziliang Li, PhD[8], Jennifer Maloney, MD[8] and Hendrik Nolte, MD, PhD[8], [1]Bernstein Clinical Research Center, LLC and University of Cincinnati, Cincinnati, OH, [2]National Jewish Health, Denver, CO, [3]Creticos Research Group, Baltimore, MD, [4]Division of Allergy & Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD, [5]Asthma and Allergy Associates, Chester, PA, [6]Department of Medicine, Allegheny General Hospital, Pittsburgh, PA, [7]Temple University School of Medicine, Philadelphia, PA, [8]Merck & Co., Inc., Whitehouse Station, NJ

914 **The Prevalence and Clinical Characteristics of Local Allergic Rhinitis in Thai Children**
Pichittra Buntarickpornpan, MD[1], Jittima Veskitkul, MD[1], Punchama Pacharn, MD[2], Nualanong Visitsunthorn, MD[2], Pakit Vichyanond, MD, FAAAAI[2], Pongsakorn Tantilipikorn, MD[3] and Orathai Jirapongsananuruk, MD[2], [1]Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicines Siriraj Hospital, Mahidol University, Bangkok, Thailand, [2]Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicines, Siriraj Hospital, Mahidol University, Bangkok, Thailand, Bangkok, Thailand, [3]Division of Rhinology and Allergy, Department of Otolaryngology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

915 **Predicting Acquisition of Sustained Unresponsiveness Following Peanut Oral Immunotherapy Using Skin Prick Test Size and Serum Levels of Immunoglobulins Specific to Peanut**
Lalita Jindal[1,2], Anne-Louise Ponsonby, PhD[3,4], Paul Licciardi, PhD[4,5] and Mimi L. K. Tang, FRACP, PhD, FAAAAI[6,7], [1]Murdoch Children Research Institute Melbourne, Parkville, Australia, [2]Royal Childrens Hospital, Melbourne, [3]University of

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Melbourne, Australia, [4]Murdoch Childrens Research Institute, Australia, [5]The University of Melbourne, Australia, [6]Murdoch Children's Research Institute, Melbourne, Australia, [7]Royal Children's Hospital and Murdoch Childrens Research Institute, Melbourne, Australia

Mechanisms of Atopic Diseases: Inflammation

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916 **Acute Systemic Reduction in Regulatory T Cells Is Associated with Atopic Airway Disease**
Heather Reichert, Erika Buell, Dorothy S. Cheung, MD, FAAAAI and Mitchell H. Grayson, MD, FAAAAI, Medical College of Wisconsin, Milwaukee, WI

917 **Pre-Pregnancy Exposure to Diesel Exhaust Particles Predisposes Offspring to Asthma**
Magdalena M Gorska, MD, PhD[1,2], Rafeul Alam, MD, PhD, FAAAAI[1] and Jerica Lenberg, BS[1], [1]National Jewish Health, Denver, CO, [2]University of Colorado Denver, Aurora, CO

918 **The Adapter Protein Sprouty 2 (Spry 2) Differentially Regulates Lymphoid and Myeloid Cell Function and Is Important for Allergic Asthma**
Balachandra K. Gorentla, PhD and Rafeul Alam, MD, PhD, FAAAAI, National Jewish Health, Denver, CO

919 **Proteolytic Activity of per a 10 Cleaves Tight Junction Proteins and Increases TSLP Secretion**
Sagar Kale, MSc, CSIR-Institute of Genomics and Integrative Biology, Delhi, India and Naveen Arora, PhD, CSIR Institute of Genomics and Integrative Biology, New Delhi, India

920 **Association Between IL-13 -1112 C/T Promoter Polymorphism and Patterns of Allergen-Induced Asthmatic Response in House Dust Mite Allergic Patients**
Krzysztof Kowal, MD, PhD[1], Pawel Bernatowicz, MD, PhD[2], Agnieszka Pampuch, MD, PhD[2], Lech Chyczewski, MD, PhD[2] and Anna Bodzenta-Lukaszyk, MD, PhD[3], [1]Medical University of Bialystok, Bialystok, Poland, [2]Medical University of Bialystok, [3]Medical University of Bialystok, Poland

LATE-BREAKING ABSTRACTS PRESENTED AT SCIENTIFIC SESSIONS AAAAI ANNUAL MEETING FEBRUARY 20-24, 2015

The following abstracts were accepted for presentation after the deadline for the abstract supplement

L1 Reslizumab Treatment for Moderate to Severe Asthma with Elevated Blood Eosinophil Levels

Mario Castro, MD, MPH[1], James Zangrilli[2], Michael E. Wechsler, MD[3], Eric Donn Bateman, MD[4], Guy Brusselle[5], Philip G. Bardin, MD, PhD[6], Kevin R. Murphy, MD[7], Jorge F. Maspero, MD[8], Christopher O'Brien[2], Stephanie Korn[9]; [1]Department of Medicine, Washington University School of Medicine, Saint Louis, MO, [2]Teva Pharmaceuticals, [3]National Jewish Health, Denver, CO, [4]University of Cape Town Lung Institute, Cape Town, South Africa, [5]Department of Respiratory Medicine, Ghent University Hospital, [6]Monash University and Medical Centre, Melbourne, Australia, [7]Boys Town National Research Hospital, Boys Town, NE, [8]Fundación CIDEA, Buenos Aires, Argentina, [9]Mainz University Hospital, Mainz, Germany.

RATIONALE: Elevated blood eosinophil levels are a risk factor for future asthma exacerbations. Reslizumab is a humanized monoclonal antibody against interleukin-5 that disrupts the maturation, growth and chemotaxis of eosinophils.

METHODS: We performed two duplicate, randomized, double-blind, placebo-controlled, parallel-group trials of patients with moderate/severe asthma and elevated blood eosinophil levels despite medium to high doses of inhaled glucocorticoids, who had one or more exacerbations in the prior year. Patients received intravenous reslizumab (3.0 mg/kg) or placebo every four weeks for one year. The primary endpoint was the frequency of clinical asthma exacerbations. Lung function, quality of life, asthma control and safety were assessed.

RESULTS: Patients were randomized to reslizumab (n=477) or placebo (n=475). Baseline characteristics across studies were similar. In both studies, patients receiving reslizumab achieved reductions in clinical asthma exacerbations (study 1 RR 0.50[95%CI 0.37, 0.67], study 2 RR 0.41 [95%CI 0.28, 0.59], both p<0.0001) versus placebo. Lung function improved by the first assessment (Week 4) and was maintained to one year in both studies (change in FEV_1 0.145 L, p=0.0004 and 0.123 L, p=0.0016). Significant improvements were observed in Asthma Quality of Life Questionnaire (0.378, p=0.0001 and 0.268, p=0.0071) and Asthma Control Questionnaire scores (-0.326, p=0.0003 and -0.356, p<0.0001). Common adverse events on reslizumab were similar to placebo.

CONCLUSIONS: Reslizumab significantly reduced the annual rate of clinical asthma exacerbations and resulted in a sustained improvement in secondary measures of asthma control compared with placebo in patients with moderate to severe asthma with an elevated blood eosinophil count.

L2 Long-Acting Beta Agonists Enhance Allergic Airway Disease

John M. Knight, Ph.D.[1,2], Garbo Mak[2], Joanne Shaw[3], Catherine McDermott[2], Luz Roberts[2], Ran You[2], Xiaoyi Yuan[2], Valentine O. Millien[2], Yuping Qian[4], Li-Zhen Song[2], Vincent Frazier[2], Choel Kim[2], Jeong j Kim[2], Richard Bond[5], Amber U. Luong, MD PhD[6], Farrah Kheradmand, MD[4], John McMurray[7], Pijus K. Mandal[1], Pietro Morlacchi[7], Joshua D. Milner, MD[8], David B. Corry, MD[4]; [1]M. D. Anderson Cancer Center, [2]Baylor College of Medicine, [3]UT Health Science Center, [4]Baylor College of Medicine, Houston, TX, [5]University of Houston, [6]University of Texas Health Science Center at Houston, Houston, TX, [7]MD Anderson, [8]Laboratory of Allergic Diseases, NIAID/NIH, Bethesda, MD.

RATIONALE: Asthma is one of the most common of medical illnesses and is treated in part by drugs that activate the beta-2-adrenoceptor (b_2-AR) to dilate obstructed airways. Such drugs include long acting beta agonists (LABAs) that are paradoxically linked to excess asthma-related mortality. We hypothesized that LABAs such as salmeterol and structurally related b_2-AR drugs such as formoterol and carvedilol, but not short-acting agonists (SABAs) such as albuterol, promote exaggerated asthma-like disease.

METHODS: A murine model of fungal-induced allergic lung disease was used to evaluate the potential of β_2-AR agonists to promote disease in wild-type and signaling deficient mice. The impact of chronic β_2-AR therapy on human cells was also evaluated for relevant markers of disease.

RESULTS: We demonstrate that salmeterol aberrantly promotes activation of the allergic disease-related transcription factor signal transducer and activator of transcription 6 (STAT6) in multiple mouse and human cells and that salmeterol-dependent exaggerated allergic disease is due to biased signaling through a pathway involving the b_2-AR and beta arrestin 2 (barr2). A novel inhibitor of STAT6, PM-242H, inhibited initiation of allergic disease induced by airway fungal challenge, reversed established allergic airway disease in mice, and blocked salmeterol-dependent enhanced allergic airway disease.

CONCLUSIONS: Structurally related b_2-AR ligands aberrantly potentiate STAT6 activation to promote allergic airway disease. This novel and untoward pharmacological property likely explains adverse outcomes observed with LABAs and may be overcome by agents that antagonize STAT6.

L3 Leptin Modulates Airway Remodeling Processes and Responses to Interleukin-13 in Lung Fibroblasts in a Murine Model of Chronic Allergic Airways Disease

Jennifer L. Ingram, Robert W. Sigmon, Barbara Theriot, Michael Ghio, Akhil Hegde, Dave Francisco, Julia K. L. Walker, Monica Kraft, MD; Duke University, Durham, NC.

RATIONALE: Obese asthma is characterized by late-onset disease and reduced T-helper 2 (TH2)-driven inflammation. Leptin is an adipokine produced in elevated levels in obese individuals. Interleukin-13 (IL-13) is a TH2 cytokine that directs airway remodeling in asthma, including subepithelial fibrosis. We hypothesized that leptin acts to suppress lung fibroblast responses to IL-13 in obese asthma.

METHODS: Wildtype (C57BL6), leptin-resistant (db/db), and leptin-deficient (ob/ob) mice (n=3 per group) were intranasally administered house dust mite (HDM) allergen (2.5 μg/μL) or saline as control 5 days/week for 6 weeks. Lung mechanics were measured using the forced oscillation technique, and Newtonian resistance was calculated. Lung sections were stained with Masson's trichrome. Lung fibroblasts were cultured from digested lung tissue and exposed to serum-free media or 50 ng/mL IL-13 for 24 hours. Lung fibroblast invasion and migration were determined using Matrigel assays, and mRNA expression was analyzed using quantitative RT-PCR.

RESULTS: Following exposure to HDM, peribronchiolar trichrome staining and IL-13-induced lung fibroblast invasion and migration were significantly reduced in ob/ob and db/db mice as compared to wildtype ($p<0.05$). IL-13-stimulated elastin gene expression in lung fibroblasts was significantly increased in ob/ob mice as compared to wildtype ($p<0.05$). Compared to saline treatment, exposure to HDM resulted in significantly increased Newtonian airway resistance ($p<0.05$) in wildtype and db/db mice, but not ob/ob mice. Saline-treated ob/ob mice were hyperresponsive and displayed a paradoxical response to methacholine challenge.

CONCLUSIONS: Lung fibroblasts from leptin-deficient and –resistant mice demonstrate impaired responses to IL-13, which may contribute to altered airway remodeling and lung mechanics in obese asthma.

L4 Microrna-22 Coordinates Asthma and Pulmonary Emphysema through Histone Deacetylase 4

Wen Lu[1], David B. Corry, MD[2], Farrah Kheradmand, MD[2]; [1]Baylor College of Medicine, [2]Baylor College of Medicine, Houston, TX.

RATIONALE: As a new layer of gene regulators involved in most biological processes, microRNAs (miRNAs) haven't been intensively studied in asthma and emphysema. Our goal is to study pathogenic roles and therapeutic potentials of miR-22 in both diseases.

METHODS: In the experimental emphysema model, wildtype and miR-$22^{-/-}$ mice were exposed to 4 month cigarette smoke. In the experimental allergic asthma model, mice were exposed to *Aspergillus niger* for 2 weeks.

RESULTS: MiR-$22^{-/-}$ mice are highly resistant to cigarette smoke induced emphysema and fungus-induced allergic asthma. We further pinpointed miR-22 expressed in antigen presenting cell (APC) contributes to disease pathogenesis using conditional genetic knockout mice and adoptive transfer experiments. MiR-22 is upregulated in asthmatic and emphysematous lung APCs. MiR-22 deficient APCs express less CD40, CD86 on their surface and secret less IL-1β, IL-6, accompanied by impaired ability to induce T helper cell 17 (T_H17) response. Mechanistically, miR-22 inhibits one of its target gene, histone deacetylase 4 (HDAC4) in APCs, which acts as a molecule 'brake' to APC activation. HDAC4 deficient APCs are hypersensitive to lipopolysaccharide (LPS) or antagonistic CD40 stimuli. Mice with HDAC4 conditional deletion in CD11c cells are more susceptible to emphysema. Moreover, intranasal administration of miR-22 sponge locked nucleic acid (LNA) is able to restore HDAC4's level in lung APCs and reverse fully developed emphysema and asthma in mice.

CONCLUSIONS: MiR-22 is a master regulator of antigen presenting cell activation and thereby controls asthma and emphysema pathogenesis. Direct targeting miR-22 in lung is a promising strategy to cure emphysema and asthma.

L5 High-Dimensional Single-Cell Monitoring of Circulating Cells in Allergic Asthmatics Infected with Rhinovirus Reveals Dynamic Flux in Diverse Immune Cells

Lyndsey Muehling, MS[1], Cara Wogsland[2], Rachana Agrawal, PhD[1], Peter W. Heymann, MD[1], Jonathan M. Irish, PhD[2], Judith A. Woodfolk, MBChB, PhD, FAAAAI[1]; [1]Division of Asthma, Allergy & Immunology, University of Virginia Health System, Charlottesville, VA, [2]Vanderbilt University, Nashville, TN.

RATIONALE: Infection with rhinovirus (RV) exacerbates allergic asthma. The immune mechanisms remain poorly understood, in part owing to practical and technical limitations. Using mass cytometry, we applied a systems biology approach to identify novel transitions in circulating cells during an experimental RV infection in allergic asthmatics.

METHODS: Allergic asthmatics were challenged intranasally with RV-16. Peripheral blood mononuclear cells (PBMCs) were collected immediately before inoculation, and then at days 4 and 21 post-inoculation. Mass cytometry was performed using a 35-parameter phenotyping panel, and data analysis was performed using viSNE.

RESULTS: At each time point, viSNE created visual maps of phenotypically similar cell types, including CD4+, CD8+, and γδ T-cell populations, as well as B-cells. During the acute phase, loss of cells expressing the Th1 transcription factor T-bet, was observed, suggesting egress from the periphery. These T-bet+ populations included memory B-cells and memory CD4+ T-cells with lung-homing potential (CCR5+). Further inspection of the data revealed complete loss of memory CCR5+CD4+T-cells that co-expressed the Th2 marker CCR4. These cells re-emerged and were expanded at day 21, along with both CCR4+CD8+ and γδ T-cells.

CONCLUSIONS: For the first time, we have used mass cytometry to identify dynamic fluctuations in complex cell populations in asthmatics infected with RV. Sequestration of diverse immune cell types during the acute phase, including both Th1- and Th2-like cells, coupled with expansion of both CD4+ and non-CD4+ T-cell types several weeks after infection, were notable findings. These novel observations provide new insight into the immunopathogenesis of RV-induced asthma.

L6 Effect of Mepolizumab in OCS Dependent Severe Eosinophilic Asthma Patients with History of Omalizumab Treatment

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RATIONALE: Mepolizumab can reduce exacerbations and oral corticosteroid (OCS) use in patients with severe eosinophilic asthma (SEA). It is estimated that approximately 30% of SEA patients are OCS-dependent, 50% are atopic, and 30% could be omalizumab eligible. In an OCS-dependent population we compared those patients by prior omalizumab use and evaluated the effect of mepolizumab.

METHODS: This is a further analysis of the SIRIUS study which enrolled patients receiving maintenance OCS (5–35 mg/day) for ≥ 6 months. Patients were not permitted to use omalizumab; omalizumab history and discontinuation reasons were collected. Post-hoc analyses of OCS reduction and exacerbations are reported by prior omalizumab use.

RESULTS: One-third of patients (n=45) previously used omalizumab for a median duration of 8 months, 82% discontinued use due to lack of efficacy. In patients with omalizumab history, baseline OCS dose, total IgE level, and eosinophil count were higher than those without history, but prior exacerbation frequency was similar across groups. The prior omalizumab group reported the primary exacerbation cause as allergy and cold air; the no prior omalizumab group reported primary exacerbation cause as respiratory infection. Those previously treated with omalizumab had similar OCS reduction (OR=2.15 vs. 2.53) and exacerbation rate reduction (33% vs. 29%) to those with no prior history.

CONCLUSIONS: OCS-dependent SEA patients previously treated with omalizumab had similar exacerbation history but primary exacerbation cause was more related to environmental and allergen exposures. Regardless of prior omalizumab treatment mepolizumab demonstrated comparable reductions in OCS use and exacerbation rate. Funding (NCT01691508) provided by GlaxoSmithKline.

L7 Effect of Mepolizumab in Severe Eosinophilic Asthma Patients with History of Omalizumab Treatment

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RATIONALE: Studies in severe eosinophilic asthma (SEA) have consistently demonstrated the efficacy of mepolizumab to reduce exacerbations. In these studies, approximately half of SEA patients are atopic and one third could be eligible for omalizumab treatment. There is no data available to date evaluating the effect of mepolizumab on the reduction of exacerbations in SEA patients previously treated with omalizumab.

METHODS: This is a further analysis of the MENSA study (Ortega et al., NEJM 2014) which enrolled 576 patients ≥ 12 years of age receiving high-dose inhaled corticosteroid plus a controller, with a history of frequent exacerbations and pre-defined eosinophilic threshold. Omalizumab was not allowed during the study. Total and specific IgE, prior use of omalizumab, and reason for omalizumab discontinuation were collected. A post-hoc analysis evaluating the rate of exacerbations was performed using separate negative binomial models for each subgroup.

RESULTS: Seventy-five patients (13%) previously received omalizumab with a median duration of 12 months. Thirty-seven patients (50%) received omalizumab every 2 weeks. The majority of patients (75%) stopped omalizumab primarily due to lack of efficacy. Baseline demographics of patients with prior omalizumab use were comparable to those without prior omalizumab use. Mepolizumab showed similar significant reductions in the rate of exacerbations in patients with prior omalizumab use (Rate ratio: 0.43, 95% CI [0.21,0.88]) and in patients without prior omalizumab use (Rate ratio: 0.53, 95% CI [0.40,0.69]).

CONCLUSIONS: In patients with severe eosinophilic asthma mepolizumab demonstrated a significant reduction in exacerbations irrespective of prior omalizumab treatment (Funded by GlaxoSmithKline).

L8 Novel Presentation of Recurrent Infection in a Family with NOD2 Mutation

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RATIONALE: Numerous studies show that NOD2 and TLR signaling pathways intersect at multiple levels in cellular systeHowever, direct evidence that NOD and TLR proteins cooperate in host defense against pathogens *in vivo* remains scarce. Here we describe a family with NOD2 mutation and infection course consistent with an innate immune defect.

METHODS: A 17 month old male born to non-consanguineous parents was evaluated for poor weight gain, recurrent pneumonia, MRSA skin abscesses, H. pylori gastritis and E. coli urosepsis. Family history revealed an older sibling with similar infection history and abdominal symptoImmunologic work up was conducted and whole exome sequencing completed on the subject, siblings and parents.

RESULTS: Immunologic evaluation revealed absent protective immunity to S. pneumonia (0/16 serotypes >1.3ug/dL) and poor tetanus antibody (0.16 IU/mL). CD19+ enumeration revealed decreased CD27+IgM-IgD- B cells (1.1%). TLR 1-8 functional testing demonstrated diminished TNFα, IL-1β, and IL-6 production. Colonscopy revealed lymphonodular hyperplasia. Whole exome sequencing identified a homozygous duplication variant c.3019dupC in the patient and sister that results in a frame shift with loss of function. Both parents were heterozygous for this variant.

CONCLUSIONS: This is the first report of immunodeficient children with NOD2 mutation who have the same genotype most commonly associated with Crohn disease. The presence of persistent pneumonia and skin abscesses with poor specific antibody production and TLR signaling consistent with an innate immune defect should prompt consideration of NOD2 mutation in the immunologic differential diagnosis.

L9 Skin Barrier Function and Candidate Genes IL-13 & SPINK5 in Food Allergy

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RATIONALE: To test whether variants in *SPINK5*(57 SNPs), associated with skin barrier function, and *IL-13*(7 SNPs), a key cytokine implicated in allergic sensitization, increase the risk of food sensitization(FS) and/or food allergy(FA) in a cohort of children diagnosed for FA by skin prick testing and oral food challenge.

METHODS: SNPs were tested in logistic regression models for three groups; FA, FS tolerant and non-allergic among 12 month infants (n=835) recruited as part of HealthNuts, a longitudinal, population based study of FA in Melbourne, Australia. Buccal-derived genomic DNA was genotyped using Sequenom iPLEX.

RESULTS: A single *SPINK5* variant, rs6580514 A->G was associated with a ~40% decreased risk of FA compared to negative controls (p=0.017) and FS (p=0.008). In contrast, two *SPINK5* variants: rs1860933 T->A (p=0.014) & rs1432975 A->T (p=0.033), conferred a significantly increased risk of FA.

Eight *SPINK5* SNPs were associated with a significantly elevated risk of FA compared to FS individuals. The *IL-13* SNP, rs1295687 C->G (p=0.016), was found to increase the risk of FS by more than 2.5 fold and was also associated with elevated *IL-13* cytokine levels in response to allergenic stimulation ($p<0.05$).

CONCLUSIONS: The protective and risk odds of FA associated with several *SPINK5* SNPs strongly support a role of skin barrier integrity in both protecting against, or in the case of disrupted skin, increasing the risk of allergic sensitization. These findings mirror those of *FLG* variants, known to influence skin barrier function, previously implicated in allergic sensitization.

These results also replicate and support the role of *IL-13* genetic variants in allergic sensitization and show a correlation between the *IL-13* SNP rs1295687 and elevated IL-13 cytokine levels leading to atopic predisposition.

L10 A New Tool That Fingerprints Allergens in Homes to Individualize and Improve Patient Care

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RATIONALE: Evaluate the clinical utility of a novel air-sampling device by fingerprinting allergen exposure in patient homes.

METHODS: 22 allergy patients were recruited based on ownership of cats, dogs or both; given two Inspirotec air samplers, with instruction sheet and questionnaire; and asked to run devices in their bedrooms for 24 hours and 7 days. Patients returned devices and questionnaires. Capture cartridges were shipped to Indoor Biotechnologies for immunoassay analysis of common household allergens, molds and pollens. Values for each allergen were normalized as a ratio to the median value for the group ("exposure index"). Regression analysis was performed using SAS to correlate patient variables with allergen levels.

RESULTS: Each home was found to have a unique allergen fingerprint, and profiles for each pair of times were internally consistent. Exposure index was consistent with patient reports on degree of pet bedroom access. Non-pet allergens: dust mite, mouse, pollens and molds were found in 13 cases. There were no positives for cockroach, rat or birch pollen, reflecting socio-economic group and season. Review of fingerprints together with individual medical records showed actionable information in 17 cases: new patients, children and individuals on mid-course immunotherapy benefited the most. Areas of utility included discovering unanticipated allergens; prioritizing triggers for environmental management; encouraging individualized and targeted allergen avoidance activity; and improving patient compliance.

CONCLUSIONS: The capability of patients to run simple allergen exposure fingerprints unsupervised in their own homes provides physicians with individualized data to make evidence based decisions on patient management.

L11 The Small Molecule Aldehyde Trap NS2 Exhibits Potent Anti-Inflammatory Activity in Three Murine Models of Inflammation

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RATIONALE: Toxic aldehydes are implicated in numerous inflammatory diseases. It was hypothesized that a small molecule aldehyde trapping agent (NS2) would provide benefit in murine inflammation models.

METHODS: The plasma pharmacokinetics and safety of single IP doses of NS2 were assessed in mice. To determine the effect of aldehyde trapping on cytokine levels, mice were dosed once IP with 100mg/kg NS2 30 minutes prior to lipopolysaccharide (LPS; 20mg/kg) challenge; circulating cytokines were determined two hours later. In subsequent studies, 100mg/kg IP NS2 was administered to mice 30 minutes prior to topical challenge in murine models of contact dermatitis (phorbol myristate acetate [PMA]) and allergic dermatitis (oxazolone [OXL]); ear swelling and tissue cytokines were analyzed 6h (PMA) and 24h (OXL) after challenge.

RESULTS: The half-life of IP NS2 (10mg/kg) approximated 1.8h; doses up to 100mg/kg were well-tolerated. NS2 down-regulated the inflammatory response to LPS; reductions ($p<0.01$) were observed in levels of IL-1β, IL-5, IL-17 and TNFα (49%, 79%, 60%, and 38% reduction, respectively). Eotaxin, IP-10, LIF, MCP-1, MIP-1α and RANTES also declined. The anti-inflammatory cytokine IL-10 was elevated 8-fold ($p<0.0001$). NS2 reduced ear swelling by 24% ($p<0.001$) in the contact dermatitis model and by 32% ($p<0.001$) in the allergic dermatitis model. In the latter, reduced tissue levels of G-CSF (62%; $p<0.001$), KC (24%; $p<0.05$), M-CSF (28%; $p<0.01$), MIG (44%; $p<0.05$), MIP-1β (22%; $p<0.05$) and MIP-2α (61%; $p=0.01$) were observed.

CONCLUSIONS: The aldehyde trapping molecule NS2 robustly reduced the inflammatory response in three murine models of inflammation. NS2 represents a potential new class of anti-inflammatory therapeutics.

L12 Plasma-Derived C1 Inhibitor Concentrate Did Not Increase the Risk of Thromboembolism in Patients with Hereditary Angioedema Due to C1-Inhibitor Deficiency – a Long-Term Survey

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RATIONALE: Plasma-derived C1-inhibitor concentrate (pdC1-INH) is a safe and effective option for the treatment of hereditary angioedema due to C1-INH deficiency (C1-INH-HAE). Notwithstanding this, sporadic reports and a study into the off-label use of high-dose pdC1-INH in neonates raised concerns that this drug might increase the risk of thromboembolism.

METHODS: Our retrospective study in 144 patients (79 females and 65 males, mean age 38.82 [2 to 84] years), compared the incidence of thromboembolism, its predisposing factors, and the cumulative dose of pdC1-INH (Berinert®, CSL Behring, Marburg, Germany) between patients who received/did not receive this drug.

RESULTS: During the observation period, 102 of the 144 of subjects received pdC1-INH in a cumulative dose of 1,516,500 IU (mean 14,868 [500 to 203,000] IU/patient). None of these patients used an indwelling catheter. The maximum cumulative dose per year was 136,500 IU in a female patient treated with tranexamic acid concomitantly during pregnancy and breastfeeding. The risk factors for thromboembolism, identified in 93 of the 102 patients, included treatment with danazol (n=62) or with tranexamic acid (n=43), oral contraceptive use[4], and high thrombophilic risk (n=11).

Only one out of the 102 pdC1-INH-exposed patients and another patient in the non-exposed group of 42 HAE patients had lower extremity deep vein thrombosis with pulmonary embolism. Both are now on anticoagulation therapy due to thrombophilia, and pd-C1INH is continued in the previously exposed patient.

CONCLUSIONS: According to our long-term follow-up study, treatment with pdC1-INH did not increase the risk of thromboembolism despite the presence of multiple predisposing factors.

L13 On Demand Therapy in Hereditary Angioedema with C1 Inhibitor Deficiency (C1-INH-HAE): Prospective Observational Study of 4244 Attacks

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RATIONALE: Guidelines for C1-INH-HAE recommend early on-demand treatment of attacks to reduce morbidity, but efficacy of this approach has not been tested.

METHODS: From January 2009 to August 2014, 227 Italian patients with C1-INH-HAE filled in diaries with queries about attacks and their treatment.

RESULTS: 4244 attacks were reported; 50% were treated with approved therapies (pdC1-INH 1279, icatibant 858, rhC1-INH 3), 639 with tranexamic acid, 1465 were not treated. Attack locations were peripheral cutaneous (46%), abdominal (34%), multiple (12%), facial (5%), laryngeal (3%). Attack severities were moderate (48%), mild (28%), severe (24%). Attack duration (from onset to complete resolution) was available for 2393 attacks. Median duration with approved therapies was 10 hrs, significantly shorter ($p<0.0001$) than without treatment (45 hrs) or with tranexamic acid (38 hrs). 93% of icatibant treatments and 59% of pdC1-INH were self-administered. Median attack duration with icatibant was 8 hrs and 11.5 hrs with pdC1-INH ($p<0.0001$). Median time from onset of symptoms to drug administration was 1 hr with icatibant and 2 hrs with pdC1-INH ($p<0.0001$). Time from drug administration to complete resolution was 5.5 hrs with icatibant and 8 hrs with pdC1-INH ($p<0.0001$). Second treatment within 48 hrs was required in 12.7% of attacks treated with icatibant and in 1.9 % of attacks treated with pdC1-INH.

CONCLUSIONS: This study confirms that on demand treatment is highly effective in reducing disease related morbidity of C1-INH-HAE. The fact that this approach is still limited to 50% of attacks indicate the need for further patients' education.

L14 Prevalence of Chronic Urticaria in Adult Patients with Self-Reported Penicillin Allergy

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RATIONALE: It was hypothesized that prevalence of chronic urticaria in adults with self-reported penicillin allergy would be higher than in the general population. This retrospective chart review examined charts of adults with self-reported penicillin allergy to determine prevalence of chronic urticaria within that cohort.

METHODS: Using the electronic medical record, charts of all patients age 18 years or older seen in University of Pennsylvania Allergy and Immunology clinic from 6/12/2007 – 8/8/2014 were reviewed to identify patients with self-reported penicillin allergy, defined by presence of penicillin, amoxicillin, amoxicillin-clavulanate, or piperacillin-tazobactam on their allergy list. From these selected charts, patients with any diagnosis of urticaria were identified. These charts were reviewed to determine if urticaria was chronic (present for six weeks or longer). Prevalence of chronic urticaria within the cohort of patients with self-reported penicillin allergy was compared to the estimated prevalence of chronic urticaria in the general population.

RESULTS: Out of 1,419 patients with self-reported penicillin allergy, 175 patients had a diagnosis of chronic urticaria (age range 20-92 years, 84% female). Prevalence of chronic urticaria within this cohort was 12.3%, higher than the estimated 0.5-5% prevalence of chronic urticaria in the general population.

CONCLUSIONS: This study of adults with self-reported penicillin allergy revealed a higher prevalence of chronic urticaria than in the general population. This suggests an association between self-reported penicillin allergy and chronic urticaria, raising the question of whether patients who report penicillin allergy may actually have chronic urticaria and indicating the importance of asking patients with penicillin allergy about chronic urticaria sympto.

L15 Varying Penicillin Allergy Testing Practices in the United States: A Time for Consensus

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RATIONALE: A public health imperative exists to de-label patients of penicillin allergy, however there is lack of consensus on testing procedures and reporting and the effectiveness of testing programs is uncertain.

METHODS: A survey to assess variation in penicillin allergy practice was distributed by the AAAAI email portal to active members. The impact of years in practice and type of practice was assessed by chi-squared tests.

RESULTS: The survey was undertaken by 15% (652/4,330) of allergists from across the United States. 90% of respondents reported performing skin testing (ST) to beta lactaThose in practice <10 years were more likely to offer oral challenge (OC) following ST (93% vs. 85%, p=0.01). Providers offering ST and OC were more likely to advise patients they could safely take all beta-lactams (36% vs. 21%, p=0.04), whereas those offering ST only more likely advised beta-lactam use on a risk-benefit basis (30% vs 16%, p= 0.02). Academic practitioners more commonly tested to minor determinant mixture (44% vs 36%, p= 0.09). Pre-Pen was reported overall as the most prevalent ST positive (66% of responses), however 15% of providers who tested for ampicillin reported it as the most prevalent positive. Only 24% of practitioners were confident that primary care providers received and/or followed recommendations.

CONCLUSIONS: Significant variability in penicillin allergy testing practices exists that may negatively impact its effectiveness. This suggests a need for the re-evaluation and standardization of current beta-lactam allergy practice parameters.

L16 Diagnostic Value of Skin Tests and Serum Specific IgE in the Diagnosis of Immediate Hypersensitivity Reactions to Platins

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RATIONALE: To evaluate the usefulness of skin tests and serum specific IgE (sIgE) determinations as diagnostic tools in immediate hypersensitivity reactions (IHR) to platins.

METHODS: From a total of 46 patients allergic to chemotherapeutic agents diagnosed in our Allergy Department, 17 patients with IHR to platins (carboplatin, 15 and oxaliplatin, 2) and 4 subjects exposed to platins and tolerant (control group) were selected. Mean age was 60 years, and 95% were female. sIgE to cisplatin, carboplatin and oxaliplatin were determined in all of them. Skin tests (ST) were only performed with the specific platin involved in the IHR.

RESULTS: ST to oxaliplatin were negative in the 2 patients with oxaliplatin IHR, but positive sIgE (>0.10 kU/L) was observed in one of them. In the carboplatin IHR group, 12 patients had positive ST and 2 of them also had positive carboplatin sIgE. No sIgE positivity to a different platin than the involved in the IHR was observed. In this sample the sensitivity (S) of carboplatin ST was 80%. Specificity (Sp), positive predictive value (PPV) and negative predictive value (NPV) cannot be calculated because ST were not performed in controls. For carboplatin sIgE test S was 13.3%, Sp 100%, PPV 100% and NPV 23.5%.

CONCLUSIONS: In our sample ST to carboplatin are more sensitive than sIgE determinations for the diagnosis of carboplatin immediate hypersensitivity reactions.

L17 Immunomodulatory Effects of Amino Acid-Based Formulae (AAF) in Gastrointestinal Non-IgE Mediated Food Allergy

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RATIONALE: Management of non-IgE mediated food allergies in early childhood involves allergen avoidance by using extensively hydrolysed (eHF) or amino acid-based formulas (AAF). Clinical anecdote suggests that AAF relieve symptoms more effectively in some patients than using eHF or simple allergen avoidance. This study aimed to explore whether AAF has additional immunomodulatory properties.

METHODS: Forty-eight pediatric patients (≤5 years) were on diets free of cow's milk, egg, wheat and soy with (n=25) or without (n=23) AAF supplementation. Colonic biopsies were taken and cultured for 24 hours with AAF, eHF, whole protein formula or media only. Immune mediators were quantified by qPCR, ELISA and/or multiplex cytokine assay. Possible mechanisms of action of AAF and single amino acids were investigated using 1) lipopolysaccharide (LPS)-stimulated human peripheral blood mononuclear cells, 2) activated rat basophil leukemia (RBL) cells, 3) CXCL8-induced human neutrophil chemotaxis.

RESULTS: Biopsies from children with AAF supplementation showed reduced mucosal IL-6 levels (p=0.04) compared to those without AAF. *Ex-vivo*stimulation with AAF increased 'mucosal repair' GM-CSF (p=0.04) and 'Th1 cytokine' IL-12 (p=0.02) suggesting a propensity towards Th1 immunity. Additionally, AAF and a combination of glycine and glutamine synergistically inhibited the LPS-induced TNFα production. In the RBL cell-based assay glycine inhibited production of TNFα and the Th2 cytokine IL-4. CXCL8-induced neutrophil chemotaxis was inhibited by the amino acid fraction of AAF.

CONCLUSIONS: AAF exerts distinct immunomodulatory effects on the GI mucosal cytokine milieu. A tripartite effect on pro-inflammatory, T-cell immunity and mucosal repair mechanisms may explain the effectiveness and symptom relief seen in patients.

L18 Multiple Food Protein Intolerance of Infancy or Severe Spectrum of Non-IgE-Mediated Cow's Milk Allergy? - a Case Series

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RATIONALE: Hill *et al.*[1] described a unique syndrome, "multiple food protein intolerance of infancy" (MFPI). Infants are asymptomatic on exclusive amino-acid formula (AAF) but develop gastrointestinal symptoms and irritability with introduction of solids. IgE testing to foods that cause GI upset are negative. We describe associated features and long-term prognosis in a case series.

METHODS: 38 consecutive patients presenting to the Department of Allergy, RCH (Jan 2008- Dec 2013) with a presumed diagnosis of "MFPI" (defined as 1) onset in infancy, 2) asymptomatic on AAF and 3) inability to tolerate complementary solids due to severe diarrhoea/vomiting and irritability) were identified and mailed a follow-up questionnaire post diagnosis (mean average follow up 2.5 years, range 1-4 years).

RESULTS: Of the 38, 24 (63%) returned a follow up questionnaire (male 75%, Caucasian 100%). Symptoms at diagnosis included diarrhoea 45.8% (11/24), vomiting 45.8% (11/24), abdominal distension 12.5% (3/24), irritability 79% (19/24), sleep issues 54.2% (13/24), eczema 58% (14/24) and poor growth 30% (7/24). Twelve patients (58.3.%) managed to include >5 foods in the first 12 months. At follow-up, only 12.5% (3/24) reported complete resolution whilst 81.5 % (22/27) reported ongoing diarrhoea, abdominal pain and/or distension and continued to exclude 1-6 foods. There was no identified pattern of contributing foods.

CONCLUSIONS: This series describes a form of presumed non-IgE-mediated food allergy distinguished by early onset severe irritability and gastrointestinal symptoms responsive to AAF but reoccurring with introduction of a broad range of solids. Corroboration of this syndrome in other centres would be valuable.

1. Hill DJ,et al. *J Pediatr* 1999; 135: 118-21.

L19 The Saffa Population-Based Study of IgE-Mediated Food Allergy: Interim Analysis and Feasibility

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RATIONALE: Few studies exist on food sensitisation (FS) and challenge-proven food allergy (CPFA) in unselected populations and none on CPFA in African populations.

To describe study design and methodology to investigate FS and CPFA in the South African Food sensitisation and Food Allergy (SAFFA) cohort. To perform interim analysis to determine the effectiveness of recruitment and initial prevalence rates of FS and CPFA to determine the power of the larger study.

METHODS: Children aged 12-36 months recruited from child care facilities in Cape Town underwent skin prick testing to foods. Those with SPT≥1mm > the negative control and not clearly tolerant on history to a full age appropriate portion to 1 or more foods underwent oral food challenges. Parents who chose not to participate completed a non-participant questionnaire. Interim analysis of ≥300 respondents was performed.

RESULTS: The response rate was 66% with high participation and completion rates of 93.9% and 97.6%. Demographics of the completed participant sample were similar to the Cape Town census. SPT≥1mm to any food was 11.6%, SPT≥3mm 9.9% and SPT≥7mm 4.2%. CPFA was 1.8%, egg allergy 1.4% and peanut allergy 1.1% with wide confidence intervals. Black African subjects had a higher prevalence of any sensitisation to food, a greater proportion of multiple sensitisation and larger cumulative SPT sizes compared to other ethnic groups.

CONCLUSIONS: The study was safe, feasible and the recruitment effective in this population. The projected sample size of 1200 is well powered to assess FS and CPFA and ethnic differences in FS but not CPFA.

L20 Hypoallergenic Variant of the Major Egg White Allergen Gal d 1 Produced By Disruption of Cysteine Bridges

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RATIONALE: Gal d 1 (Ovomucoid) is the most allergenic protein in the chicken egg white. Hypoallergenic variants of this allergen can be used in immunotherapy as an egg allergy treatment approach. We hypothesized that disruption of selected cysteine-cysteine disulfide bridges by mutagenesis will allow us the production of a hypoallergenic variant of the protein.

METHODS: mRNA from an egg laying hen oviduct was isolated to PCR amplify the cDNA coding Gal d 1. The cDNA was then sequenced and inserted into pTrCHis A expression vector. Two cysteine residues in domain III of the protein were mutated to alanine using site-directed mutagenesis, to disrupt two separate cysteine-cysteine bridges. The mutated and non-mutated proteins were expressed in *E.coli* by inducing with isopropyl-β-D-1-thiogalactopyranoside. The expressed proteins were analyzed using SDS-PAGE and immunoblotting to confirm expression. Immunoglobulin E (IgE) reactivity of the two proteins was analyzed, by immunoblotting, against a pool of egg allergic patients' sera. A pool of non-allergic patients' sera was also used in a separate blot as a control.

RESULTS: Mutant Gal d 1 shows diminished IgE reactivity in the immunoblot by showing fainter bands when compared to the non-mutated version. Non-allergic negative control shows no bands indicating absence of non-specific binding of secondary antibody to the proteins.

CONCLUSIONS: Disruption of two cysteine bridges in domain III of Gal d 1 reduces its IgE reactivity. Following downstream laboratory and clinical testing, this mutant protein can be used in immunotherapy to safely induce tolerance to Gal d 1.

L21 A Novel Home-Based Patient Centered Eight-Week Pulmonary Rehabilitation Program for Asthma

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RATIONALE: Because asthma and chronic obstructive pulmonary disease share symptoms such as dyspnea, diminished functional capacity and reduce quality-of-life, it would follow that pulmonary rehabilitation may also be effective in treating asthma. The "ATS/ERS statement on pulmonary rehabilitation" states that, while its effectiveness has only been clearly established for COPD, it "may be of value for all patients in whom respiratory symptoms are associated with diminished functional capacity or reduced HRQL".

METHODS: Patients undergo an eight week, one session per week course which includes pre-and post-assessment, cardiovascular and strength training, respiratory muscle training, energy conservation, balance training, and nutritional education. Patients are given a detailed training syllabus, at home weekly assignments and are required to maintain daily datasheets. The exercise component is divided into exercise performed on-site and prescriptive training that the patient incorporates into his/her daily routine at home.

RESULTS: Significant improvements (n = 16) were seen in body fat % (P = .003), waist circumference (P = .049), 6 min. walk (P = .001), gait speed (P = .001), inspiratory muscle training (P = .001), right leg balance (P = .032), sit to stand (P = .001), push-ups (P = .011) and Baecke questionnaire (P = .022). The asthma quality of life questionnaire did not show statistically significant improvement.

CONCLUSIONS: Our study shows that assessment tools used in pulmonary rehabilitation are helpful in the comprehensive management of asthma and demonstrate improvement in functional capacity.

L22 Safety of 3-Injection Immunotherapy Protocol for Treating Grass Pollen-Induced Rhinoconjunctivitis in Adolescents/Young Adults

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RATIONALE: Allergen-specific immunotherapy by three, ultrasound-guided, lymph node injections [intralymphatic immunotherapy (ILIT)] given before pollen season has shown safety and efficacy in adult, European trials. We hypothesized that ILIT for adolescents/young adults with grass-pollen induced rhinoconjunctivitis could be done safely using extract commercially available in the United States.

METHODS: We recruited 15 adolescents/young adults with grass-pollen induced rhinoconjunctivitis for a randomized, double-blind, placebo-controlled pilot trial of ILIT with Center-Al *Phleum pretense* 500 PNU/ml (ALK). Three patients with mild, intermittent asthma were included. The sum of safety scores for each injection (based on examination for erythema, edema, pruritus, or other adverse reaction) gave a total safety score (TSS) for each participant. Spirometry and fractional exhaled nitric oxide measurements were performed at baseline, 12-weeks post-injection, and end of grass pollen season in participants with seasonal asthma.

RESULTS: Extract (0.1 ml, 0.2 ml, 0.5 ml) was administered into a right, inguinal lymph node with a 1.5 inch, 25 gauge needle, by ultrasound-guidance at three visits, each at least four weeks apart. Treatment dose was 50 PNU for the first injection followed by 100 PNU and 250 PNU for second and third injections, respectively. Participants were monitored for two hours post-injections. All participants completed 100% of injections. There was no difference in TSS between active treatment and placebo groups (p = 0.779). Blinded, mean TSS for the two groups were 0.6 and 0.4 (maximum score 9).

CONCLUSIONS: Intralymphatic immunotherapy with commercially available extract was a well-tolerated and acceptable therapy in American adolescents/young adults. Safety scores were remarkably low overall.

L23 Comparison of Component-Resolved Diagnosis By Using Allergen Microarray with the Conventional Tests in Allergic Rhinitis Patients

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RATIONALE: The aim of this study was to evaluate the component-resolved diagnosis using a microarray allergen chip (Immuno Solid-phase Allergen Chip, ImmunoCap® ISAC) and to compare this new diagnostic tool with the established Immunocap® methods for allergen-specific IgE detection in allergic rhinitis patients.

METHODS: One hundred sixty-eight allergic rhinitis patients were included in this study. All the patients were diagnosed with allergic rhinitis according to their clinical symptoms, physical examination and a positive skin prick test. We analyzed their specific IgEs for house dust mites (*Dermatophagoides farine* [D.P.] and *Dermatophagoides pteronyssinus* [D.F.]), *Alternaria alternata*, birch and mugwort using ImmunoCAP® and ImmunoCAP® ISAC in the same patient sample. We compared the sensitivity and correlation between the two tests.

RESULTS: In cases of allergies to D.P. and D.F., the sensitivity of the specific IgE was 80% and that of the allergen microarray was 78.9%. The correlation between the two tests was significant for both D.P. and D.F. (p <0.0001). For the *Alternaria alternata*, birch and mugwort allergens, the sensitivity of ImmunoCap® ISAC was slightly lower than that of ImmunoCAP®.

CONCLUSIONS: These results suggest that the allergen microarray chip method is a reliable new method to diagnose the components of an allergen specifically in allergic patients. Further study about the utility of the allergen microarray is needed.

L24 A Randomized Dbpc Dose-Finding Trial of Slit Allergoids Tablets in House Dust Mites (HDM) Allergic Patients

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RATIONALE: Lais Mites Tablets consist of monomeric allergoids for sublingual immunotherapy in patients suffering from allergic rhinoconjunctivitis (ARC). The purpose of this trial was to determine the efficacy and safety of four different doses of Mites tablets compared to placebo.

METHODS: Out of 160 patients recruited, 131 adult patients with ARC induced by HDMs were randomized for this dbpc phase II study (EudraCT No 2013-000617-20) conducted in Germany. Treatment consisted of either 300 UA/d; 1,000 UA/d; 2,000 UA/d; 3,000 UA/d or placebo over a course of 12 weeks. Efficacy was assessed by the improvement of reactions to a titrated conjunctival allergen challenge. Safety was assessed by frequency, type and severity of treatment-related adverse events (TRAE).

RESULTS: After a 12-week course of immunotherapy, 88.5% and 76.0% of the patients treated with 2,000 UA/d and 1,000 UA/d, respectively, showed a tenfold improvement in the threshold of allergen concentration compared to 64.2% under placebo (p<0,05 and p=0.358). Neither treatment related SAEs nor cases of anaphylaxis were reported, so there was no need for the use of epinephrine. In total, of all patients under active treatment 4.95% experienced local TRAEs while 6.93% had systemic TRAEs.

CONCLUSIONS: The treatment with mite allergoids is a well-tolerated and safe treatment for patients suffering from HDM induced ARC. The highest proportion of patients with improvement in the CPT threshold of allergen concentration was found in patients treated with 2.000 UA/d corresponding to approximately 168.000 UA cumulative dose during the course of the trial.

L25 A Fungal Protease Allergen Provokes Airway Hyperresponsiveness in Asthma

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RATIONALE: Asthma, a common disorder that affects more than 250 million people worldwide, is defined by exaggerated bronchoconstriction to inflammatory mediators including acetylcholine, bradykinin and histamine, also termed airway hyper-responsiveness (AHR). Although chronic inflammation leads to desquamation of the respiratory epithelium, increased bronchial smooth muscle mass, and mucous gland hypertrophy in asthma, the mechanisms by which such airway "remodeling" bring about enhanced contraction of airway smooth muscle (ASM) cells to procontractile ligands are poorly understood. Nearly 10% of people with asthma have severe, treatment-resistant disease, which is frequently associated with IgE sensitization to ubiquitous fungi, typically *Aspergillus fumigatus* (*Af*).

METHODS: Here we show that a major *Af* allergen, *Asp f13*, which is a serine protease, alkaline protease 1 (Alp 1), mediates AHR directly by disrupting ASM cell-extracellular matrix (ECM) interactions to induce pathophysiological excitation-contraction signaling.

RESULTS: Alp 1-induced ECM degradation and ablation of integrin-mediated focal adhesions led to RhoA activation and increased RhoA-activated kinase (ROCK) activity. Consequently, cells produced more phosphatidylinositol 4,5-bisphosphate (PIP2), the principal substrate for phospholipase Cbeta (PLCb), which mediates G-protein-coupled receptor (GPCR)-evoked release of cytosolic Ca^{2+} and contraction. Alp 1 was present in bronchial smooth muscle bundles of human subjects with asthma and allergen-challenged mice but not in control subjects or naïve mice.

CONCLUSIONS: These findings support a previously unknown pathogenic mechanism in asthma and other lung diseases associated with epithelial barrier impairment whereby airway smooth muscle cells respond directly to inhaled environmental allergens to generate AHR.

L26 Threshold of Pen a1 Mediated Fcεri Cellular Responses

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RATIONALE: Little is known about allergen- mediated receptor cross-link properties that lead to cell responses constituting allergy. We have characterized the relationship between Pen a1 (shrimp tropomyosin)-specific IgE dose, the number of FcεRI occupied with allergen-specific IgE,and cellular response.

METHODS: Pen a1 specific IgE (IgE^{TM}) was purified from the plasma of a shrimp allergic individual by affinity purification. RBL-2H3 (Rat Basophilic Leukemia) cells expressing the human FcεRI alpha were primed with purified IgE^{TM} and cross-linked with a range of anti-IgE or Pen a1 concentrations to measure degranulation responses. The number of FcεRI engaged on the cell surface at different IgE concentrations were quantified using flow cytometry and correlated with degranulation responses.

RESULTS: Cells primed with a range of IgE^{TM} and challenged with increasing concentrations of Pen a1 show a bell-shaped dose response for secretion. Cells degranulated when exposed to a minimal concentration of 7.5 ng/ml IgE^{TM}. Robust degranulation response was seen with a concentration of 120 ng/ml IgE^{TM}, with an estimate of 1000 FceRI occupied with Pen a1-specific IgE on the cell surface. Measurable degranulation occurred when only a few hundred receptors were engaged.

CONCLUSIONS: Our data suggests that very few receptors need to be cross-linked on the cell surface to trigger robust cellular responses. This is consistent with the complex repertoire of allergen-specific IgEs *in vivo*, where adverse reactions like anaphylaxis occur with mast cells and basophils with only 0.1-20% of receptors occupied with allergen specific IgE. This data is critical for understanding the mechanisms governing allergic responses and designing therapeutic strategies.

L27 Constitutively Activated KIT in Mastocytosis Patients Is Associated with Decreased Levels of the Scavenger Protein DJ1 and Reciprocal Increases in Reactive Oxygen Species

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RATIONALE: DJ1, a scavenger protein of reactive oxygen species (ROS) that facilitates mast cell (MC) function, is reduced in atopic dermatitis. Mastocytosis patients accumulate MC in organs due to clonal gain-of-function mutations in the stem cell factor (SCF) receptor KIT. Because DJ-1 is linked to MC function, MC-related diseases and other malignancies, we explored whether KIT activation regulates DJ1 and ROS in MC and the relationship of DJ1 levels with the progression of systemic mastocytosis (SM).

METHODS: Sera was collected from SM patients with tryptase values ranging from 1 to 1000 ng/ml. Measurement of DJ-1 levels was performed by ELISA. ROS levels were measured with the OxiSelect™ In Vitro ROS/RNS Assay Kit. LAD2 MC and MC carrying KIT mutations (HMC1) were used to study DJ1 and ROS regulation *in vitro*.

RESULTS: DJ1 levels were decreased and ROS levels increased in SM patients with low to medium tryptase, but DJ1 levels were normal in patients with high tryptase. LAD2 MCs exposed long-term to SCF, or chronic activation of KIT in HMC1 showed reduced DJ1 levels due to increased proteosomal degradation. This reduction in DJ1 levels was reversed by IL-6, which induced DJ1 transcription, but not by IL-31 or histamine, all of which are mediators increased concomitantly with tryptase in SM patients.

CONCLUSIONS: KIT hyperactivity causes DJ-1 dysregulation and ROS increases in SM, while high IL-6 in severe SM normalizes DJ1 levels. The findings raise the possibility that DJ1 and ROS contribute to SM symptoms and/or progression and may serve as markers of disease progression.

L28 Epicutaneous Immunotherapy (EPIT) Is Effective and Safe to Treat Peanut Allergy: A Multi-National Double-Blind Placebo-Controlled Randomized Phase IIb Trial

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RATIONALE: To date there is no specific approved treatment for peanut allergy. EPIT is well tolerated and appears promising for the treatment of peanut allergy.

METHODS: In a multicenter double-blind, placebo-controlled phase IIb trial, 221 subjects (6 – 55 years) reacting at a peanut protein (pp) eliciting-dose (ED) ≤300mg during DBPCFC were randomized to 1 year Viaskin® Peanut (VP), at different doses (50µg, 100µg, 250µg pp), or Viaskin®placebo. The primary efficacy endpoint at 1 year was the proportion of responders with a pp ED 10-fold greater than the pp ED at entry or achieving a post-treatment ED ≥1000mg. Cumulative reacting dose (CRD) of pp was also measured. Immunologic studies were performed at entry, 3, 6 and 12 months.

RESULTS: The overall primary efficacy endpoint was met, with VP250 showing best results: 50.0% responders *vs* 25.0% with placebo, p=0.0108; children (6-11 years) exhibited 53.6% responders *vs* 19.4% for placebo, p=0.0076. In children, the mean CRD showed a VP dose-dependent response: +61mg, +471mg, +570mg and +1121mg for placebo, VP50, VP100 and VP250 respectively. Children's immunological responses were robust: with VP250 - PN-IgE exhibited a median increase ≥50 kU_A/L at 3 months and decreased back to baseline at 12 months; median PN-IgG4 at 12 months increased in a dose-dependent fashion: 5.5-, 7.2- and 19.1-fold for VP50, VP100 and VP250, respectively. Compliance was >95%, dropout for adverse events <1%, and there were no serious adverse events related to treatment.

CONCLUSIONS: In peanut allergy, EPIT appears safe and effective; the CRD was dose-dependent and maximum efficacy was seen with VP250.

L29 Natural History of Peanut Allergy and Predictors of Persistence in the First 4 Years of Life: A Population-Based Assessment

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RATIONALE: There is no prospectively collected data available on the natural history of peanut allergy in early childhood. Previous studies have been biased by failure to challenge high-risk children when IgE antibody levels are high, potentially biasing towards persistent allergy. We sought to describe the natural history of peanut allergy between ages 1 and 4 years and develop thresholds for skin prick test (SPT) and serum specific-IgE (sIgE) that have 95% positive predictive value (PPV) to persistent peanut allergy.

METHODS: Challenge-confirmed peanut allergic 1-year-old infants (n=156) from the population-based, longitudinal HealthNuts Study (n=5276) were followed up at 4 years of age with repeat oral food challenge, SPT and sIgE (n=103). Challenges were undertaken at both ages 1 and 4 years, irrespective of risk profile.

RESULTS: Peanut allergy resolved in 22% (95% CI 14-31%) of children by age 4 years. Falling wheal size predicted tolerance while increasing wheal size was associated with persistence. Thresholds for SPT and sIgE at age 1 with 95% PPV to persistent peanut allergy are SPT ≥ 13mm and sIgE ≥ 5.0 kU/L. Thresholds for SPT and sIgE at age 4 with 95% PPV to persistent peanut allergy are SPT ≥ 8mm and sIgE ≥ 2.1 kU/L. Ara h2, tree nut and house dust mite sensitisation, coexisting food allergies, eczema and asthma were not predictive of persistent peanut allergy.

CONCLUSIONS: These thresholds are the first to be generated from a unique dataset where all participants underwent OFC at both diagnosis and follow-up, irrespective of SPT and sIgE.

L30 Identifying Genetic Determinants of Atopic Dermatitis and Bacterial Colonization Using Whole Genome Sequencing

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RATIONALE: The genetic basis of *S. aureus* colonization in atopic dermatitis (AD) is unknown. To extend prior studies in this field, we have implemented the first whole genome sequencing (WGS) study to identify genetic determinants associated with risk of AD and bacterial colonization.

METHODS: Deep WGS (~30x) was performed on 248 AD subjects with *S. aureus* colonization, 245 AD subjects without *S. aureus* and 237 non-atopic controls. Here we present an initial analysis focused on single nucleotide variants (SNVs) in the Epidermal Differentiation Complex (EDC; chr1:151972910-153642037), a region rich in genes important for epidermal maturation.

RESULTS: We identified 17,231 SNVs, of which 47% have never been observed in public catalogs of human variation. Fourteen SNVs had a $p < 0.001$ comparing all AD to non-atopic controls, including missense variants in the genes encoding repetin (*RPTN*; p=0.0005, OR=0.53) an extracellular epidermal matrix protein, and late cornified envelope 1B (*LCE1B*, p=0.0002, OR=0.29). Both variants are strongly protective against AD; rs72696940 predicted to be 'probably damaging' is common (frequency=13%) while rs56056379 predicted to be 'benign' is rare (frequency=3%), respectively. Only modest evidence was found for associations with bacterial colonization among AD subjects.

CONCLUSIONS: We use the EDC to showcase the potential of WGS to identify novel genetic determinants of AD. While our evidence for risk of bacterial colonization is less striking in the EDC, extensive analysis is underway to include SNVs across the genome, insertion/deletions and gene-level tests. We anticipate discovery of additional novel loci, and expect improved fine-mapping results in recognized genes in our expanded analysis.

L31 Biased Agonism of Toll like Receptor 4 in Mediating the Immune System

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RATIONALE: The immune basis of allergic versus non-allergic diseases differs vastly, however, toll like receptor (TLR) 4 is involved in both. While the canonical TLR4 ligand, lipopolysaccharide (LPS), induces T helper (Th) 1 immune responses, our laboratory has shown that expression of allergic airway disease requires fibrinogen cleavage products (FCPs) that signal through TLR4. We hypothesize that TLR4 exhibits biased agonism in response to LPS and FCP liganding.

METHODS: Coomassie blue analysis was conducted to characterize FCPs. NF-kB SEAP assays were used to measure NF-kB-dependent transcription in response to FCPs vs LPS. To demonstrate biased agonism of TLR4, Reverse phase protein array (RPPA), Western blot analyses and cytokine array were performed to discern the signaling pathways induced by FCPs vs LPS.

RESULTS: FCPs consist of several fragments that are potential TLR4 ligands, one having a molecular size similar to D-dimer. FCPs and D-Dimer both reduce NF-kB-dependent transcription, contrary to LPS. While LPS induces phosphorylation of p38, FCPs strongly suppress this. Moreover, western blot results based on RAW 264.7 cells and bone marrow derived macrophages (BMDMs) showed that STAT6 is clearly induced by FCPs, but not LPS.

CONCLUSIONS: These results indicate that LPS and FCPs, both ligands for TLR4, modulate NF-kB and MAPKs through distinct signaling pathways and these ligands differentially activate STAT6 through TLR4. Collectively, TLR4 appears to exhibit biased agonism in response to distinct ligands and it is the TLR4 response induced by FCPs that is required for expression of allergic airway disease.

L32 Aryl Hydrocarbon Receptor Regulates Cockroach Allergen Induced Lung Inflammation through Controlling the Recruitment and Function of Mesenchymal Stem Cells

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RATIONALE: Exposure to cockroach allergen can lead to allergic sensitization and an increased risk of asthma. However, the underlying mechanisms remain unclear. Recent studies have suggested that aryl hydrocarbon receptor (AhR) can modulate cockroach allergen-induced immune responses and mesenchymal stem cells (MSCs) were increased after allergen challenge in mouse asthmatic models.We sought to determine whether AhR regulates cockroach allergen induced lung inflammation by controlling the recruitment and function of MSCs.

METHODS: AhR expression in lung MSCs from mouse models of asthma and controls was examined. Cockroach allergen induced AhR activation in MSCs and AhR mediated cockroach allergen induced MSC migration and lung inflammation were also investigated. The role of AhR in controlling innate lymphoid cell (ILC) differentiation was specifically determined.

RESULTS: Both nestin and AhR are highly co-expressed in airway of mouse models of asthma as compared to controls. AhR on MSCs was activated by CRE with an increased expression of cyp1a1 and cyp1b1 and TGFβ1 production. Moreover, TCDD can enhance CRE induced MSC migration and inhibit lung inflammation of mouse asthmatic models through the activation of TGFβ1 signaling. Furthermore, both lung ILC2s and ILC3s were significantly increased in asthma as compared to controls. Interestingly, these increased ILC3s were further enhanced by TCDD with increased IL22.

CONCLUSIONS: These results provide an evidence that AhR modulates cockroach allergen induced lung inflammation through controlling MSC functions, and suggesting a role for AhR in the development of allergic diseases.

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

0001, 1101, 1101A, 1101C, 1101D, 1202, 1203, 1206, 1208, 1209, 1402, 1601, 1605, 1606, 1609, 1610, 1611, 1701, 1703, 1905, 2004, 2007, 2008, 2009, 2012, 2013, 2023, 2302, 2303, 2305, 2307, 2308, 2311, 2313, 2321, 2322, 2502, 2504, 2507, 2508, 2513, 2515, 2524, 2551, 2552, 2613, 2801, 2802, 2805, 2807, 2812, 2814, 2821, 3002, 3004, 3007, 3008, 3009, 3011, 3012, 3101, 3302, 3307, 3313, 3525, 3611, 4002, 4004, 4005, 4006, 4007, 4008, 4009, 4014, 4015, 4305, 4308, 4806, 4807, 4810, 4811, 4812, 4814, 4815, 4821, 4822, 4828, 4829, 4830, 5006, 5301, 5303, 5306, 5307, 5311, 5501, 5505, 5508, 5522, 5524, 5802, 5807, 5808

Practice-based Learning and Improvement

0001, 1101, 1101B, 1101D, 1102, 1103, 1202, 1203, 1204, 1210, 1301, 1302, 1401, 1402, 1501, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1609, 1701, 1702, 1703, 1704, 1801, 1901, 1902, 1903, 1904, 2001, 2002, 2003, 2005, 2006, 2008, 2010, 2012, 2014, 2015, 2021, 2022, 2023, 2024, 2101, 2301, 2303, 2304, 2305, 2306, 2308, 2312, 2313, 2314, 2321, 2322, 2323, 2501, 2502, 2504, 2505, 2506, 2507, 2508, 2510, 2511, 2512, 2513, 2514, 2521, 2522, 2523, 2525, 2552, 2611, 2612, 2613, 2801, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2813, 2814, 2821, 2822, 2823, 3001, 3002, 3003, 3004, 3005, 3006, 3009, 3010, 3011, 3013, 3014, 3015, 3016, 3041, 3042, 3043, 3044, 3101, 3301, 3303, 3304, 3305, 3306, 3308, 3311, 3312, 3313, 3525, 3611, 4001, 4005, 4006, 4007, 4009, 4010, 4011, 4012, 4013, 4014, 4051, 4101, 4302, 4303, 4306, 4307, 4801, 4802, 4803, 4804, 4805, 4806, 4808, 4809, 4811, 4813, 4815, 4816, 4823, 4825, 4826, 4827, 4829, 4830, 5001, 5002, 5003, 5004, 5005, 5006, 5101, 5301, 5302, 5304, 5305, 5306, 5307

Professionalism

0001, 1101, 1101A, 1202, 1203, 1206, 1208, 1209, 1601, 1604, 1606, 1610, 1611, 2002, 2007, 2008, 2009, 2011, 2302, 2303, 2306, 2307, 2313, 2503, 2504, 2507, 2509, 2515, 2521, 2524, 2551, 2552, 2613, 2614, 2802, 2803, 2807, 2808, 2812, 2821, 3004, 3005, 3006, 3007, 3008, 3009, 3015, 3302, 3303, 3304, 3307, 4002, 4003, 4004, 4005, 4007, 4008, 4009, 4012, 4014, 4015, 4303, 4305, 4307, 4308, 4807, 4808, 4809, 4812, 4814, 4823, 4828, 5006, 5303, 5306, 5311, 5501, 5505, 5508, 5524, 5803, 5806, 5808, 5809

System-based Practice

1101, 1202, 1210, 1601, 1602, 1605, 1610, 1703, 1902, 1903, 1904, 2004, 2008, 2021, 2023, 2301, 2304, 2313, 2502, 2507, 2509, 2511, 2512, 2513, 2514, 2522, 2523, 2525, 2526, 2613, 2804, 2807, 2811, 2812, 2821, 2823, 3004, 3008, 3009, 3011, 3012, 3013, 3301, 3304, 4002, 4004, 4005, 4010, 4013, 4014, 4101, 4301, 4303, 4304, 4801, 4805, 4811, 4821, 4824, 4826, 5001, 5002, 5006, 5101, 5304, 5306, 5502, 5503, 5505, 5507, 5521, 5523, 5525, 5803, 5804, 5806

For more information about the ACGME's physician competencies, visit http://www.acgme.org.

Abbott Nutrition

3300 Stelzer Road
Columbus, OH 43219
Phone: (614) 624-7677
www.abbottnutrition.com

Booth #645

Abbott Nutrition is one of the world's leading authorities in science-based nurition for all stages of life. As your nutrition partner, we invite you to visit us and explore our portfolio of products, including EleCare, PediaSure Peptide, and PediSure to help your patients grow and achieve greater well-being.

Abionic SA

EPFL Innovation Park
Building B
Lausanne, Switzerland 1015
Phone: +41 79 753 57 66
www.abionic.com

Booth #444

Abionic has developed the abioSCOPE, a biomedical diagnostic device that provides reliable, low-cost IgE allergy diagnosis efficiently and in a manner that promotes personalized medication.

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Booth #546

Accredo provides specialty pharmacy and related services for patients with certain complex and chronic health conditions dispensing more then 300 specialty drugs from more then 30 pharmacies nationwide. Accredo is a wholly-owned subsidiary of Express Scripts.

Aerocrine, Inc.

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Suite 260
Morrisville, NC 27560
Phone: (919) 518-3073
www.aerocrine.com

Booth #649

Aerocrine, a leader in fractional exhaled nitric oxide (FeNO) technology markets the NIOX MINO(R) Routine FeNO measurements using NIOX can guide inhaled corticosteroid dose optimization to reduce asthma exacerbations up to 50%. Visit Booth 649 to learn more about this simple 2-minute test to help optimize asthma management.

Alcon Laboratories Inc.

6201 South Freeway
Fort Worth, TX 76134
Phone: (817) 551-4067
www.alconlabs.com

Booth #745

As a gloabal leader in eye care, Alcon's mission is to provide innovative products that enhance quality of life by helping people see better. We are committed to makeing significant contributions to preserve, restore and enhance vision by working to address the world's most pressing eye care needs. www.alcon.com

ALK-Abello, Inc.

1700 Royston Lane
Round Rock, TX 78664
Phone: (512) 251-0037
www.alk.net/us

Booth #621

ALK is a research driven, global pharmaceutical company focusing on allergy treatment, prevention and diagnosis. ALK is committed to supporting the business of allergy by providing diagnostic tools, automation software and customized business, technical and clinical consulting services.

Allergen Research Corporation (ARC)

2000 Alameda de las Pulgas
Suite 161
San Mateo, CA 94403
Phone: (650) 614-5220
www.allergenresearch.com

Booth #652

Allergen Research Corporation (ARC) develops treatments to protect children with food allergies from the life threatening consequences of accidental exposure.

Allergy & Asthma Network

8229 Boone Blvd, Ste 260
Vienna, VA 22182
Phone: (703) 641-9595
www.aanma.org

Booth #247

Allergy & Asthma Network is dedicated to ending the needless death and suffering due to asthma, allergies and related conditions. Stop by our booth to get patient-friendly medically accurate information.

Allergy and Asthma Proceedings

450 Veterans Memorial Parkway - Bldg 15
E. Providence, RI 02914
Phone: (401) 331-2510
www.oceansidepubl.com

Booth #738

The primary focus of Allergy & Asthma Proceedings' is directed to the publication of articles with the highest degree of clinical relevance for the practicing allergist/immunologist. Additionally the Proceedings is committed to medical education, having recently published the teaching tool, Northwestern University A-I Syllabus for Medical Students & Residents. Academically, the Proceedings has established a 35 year reputation as a National Library of Medicine/PubMed indexed journal with circulation at 5000 and impact factor of 3.353

Allergy Control Products

1620 Satellite Boulevard
Suite D
Duluth, GA 30097
Phone: (800) 255-3749
www.allergycontrol.com

Booth #742

Since 1983, we've been working hard to find effective products to help relieve indoor allergies, provide sinus relief and ease the symptoms of asthma. Our mission is to offer effective, quality products to our customers, and to support them with quality information that helps them live healthier lives.

Allergy Guardian

9525 Monroe Road
Suite 100
Charlotte, NC 28270
Phone: (770) 910-8075
www.allergyguardian.com

Booth #332

In addition to our Allergy Guardian encasings, we offer a range of effective products for relief from allergies, asthma, sinusitis, dermatitis and more. Our team has many years of experience in the allergy industry and we have carefully selected the effective products found on our website, www.allergyguardian.com for a healthier home and a healthier lifestyle.

Allergy Laboratories, Inc.

1005 SW 2nd Street
Oklahoma City, OK 73109
Phone: (800) 654-3971
www.allergylabs.com

Booth #1033

Allergy Laboratories, Inc. is proud to be the oldest and the only American owned allergenic extract manufacturer. We produce a full range of diagnostic and therapeutic allergens, as well as sterile empty vials and pre-filled vials of allergenic extract diluting solutions. We invite your inquires.

Allergy Partners

1978 Hendersonville Road
Suite 130
Asheville, NC 28803
Phone: (828) 277-1300
allergypartners.com

Booth #1027

Allergy Partners is the nation's largest allergy, asthma and immunology practice. Our network of 47 main practice locations spans 18 states and encompasses over 120 total locations of care. As our reputation continues to grow, we are committed to our vision and to bringing only the best physicians and practices into our network.

The American Board of Allergy and Immunology

111 S. Independence Mall East, Suite 701
Philadelphia, PA 19106
Phone: (215) 592-9466
www.abai.org

Booth #246

The ABAI was established in 1971 as a Conjoint Board of the ABIM and ABP. The internal medicine subspecialty existed from 1936-1971 and the pediatric subspecialty existed from 1944-1971. The ABAI is committed to working closely with its parent boards to maintain the highest educational and clinical standards in A&I.

American Latex Allergy Association

63334 Lohmann Lane
Eastman, WI 54626
Phone: (608) 874-4044
www.latexallergyresources.org

Booth #249

American Latex Allergy Association (ALAA) a Lay Organization of the AAAAI. Our mission is to create awareness of Latex Allergy through education, support allergists and their patients. Visit our website www.latexallergyresources.org, follow us on Facebook and Twitter. Stop by booth# 249 to learn about our educational resources.

APFED

PO Box 29545
Atlanta, GA 30359
Phone: (713) 496-7749
www.apfed.org

Booth #354

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 resource for patients, their families, physicians and the medical community.

Asthma and Allergy Foundation of America (AAFA)

8201 Corporate Dr.
Suite 1000
Landover, MD 20785
Phone: (202) 466-7643
www.aafa.org

Booth #240

The Asthma and Allergy Foundation of America (AAFA) serves people with asthma and allergies by providing free patient education, advocating on behalf of patients, and supporting medical research.Kids With Food Allergies (KFA), a division of AAFA, provides free education resources, recipes, and monthly webinars. For more information, visit www.aafa.org

AstraZeneca

1800 Concord Pike
Wilmington, DE 19850
Phone: (800) 236-9933
www.astrazeneca.com

Booth #751

AstraZeneca is a global, innovation-driven biopharmaceutical business that focuses on the discovery, development and commercialisation of prescription medicines, primarily for the treatment of cardiovascular, metabolic, respiratory, inflammation, autoimmune, oncology, infection and neuroscience diseases. AstraZeneca operates in over 100 countries and its innovative medicines are used by millions of patients worldwide. For more information please visit: www.astrazeneca.com

AxelaCare Health Solutions

9801 Renner Blvd., Ste 275
Lenexa, KS 66219
Phone: (800) 342-9352
www.axelacare.com

Booth #1038

AxelaCare specializes in IVIG and other infusible medications. We provide medications, treatment management, insurance support, home infusion nursing and advocacy services for patients with rare and chronic diseases. Our mission is to empower people in the pursuit and delivery of exceptional patient care.

Baxter Healthcare

One Baxter Parkway
Deerfield, IL 60015
Phone: (224) 948-2000
www.baxter.com

Booth #821

Baxter Healthcare Corporation, along with its subsidiaries, develops, manufactures and markets healthcare products that save and sustain the lives of people with hemophilia, immune disorders, infectious diseases, kidney disease, trauma, and other chronic and acute medical conditions. As a global, diversified healthcare company, Baxter applies a unique combination of expertise in medical devices, pharmaceuticals and biotechnology to create healthcare products that advance patient care worldwide.

Baxter Healthcare Corporation

One Baxter Way
Westlake Village, CA 91362
Phone: (805) 372-3539
www.baxter.com

Booth #542

The BioTherapeutics Medical Affairs booth will be staffed by Baxter Medical Affairs representatives who are able to answer medical and scientific questions about Baxter's immune globulin products. For more information on BioTherapeutics, please visit www.baxter.com.

Biogenics Research Chamber

8299 Fredericksburg Road
San Antonio, TX 78229
Phone: (210) 888-4724
www.biogenicschamber.com

Booth #940

Biogenics Research Chamber is a United States based allergen challenge chamber designed to conduct allergic rhinoconjunctivitis clinical trials in a controlled environment. We have the experience and expertise to accomplish the goals of each clinical trial conducted at Biogenics Research Chamber.

Bio Products Laboratory USA Inc.

302 East Pettigrew Street Suite C-190
Durham, NC 27701
Phone: (919) 806-4496
www.bpl-us.com

Booth #1141

Bio Products Laboratory (BPL) is a global company with 60 years of history in plasma research, technology, and manufacturing. Originally part of the world-famous Lister Institute, BPL has a full line of products derived from plasma collected at 35 company-owned collection centers across the US. For more information please visit www.bpl-us.com.

BioRx

11262 Cornell Park Drive
Cincinnati, OH 45152
Phone: (513) 338-8418
www.biorx.com

Booth #1139

BioRx is a national provider of specialty pharmacy, infusion management and industry consulting services. As a private, independently-owned company, BioRx is committed to a flexible service model that meets the needs of its customers, including consumers, healthcare providers, health plans and pharmaceutical manufacturers.

Biotest Pharmaceuticals Corporation

5800 Park of Commerce Blvd NW
Boca Raton, FL 33487
Phone: (561) 989-5800
www.biotestpharma.com/

Booth #547

Biotest Pharmaceuticals researches and manufactures biotherapeutic products with a specialization in immunology and hematology. Biotest Pharmaceuticals is a leader in the collection of source plasma. Established in 2007, Biotest Pharmaceuticals owns and manages plasmapheresis centers across the United States and operates a state-of-the-art manufacturing facility in Boca Raton, Florida.

Boston Scientific

100 Boston Scientific Way
Marlborough, MA 01752
Phone: (800) 810-6060
www.BTforAsthma.com

Booth #737

Bronchial Thermoplasty (BT) delivered by the Alair System is a safe and clinically proven outpatient procedure that provides long-lasting reduction in exacerbations with 79% of patients treated with Bronchial Thermoplasty (BT) reporting a significant improvement in their asthma-related quality of life in clinical study.

Carestream

1765 The Exchange
Atlanta, GA 30339
Phone: (888) 477-4359
www.carestream.com/ent-allergy

Booth #937

For fast and accurate diagnoses, choose the CS 9300: the point-of-care CT system that is easy to implement and afford. Featuring a range of fields of view and resolutions, the unit is ideal for visualizing temporal bone and sinus structures and all with less radiation than conventional CT exams.

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www.sanofi.com

Booth #345

Chattem, Inc. is part of the Sanofi-Aventis Group. Sanofi U.S. is an affiliate of Sanofi-Aventis, a leading global pharmaceutical company that discovers, develops, and distributes therapeutic solutions to improve lives.

CherylLeeMD Sensitive Skin Care

144 South Main Street
Suite 300
Alpine, UT 84004
Phone: (877) 622-4626
www.cherylleemd.com

Booth #1029

The New Meaning of Hypoallergenic: CherylLeeMD Sensitive Skin Care and patent-pending TrueLipids Skin Barrier Optimization Technology. Therapeutics for eczema, skin irritations, normal skin maintenance - formulated for your sensitive skin patients without toxins and common allergens. Bringing True understanding to the field of dermatitis. Invented by NIH-trained dermatologist - mother of four.

Clinical Immunology Society

555 E. Wells Street, Suite 1100
Milwaukee, WI 53202
Phone: (414) 224-8095
www.clinimmsoc.org

Booth #244

The Clinical Immunology Society (CIS) is devoted to fostering developments in the science and practice of clinical immunology. CIS is an international professional organization with more than 800 members. Our mission is to facilitate education, research and novel approaches to therapy to promote excellent care for patients with immunologic/inflammatory disorders.

Coram Specialty Infusion Services

555 17th Street
Suite 1500
Denver, CO 80202
Phone: (303) 672-8600
coramhc.com

Booth #1135

Coram CVS/specialty infusion services is a leading provider of specialty home infusion and pharmacy services with more than 30 years of experience. With over 85 branches nationwide, Coram offers both national presence and local coverage. Coram's staff is known for providing an exceptional level of care to thousands of patients every day.

CoverMyMeds

2 Miranova Pl.
Columbus, OH 43215
Phone: (866) 452-5017
www.covermymeds.com

Booth #555

CoverMyMeds is the leader in automating prior authorizations (PA) and one of the fastest growing healthcare companies in the US. Our technology easily integrates with pharmacy systems, EHRs, and PBMs to create the industry's most efficient electronic prior authorization (ePA) solution. For more information visit www.covermymeds.com

Crowell Systems

4235 South Stream Blvd.
Suite 100
Charlotte, NC 28217
Phone: (704) 665-2000
www.crowellsystems.com

Booth #639

MedFormix©Vue Fast, Efficient, Easy to Use Allergy Specific PM, EMR with Shot & Antigen Modules Spectacular Practice Management Comprehensive Medical Chart (integrated e-Rx, Skin test, Spirometry, Shot, Antigen Reviews & Referral Letters included) Immunotherapy and Antigen Lab Modules Integrated Patient Portal, Certified 24x7 US--Based Support Safe & Secure Multi-Level Firewalls Don't take work home!

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Phone: (610) 878-4000
cslbehring.com

Booth #729

CSL Behring is a leader in the plasma protein therapeutics industry. The company manufactures and markets plasma-derived and recombinant therapies worldwide. CSL Behring therapies are used around the world to treat coagulation disorders, primary immune deficiencies, hereditary angioedema and inherited respiratory disease, and neurological disorders in certain markets.

CURED (Campaign Urging Research for Eosinophilic Disease)

PO Box 32
Lincolnshire, IL 60069
Phone: (847) 361-3292
www.curedfoundation.org

Booth #255

CURED is committed to raising substantial funding to aid research, advocating on behalf of EGID patients and their families and working to educate and increase awareness about this complex group of diseases. It is our heartfelt belief that CURED can make a difference for the individuals and their families who are touched by these diseases.

Dyax Corp

55 Network Drive
Burlington, MA 1803
Phone: (617) 225-2500
www.dyax.com

Booth #529

Allergy and Asthma medications

European Academy of Allergy and Clinical Immunology

Hagenholzstrasse 111
Zurich, Switzerland 8050
Phone: +41 44 205 55 33
www.eaaci.org

Booth #744

The European Academy of Allergy and Clinical Immunology (EAACI) is a non-profit organisation active in the field of allergic and immunologic diseases 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. It includes over 8,000 members from 121 countries, as well as 47 National Allergy Societies.

Edge Pharmaceuticals

7264 NW 63rd Terrace
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Phone: (877) 580-3343
www.edgepharmaceuticals.com

Booth #1036

We specialize in:
- Sublingual (SLIT) Metered Dose Delivery Systems
- Allergy testing and treatment materials
- Specialty pharmacy compounding services and products such as: Sublingual treatment material and compounded capsules

We look forward to meeting with you. Please stop by our booth to see us.

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www.elsevierhealth.com

Booth #325

ELSEVIER is a leading publisher of health science publications, advancing medicine by delivering superior reference information and decision support tools to doctors, nurses, health practitioners and students. With an extensive media spectrum print, online and handheld, we are able to supply the information you need in the most convenient format.

Federation of Clinical Immunology Societies (FOCIS)

N83W13410 Leon Road
Menomonee Falls, WI 53051
Phone: (414) 359-1670
www.focisnet.org

Booth #257

The Federation of Clinical Immunology Societies (FOCIS) exists to improve human health through immunology by fostering interdisciplinary approaches to both understand and treat immune-based diseases. It is a membership organization and is the source for information and education on clinical immunology.

Food Allergy Research and Education

7925 Jones Branch Drive, Suite 1100
McLean, VA 22102
Phone: (800) 929-4040
www.foodallergy.org

Booth #251

The mission of Food Allergy Research & Education (FARE) is to find a cure for food allergies, and to keep individuals with food allergies safe and included. FARE is the leading national organization dedicated to food allergy research, education, advocacy and awareness. For more information, please visit www.foodallergy.org.

Fraunhofer ITEM

Nikolai-Fuchs-Str. 1
Hanover, Germany 30625
Phone: +49 511-5350-259
www.item.fraunhofer.de

Booth #1149

Fraunhofer ITEM offers preclinical and clinical contract research in the field of respiratory diseases. Clinical proof of concept studies are performed with a variety of challenge models, in particular, the Fraunhofer environmental challenge chamber. Clinical trials (phase I-IV) for asthma, allergic rhinitis or COPD are conducted with state-of-the-art clinical and immunological read-out parameters.

Genentech/Novartis

1 DNA Way
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South San Francisco, CA 94080-4990
Phone: (650) 467-7401
www.gene.com

Booth #829

Considered the founder of the industry, Genentech, now a member of the Roche Group, has been delivering on the promise of biotechnology for over 35 years. At Genentech, we use human genetic information to discover, develop, manufacture and commercialize medicines to treat patients with serious or life-threatening medical conditions. Today, we are among the world's leading biotech companies, with multiple products on the market and a promising development pipeline.

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Phone: (800) 628-2229
www.medical.gerber.com

Booth #321

Gerber, a Nestlé© company, and the maker of GERBER GOOD START premature and term infant formulas, GERBER baby foods, and GERBER GRADUATES toddler foods, is committed to nourishing a healthier generation. Gerber recommends breastfeeding as the ideal nutrition for babies and provides expecting and new mothers breastfeeding education and services.

GlaxoSmithKline

5 Moore Dr.
Research Triangle Park, NC 27709
Phone: (404) 921-5182
www.gsk.com

Booth #951

GlaxoSmithKline is a leading research-based pharmaceutical company with a powerful combination of skills to discover and deliver innovative medicines. We offer a number of progrmas to support effective health management strategies and improve patient care. Please visit our exhibit to learn more about our products.

GlaxoSmithKline Healthcare

5 Moore Dr.
Research Triangle Park, NC 27709
Phone: (404) 921-5182
www.gsk.com

Booth #1147

GlaxoSmithKline is a leading research-based pharmaceutical company with a powerful combination of skills to discover and deliver innovative medicines. We offer a number of progrmas to support effective health management strategies and improve patient care. Please visit our exhibit to learn more about our products.

Greer Laboratories, Inc.

639 Nuway Cr NE
Lenoir, NC 28645
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www.greerlabs.com

Booth #1045

GREER® is devoted to furthering the specialty of allergy immunotherapy. We offer allergy professionals and their patients allergenic extracts, a grass sublingual allergy immunotherapy tablet, sterile empty vials, sterile diluents, skin testing devices, and a full line of ancillary products needed to test and treat allergic patients.

HAE: Learn About It Talk About It

300 Shire Way
Lexington, MA 02421
Phone: (617) 349-0200
www.letstalkhae.com

Booth #1134

HAE: *Learn About It, Talk About It* is a clinician education program supported by Shire, aimed at educating and increasing awareness about hereditary angioedema (HAE) among various specialists that could see patients with HAE to help advance patient care.

HollisterStier Allergy

3525 N Regal Street
Spokane, WA 99207
Phone: (509) 482-4974
www.hsallergy.com

Booth #944

HollisterStier Allergy is dedicated to manufacturing high quality allergenic products and testing supplies. Our product line includes extracts for diagnostic testing and immunotherapy, skin testing systems, and other ancillary supplies.

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Deerfield, IL 60015
Phone: (224) 383-3000
www.horizonpharma.com

Booth #945

ACTIMMUNE is a bioengineered form of interferon gamma-1b, a protein that acts as a biologic response modifier through stimulation of the human immune system. ACTIMMUNE is indicated for reducing the frequency and severity of serious infections associated with Chronic Granulomatous Disease (CGD).

Hycor Biomedical

7272 Chapman Avenue
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Phone: (800) 382-2527
www.hycorbiomedical.com

Booth #435

Allergy-asthma-immunology educational outreach into the developing world. Free charitable public education and allergy asthma awareness camps organized across the globe.

Immune Deficiency Foundation

40 W. Chesapeake Ave., Suite 308
Towson, MD 21204
Phone: (800) 296-4433
www.primaryimmune.org

Booth #250

The Immune Deficiency Foundation is the national patient organization dedicated to improving the diagnosis, treatment and quality of life of persons with primary immunodeficiency diseases through advocacy, education & research.

Immune Epitope Database and Analysis resource (IEDB)

9420 Athena Circle
La Jolla, CA 92037
Phone: (858) 752-6978
www.iedb.org

Booth #1143

The IEDB is an NIH-supported, freely available resource that provides access to published data related to antibody and T cell epitopes. The IEDB has data for infectious and autoimmune diseases, allergens, and alloantigens. Stand-alone tools also available upon request.

Immunomic Therapeutics, Inc.

15010 Broschart Road
Suite 250
Rockville, MD 20850
Phone: (866) 515-9484
www.immunomix.com

Booth #641

ITI is a privately held clinical stage biotech company developing next generation vaccines based on the patented LAMP Technology. By utilizing LAMP-vax technology, the scientists at ITI have been able to design pioneering new immunotherapies that are safe and have had highly promising clinical effects, including the reversal of allergic skin test results.

Indoor Biotechnologies, Inc.

1216 Harris Street
Charlottesville, VA 22903
Phone: (434) 984-2304
www.inbio.com

Booth #234

Indoor Biotechnologies specializes in manufacturing biologics for allergy and asthma. The company is recognized as the world leader in assessment of environmental exposure to allergens - in the home, workplace, schools and commercial buildings.

Inflamax Research Inc.

1310
Fewster Drive
Mississauga, ON L4W 1A4
Phone: (905) 282-1808
www.inflamaxresearch.com

Booth #344

Inflamax is a full-service CRO specializing in allergy, asthma, COPD & other diseases. Offering sponsors extensive experience in trial design & conduct. Noted for Environmental Exposure Chamber models. Models validated: Ragweed, Grass, Tree, HDM and Cat. Others upon request. Offering patented mobile EEC model (mEEC), located worldwide. Contact Cynthia O'Brien (507-252-1749), cobrien@inflamaxresearch.com.

International Eosinophil Society

555 E. Wells Street, Suite 1100
Milwaukee, WI 53202
Phone: (414) 276-6445
www.eosinophil-society.org

Booth #350

An organization of scientists and clinicians interested in the eosinophil, a blood cell strongly associated with many diseases.

International FPIES Association (I-FPIES)

319 Richmond Avenue
Point Plesant Beach, NJ 08742
Phone: (908) 910-4419
www.fpies.org

Booth #356

The International FPIES Association (I-FPIES) is a 501(c)(3) organization dedicated to improving the diagnosis, treatment and quality of life for those with FPIES through advocacy, education, support and research.

KabaFusion LLC

17777 Center Court Drive
Suite 550
Cerritos, CA 90703
Phone: (800) 435-3020
www.kabafusion.com

Booth #646

KabaFusion 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, TX, NJ and MA. Our pharmacists, nurses and reimbursement specialists work as a team to provide patients with compassionate, efficient, and reliable care.

Karger Publishers

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PO Box 529
Unionville, CT 06085
Phone: (860) 675-7834
www.karger.com

Booth #837

Publications include the book series Chemical Immunology and Allergy (including Volume 100: History of Allergy) and Progress in Respiratory Research; and the journals Dermatology, International Archives of Allergy and Immunology, Journal of Innate Immunity, Neuroimmunomodulation, and Respiration.

Kaz, Inc / Honeywell

250 Tumpike Road
Southborough, MA 01772
Phone: (508) 490-7214
www.kaz.com

Booth #237

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!

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Decatur, IL 62526
Phone: (800) 537-1336
www.lincolndiagnostics.com

Booth #228

Lincoln Diagnostics is displaying state-of-the-art, safety-engineered skin testing devices that meet all OSHA requirements- Multi-Test PC (Pain Control), Multi-Test II, Multi-Test, Duotip-Test II, Duotip-Test, and the new UniTest PC. Learn about the economic value of using Lincoln's devices and why they are the most widely used and most extensively published on devices available.

Lupin Pharmaceuticals

111 S. Calvert Street, 21st Fl.
Baltimore, MD 21202
Phone: (410) 576-2000
www.lupinpharmaceuticals.com/

Booth #1136

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.

McNeil Consumer Healthcare

7050f Camp Hill Rd
Fort Washington, PA 19034
Phone: (866) 948-6883
www.zyrtecprofessional.com

Booth #230

McNeil Consumer Healthcare Division of McNEIL-PPC, 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®, ZYRTEC® and ZYRTEC®-D allergy medicines; IMODIUM® anti-diarrheal products; and SUDAFED® and SUDAFED PE® nasal decongestants.

Meda Pharmaceuticals

265 Davidson Ave
Somerset, NJ 8773
Phone: (770) 564-2200
www.meda.us

Booth #521

Meda Pharmaceuticals Inc. is the U.S. Subsidiary of Meda AB. the Meda Pharmaceutical product portfolio is focused primarily on respiratory, allergy, central nervous system, gastroenterology, musculoskeletal, rheumatology, erectile dysfunction, and women's health products.

Medical College of Wisconsin

8701 Watertown Plank Road
Wauwatosa, WI 53226
Phone: (414) 955-7495
www.mcw.edu/CIRL

Booth #351

The Clinical Immunodiagnostic & Research Laboratory (CIRL) at MCW offers diagnostic flow cytometry for Primary Immunodeficiency (PID) diseases. CIRL and CHW's PID Clinics function as Jeffrey Modell Diagnostic & Patient Referral Center in Wisconsin since 2007. IDC is first in USA to pioneer statewide newborn screening for Severe Combined Immunodeficiency.

Meditab Allergy EHR

333 Hegenberger Road
Oakland, CA 94621
Phone: (510) 913-3969
www.allergyehr.com

Booth #229

Practice Management - EMR for allergy practices.

MedPro RX

140 Northway Court
Rleigh, NC 27615
Phone: (888) 571-3100

Booth #1145

Specialty Pharmacy

Merck

One Merck Drive
Whitehouse Station, NJ 08889
Phone: (908) 423-1000
www.merck.com

Booth #421

Today's Merck is working to help the world be well. Through our medicines, vaccines, biologic therapies, 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 N3S 7X6
Phone: (519) 751-3602
www.metharpharm.com

Booth #238

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.

Micro Direct, Inc.

803 Webster Street
Lewiston, ME 04240
Phone: (207) 786-7808
www.mdspiro.com

Booth #936

Micro Direct is pleased to offer a complete line of diagnostic tools for your practice. Please stop by our booth to see our line of spirometers, priced from $650 to $2,295 and an inexpensive finger pulse oximeter and peak flow meter for office and home use.

Mission: Allergy

28 Hawleyville Road
Hawleyville, CT 06440
Phone: (203) 364-1570 x 2000
www.missionallergy.com

Booth #1021

Leading allergists and allergy divisions recommend Mission: Allergy by 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 #648

For over 15 years, ModuleMD has been a leader in EHR Cloud Technology solutions to Allergists. As an ONC-ACB certified integrated EHR system, ModuleMD delivers peak clinical, operational and financial performance to Allergy Practices. Our focus is simple - the client comes first. At ModuleMD, we are solutions...not just software.

Mother To Baby Pregnancy Studies conducted by the Organization of Teratology Information Specialists

9500 Gilman Drive
Mailcode 0828
LaJolla, CA 92093
Phone: (877) 311-8972
www.pregnancystudies.org

Booth #349

MotherToBaby, a non-profit service of the Organization of Teratology Information Specialists (OTIS), provides evidence-based information about exposures during pregnancy and breastfeeding. MotherToBaby is conducting an observational research study to evaluate effects to the fetus from asthma and the safety of medications and vaccinations used during pregnancy.

Mylan, Inc.

1000 Mylan Boulevard
Canonsburg, PA 15317
Phone: (724) 514-1800
www.mylan.com

Booth #334

Mylan Specialty, a subsidiary of Mylan Inc., is a specialty pharmaceutical company focused on the development, manufacturing and marketing of prescription drug products for the treatment of respiratory diseases, life-threatening allergic reactions and psychiatric disorders. For more information, please visit mylanspecialty.com.

National Allergy Supply

1620-D Satellite Blvd
Duluth, GA 30097
Phone: (800) 522-1448
www.NationalAllergy.com

Booth #553

Our goal is to provide tested and proven products to complement physician prescribed treatment for allergy, asthma and sinus patients. More than 10,000 doctors around the country have sent their patients to National Allergy. Our mission is to help make your environment allergen free.

National Jewish Health

1400 Jackson Street
Denver, CO 80206
Phone: (303) 398-1669
www.njhealth.org, www.njlabs.org

Booth #245

National Jewish Health Advacned Diagnostic Laboratories provides specialized testing for clients throughout the world. The labratories integrate academic, scientific and technical strengths to offer state-of-the-art functional, phenotypic and genertic immunology, complement activation and molecular tests to support clinical research and patient care under CAP/CLIA/ISO15189. To learn more visit www.njlabs.org.

ndd Medical Technologies

Two Dundee Park Suite 301
Andover, MA 01810
Phone: (978) 470-0923
www.nddmed.com

Booth #1140

ndd Medical Technologies newest product, The EasyOne Pro LAB offers all the benefits of the EasyOne Pro, Single Breath CO Diffusion in one square foot - with Multiple-Breath Nitrogen Washout for the measurement of FRC and LCI. The EasyOne Plus series and Easy on-PC spirometers are based on the best technology.

NeilMed Pharmaceuticals

601 Aviation Blvd.
Santa Rosa, CA 95403
Phone: (707) 525-3784
www.neilmed.com

Booth #633

Sinus and Nasal Care for Adults and Children.

New York Times

613 South Avenue
Weston, MA 02493
Phone: (781) 890-2661
www.nytimes.com

Booth #549

We will be selling discounted digital and home delivery subscriptions to The New York Times to attendees with a complimentary gift at purchase.

Novartis Pharmaceuticals Corp

One Health Plaza
East Hanover, NJ 07936
Phone: (862) 778-8300
www.novartis.com

Booth #429

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. Please visit the Novartis exhibit where our sales representatives will be available t discuss our products.

nSpire Health

1830 Lefthand Circle
Longmont, CO 80501
Phone: (800) 574-7374
www.nspirehealth.com

Booth #534

nSpire Health is the leading provider of lung function testing equipment and clinical trial centralized spirometry services. As the exclusive producer of KoKo Diagnostic Spirometry and Home Monitors, our products dramatically improve patient outcomes while reducing the cost of care by applying the most innovative technologies to integrate the pulmonary healthcare ecosystem.

Nutricia North America

P.O. Box 117
Gaithersberg, MO 20884
Phone: (301) 795-2300
www.nutricia-na.com

Booth #627

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 the nutritional management of multiple GI disorders and food-allergy related conditions, such as SBS, CMA, MFPI, EoE and GERD.

Otto Trading Inc

1921 Carnegie Ave Suite C
Santa Ana, CA 92705
Phone: (714) 540-5595
www.irestmassager.com/

Booth #1133

Hand-held portable digital massager.

Pentec Health

4 Creek Parkway
Boothwyn, PA 19061
Phone: (610) 494-8700
www.pentechhealth.com

Booth #654

Perrigo Company

515 Eastern Avenue
Allegan, MI 49010
Phone: (269) 673-8451
www.perrigo.com

Booth #1035

Perrigo Company is a leading global healthcare supplier that develops, manufactures and distributes OTC and prescription pharmaceuticals, nutritional products, and active pharmaceutical ingredients.

Propeller Health

634 West Main Street
Suite 102
Madison, WI 53703
Phone: (608) 251-0470
www.propellerhealth.com

Booth #241

Propeller helps patients and physicians better understand and control asthma, COPD and other respiratory disease to reduce preventable ED visits and hospitalizations. By encouraging adherence to maintenance medications and monitoring use of rescue medications, Propeller uses sensors and software to encourage early intervention and avoid costly exacerbations.

PuraCap Pharmaceutical LLC

1001 Durham Avenue, Suite 300
South Plainfield, NJ 07080
Phone: (908) 941-5456
www.PuraCap.com

Booth #938

EpiCeram Controlled Release Skin Barrier Emulsion is a ceramide-dominant emulsion for the treatment of atopic dermatitis (Rx only). EpiCeram is steroid-free, fragrance-free, noncomedogenic, paraben-free, propylene glycol-free and available in a 90g tube and a 225g airless pump. To learn more about EpiCeram and for full prescribing information, please visit www.epiceram-us.com.

Quest Diagnostics

3 Giralda Farms
Madison, NJ 07940
Phone: (866) MY-QUEST
www.questdiagnostics.com

Booth #836

Quest Diagnostics, the world's leading provider of diagnostic testing, offers a test menu including allergy, toxicology, immunology, endocrinology, oncology, rheumatology and genetics. Beyond our comprehensive menu of laboratory testing services, we offer a variety of resources to help manage your patients, run your office and stay current with medical advances.

Rabbit Air

125 N. Raymond Ave.
Suite 308
Pasadena, CA 90241
Phone: (888) 866-8862
www.RabbitAir.com

Booth #941

Rabbit Air sell and distribute high quality HEPA Air Purifiers.

Red Maple Trials

2935 Conroy Road
Unit 110
Ottawa, ON K1G 6C6
Phone: (613) 368-4320
www.redmapletrials.com/

Booth #448

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.

Regeneron/Sanofi

777 Old Saw Mill River Road
Tarrytown, NY 10591
Phone: (914) 847-7689
www.regeneron.com

Booth #541

Regeneron is a fully integrated biopharmaceutical company that discovers, invents, develops, manufactures, and commercializes medicines for the treatment of serious medical conditions. Sanofi, a global and diversified healthcare leader, discovers, develops and distributes therapeutic solutions focused on patients' needs. The companies jointly have six fully-human monoclonal antibodies in clinical development.

Rosch Visionary Systems, Inc.

501 Howard Avenue
Suite A204
Altoona, PA 16601
Phone: (800) 307-3320
www.roschvisionary.com

Booth #839

Rosch Visionary Systems is the leading provider of allergy software. Rosch Immunotherapy is our shot room automation software, designed to safely and effectively manage allergy extract mixing, injections and reactions. Rosch Immunotherapy integrates with our NEW Rosch Skin Testing module and Visionary Allergy Tracker, our patient notification system.

Salix Pharmaceuticals

8510 Colonnade Center Dr
Raleigh, NC 27615
Phone: (215) 676-5024
www.salix.com/index.aspx

Booth #552

For over 20 years, Salix Pharmaceuticals, Inc., has been committed to providing effective solutions for the management of many chronic and debilitating conditions. Salix currently markets its product line to U.S. healthcare providers in the areas of gastroenterology, hepatology, colorectal surgery, endocrinology, internal medicine, primary care, and pediatric urology.

Sanofi US

55 Corporate Drive
Bridgewater, NJ 08807
Phone: (800) 981-2491
www.sanofi.com

Booth #535

Sanofi, a global and diversified healthcare leader, discovers, develops and distributes therapeutic solutions focused on patients needs. Sanofi has core strengths in the field of healthcare with seven growth platforms: diabetes solutions, human vaccines, innovative drugs, consumer healthcare, emerging markets, animal health and the new Genzyme.

Savor Publishing House, Inc.

6020 Broken Bow Dr.
Citrus Heights, CA 95621
Phone: (916) 524-6485
www.savorpublishing.com

Booth #740

Savor Publishing House, Inc. is home to A Smarties Book series. By featuring medically based interactive picture books that ignite laughter, Savor is successfully increasing health literacy and keeping families fabulous and ER free. Experience how fabulous health literacy can be, then share the feeling!

Shire

300 Shire Way
Lexington, MA 02421
Phone: (617) 349-0200
www.shire.com

Booth #221

Shire enables people with life-altering conditions to lead better lives. Our strategy is to focus on developing and marketing innovative specialty medicines to meet significant unmet patient needs. We provide treatments in Neuroscience, Rare Diseases, Gastrointestinal, and Internal Medicine and we are developing treatments for symptomatic conditions treated by specialist physicians in other targeted therapeutic areas, such as Ophthalmology.

SmartPractice

3400 E. McDowell Road
Phoenix, AZ 85008
Phone: (800) 878-3837
www.smartpractice.com/derm

Booth #643

Our Dermatology|Allergy division exists because patients deserve a diagnosis. We help educate new patch testers and conduct clinical research studies to improve the understanding of allergens to help improve the diagnosis of allergic contact dermatitis.

Soleo Health (formerly Biomed)

950 Calcon Hook Rd
Suite 19
Sharon Hill, PA 19079
Phone: (888) 244-2340
www.soleohealth.com

Booth #439

Soleo Health is an innovative national provider of specialty home and alternate-site infusion services. Its team of experienced clinicians provides exceptional care in managing complex disease states through comprehensive pharmacy, nursing, education, and therapy management programs driven by technology. Soleo's approach to customer service ensures patients needs are addressed by compassionate and caring associates.

Solutionreach

2912 Executive Pkwy
Suite 300
Lehi, UT 84043
Phone: (866) 605-6867
www.solutionreach.com

Booth #840

Solutionreach is a cloud-based platform for revolutionizing patient relationships and optimizing the patient experience, with a powerful array of tools and services to help providers easily acquire, retain, educate and reactivate patients.

SunButter LLC

501 42nd St, NW
Fargo, ND 58102
Phone: (701) 282-2600
www.sunbutter.com

Booth #236

SunButter manufactures a 100% Peanut, Tree nut, as well as Top 8 allergen FREE subflower spread. SunButter is a delicious and safe product allergy consumers love and trust!

Teva Pharmaceuticals

41 Moores Rd
Frazer, PA 19355
Phone: (816) 718-1624
www.tevausa.com/

Booth #721

Teva Respiratory

41 Moores Rd
Frazer, PA 19355
Phone: (816) 718-1624
www.tevausa.com/

Booth #721

The JAMA Network

330 N. Wabash Avenue
Ste. 39300
Chicago, IL 60611
Phone: (312) 464-5000
www.jamanetwork.com

Booth #447

Building on a tradition of editorial excellence, The JAMA Network brings JAMA together with nine specialty journals to offer enhanced access to the research, viewpoints, and medical news shaping medicine today and into the future. JAMA is one of the most widely circulated, peer-reviewed, general medical journals in the world.

The Mastocytosis Society, Inc.

PO Box 129
Hastings, NE 68902
Phone: (952) 905-6778
www.tmsforacure.org

Booth #348

The Mastocytosis Society is a 501-3C non profit dedicated to supporting patients affected by mastocytosis and mast cell activation disorders as well as their families, caregivers, and physicians through research, education and advocacy.

Thermo Fisher Scientific

4169 Commercial Avenue
Portage, MI 49002
Phone: (800) 346-4364
www.MyImmunoCAP.com

Booth #728

We work to dramatically improve the management of allergy and asthma diseases. We do this by providing healthcare professionals with innovative diagnostic technologies and clinical expertise. This results in better healthcare and quality of life for millions of patients and their families. Diagnostic technologies: ImmunoCAP Specific IgE blood test and Phadia Laboratory Systems.

Ursatec-Verpackung GmbH

Schillerstr. 4
St. Wendel, 66606
Phone: +49 6851 80 26 0
www.ursatec.de

Booth #538

URSATEC stands for innovative developments in preservative-free pharmaceutical, cosmetic and medical products such as oral and nasal 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 und COMFORT.

US Bioservices

3101 Gaylord Parkway
Frisco, TX 75034
Phone: (888) 518-7246
www.usbioservices.com

Booth #925

Since 1994, US Bioservices has delivered nationwide specialty pharmacy and nursing services that meet the unique needs of patients and their physicians. We dispense injectable and infused medications, educate patients and provide the clinical support that increases patient compliance to treatment regimens.

US Hereditary Angioedema Association

Seven Waterfront Plaza
500 Ala Moana Blvd.
Honolulu, HI 96813
Phone: (866) 798-5598
www.haea.org

Booth #248

The US Hereditary Angioedema Association (HAEA) provides a wide range of patient services, advocacy programs and clinical research for this rare blood disease. We provide information on HAE diagnosis and treatment, the HAEA Scientific Registry for a cure, and the opening of the US HAEA Angioedema Center at UCSD.

USIDNET

40 Chesapeake Ave., Suite 308
Towson, MD 21204
Phone: (866) 939-7568
www.usidnet.org

Booth #252

The United States Immunodeficiency Network (USIDNET) is a research consortium established to advance scientific research in the field of primary immunodeficiency diseases.

Via Christi Health

1100 N St. Francis
4th Floor
Wichita, KS 67214
Phone: (316) 268-8179
www.ourdocsrock.com

Booth #1034

Via Christi Health is the largest provider of health care services in Kansas. Employing nearly 300 Physicians across 40 specialties, there is a vast opportunity to build your practice within Via Christi Health and the communities we serve.

Viracor-IBT Laboratories

1001 NW Technology Drive
Lee's Summit, MO 64086
Phone: (816) 554-5171
www.ViracorIBT.com

Booth #1028

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 #1041

Vitalograph is a global pulmonary diagnostic device manufacturer and clinical trial professional services provider. Our extensive respiratory range includes world class spirometers, asthma monitors, COPD screeners, peak flow meters, e-diaries and inhaler trainers. Our latest version of Spirotrac software offers advanced spirometry, pulse oximetry, ambulatory blood pressure, ECG and more.

Walgreens Infusion Services

1411 Lake Cook Road
Deerfield, IL 60015
Phone: (866) 827-8203
www.healthcare.walgreens.com/infusionservices

Booth #1151

Walgreens Infusion Services treats patients with a wide range of conditions requiring therapy at home and alternate treatment sites nationwide. Our staff of more than 1,600 infusion nurses, infusion pharmacists, and registered dietitian is available 24/7. All Walgreens infusion locations are ACHC accredited.

To find out more about Walgreens PartnerPoint Clinical Management, speak with your IG Regional Manager and call our IG Centers of Excellence at 1-877-WS4-IVIG (1-877-974-4844) or email us at *WalgreensPartnerPoint@walgreens.com*.

Website4MD

333 Hegenberger Road Suite 800
Oakland, CA 94621
Phone: (510) 686-3816
www.website4md.com

Booth #235

Website4MD, a division of Meditab Software, Inc., was developed by people who understand the business of healthcare for people who live and breathe healthcare. By providing a complete website solution we help medical practices and healthcare organizations leverage their internet presence to grow and build brand. Our web solutions deliver efficient results with a guaranteed ROI.

Wiley

350 Main Street
Malden, MA 02148
Phone: (781) 388-8544
www.wiley.com

Booth #1032

Wiley is the leading society publisher. We publish on behalf of more societies and membership associations than anybody else, and offer libraries and individuals 1250 online journals, thousands of books and e-books, reviews, reference works, databases, and more. For more information, visit www.wiley.com, or our online resource: onlinelibrary.wiley.com.

World Allergy Organization

555 E. Wells Street, Suite 1100
Milwaukee, WI 53202
Phone: (414) 276-1791
www.worldallergy.org

Booth #242

The World Allergy Organization (WAO) 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 is a global resource and advocate in the field of allergy; visit our booth to learn more.

Xoran Technologies

5210 South State Rd.
Ann Arbor, MI 48108
Phone: (800) 709-6726
www.xorantech.com

Booth #921

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

9495 SW Locust St, Suite E
Portland, OR 97223
Phone: (503) 379-0110
www.xtractsolutions.com

Booth #443

Xtract Solutions is a market leader in Allergy Immunotherapy Software. The Xtract Preparation System and Allergen Mixing Assistant are an innovative workflow solution for managing and compounding your immunotherapy prescriptions, and Xtract's Injection System ensures patients are getting their correct shots while providing efficient patient management in the shot room.

Yodle

50 West 23rd Street
Ste 401
New York, NY 10010
Phone: (877) 276-5104
www.yodle.com

Booth #741

Yodle, a leader in local online marketing, empowers local businesses to find and keep their customers simply and profitably. Yodle offers all the online marketing essentials that local businesses need through one easy-to-use, affordable and automated platform, fully supported by a live customer service team. Today, Yodle simplifies success for 45,000+ local businesses.

Exhibits

Allergenic Extracts

Clinical Research Organizations

Computer Hardware/Software

Diagnostic Equipment

Diagnostic Testing

Environmental Products

Equipment/Supplies

Health/Body Care

Immunotherapy

Office Management

Other

Patient/Public Education

Exhibits

Pharmaceuticals

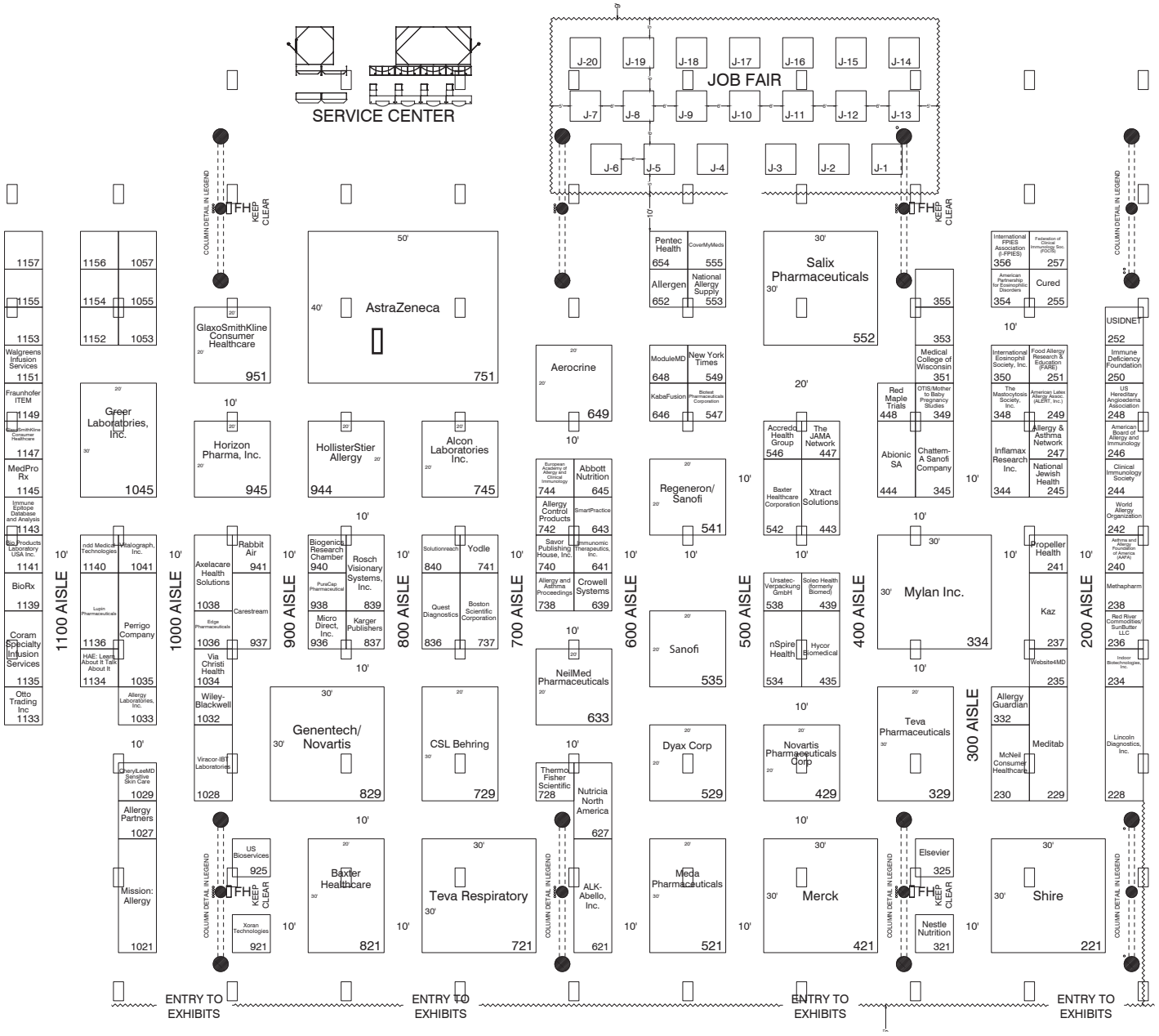
Physician Education

Physician Recruitment

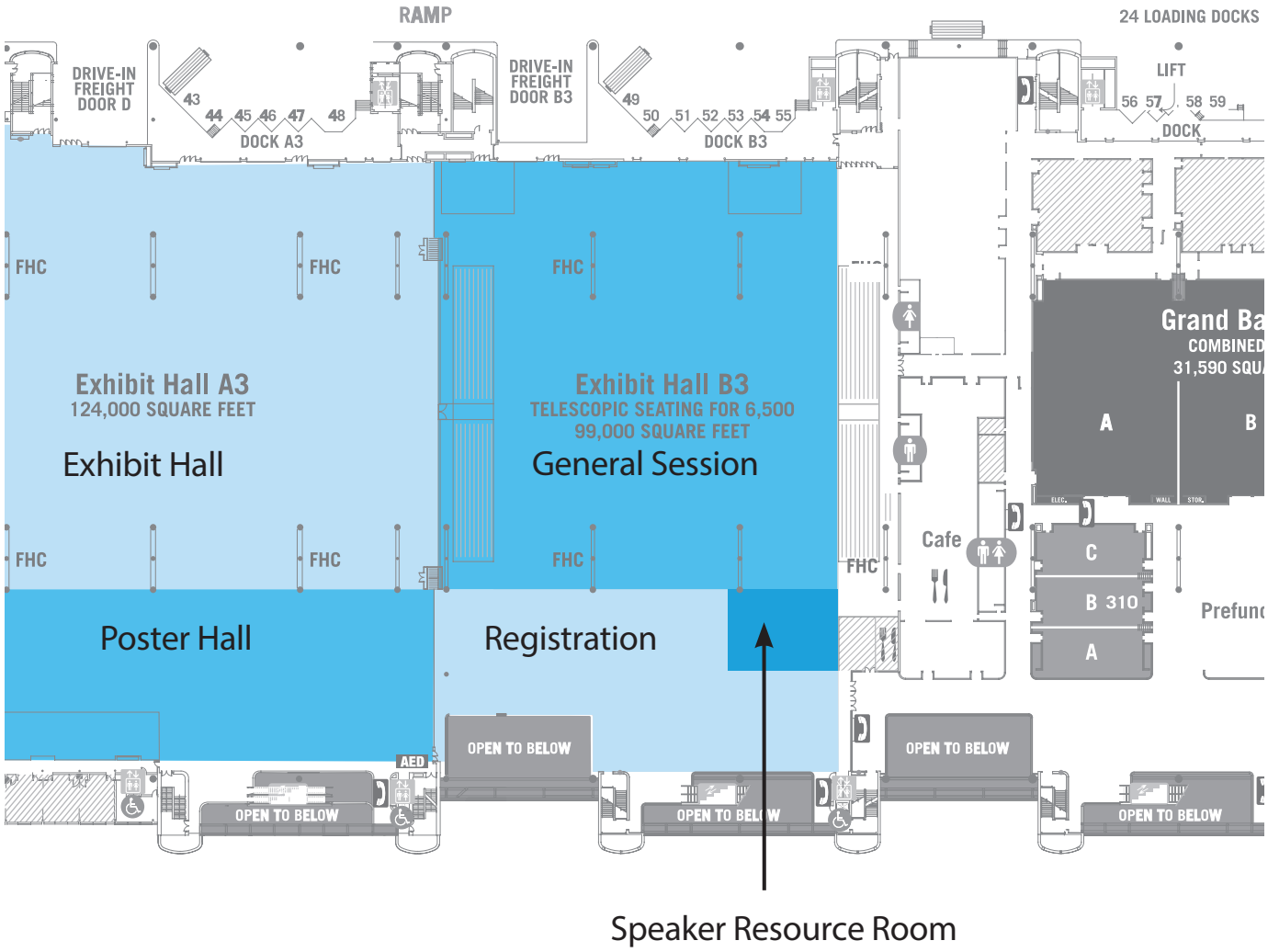
Publications

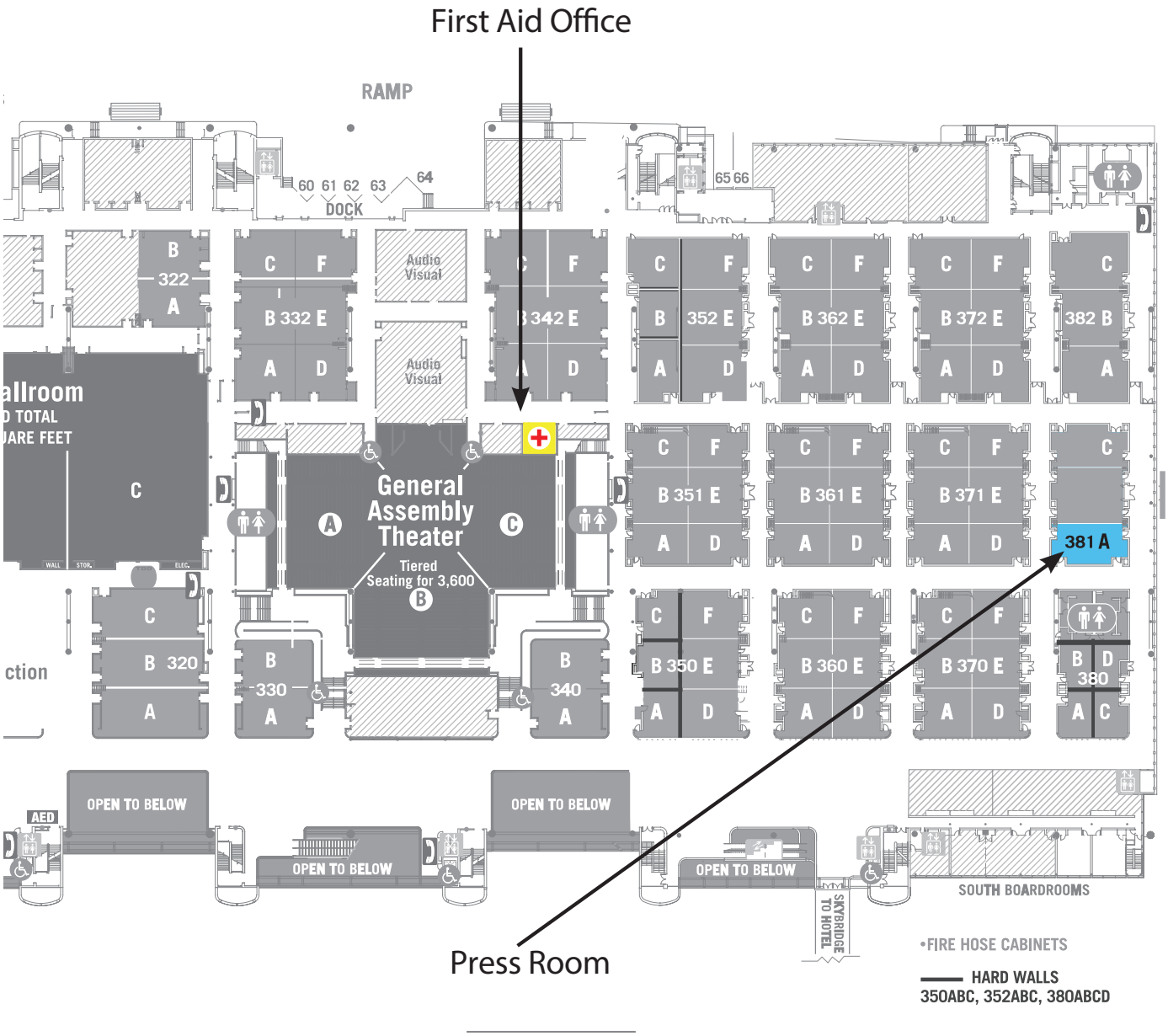
Spirometry

Exhibit Hall Floor Plan



George R. Brown Convention Center

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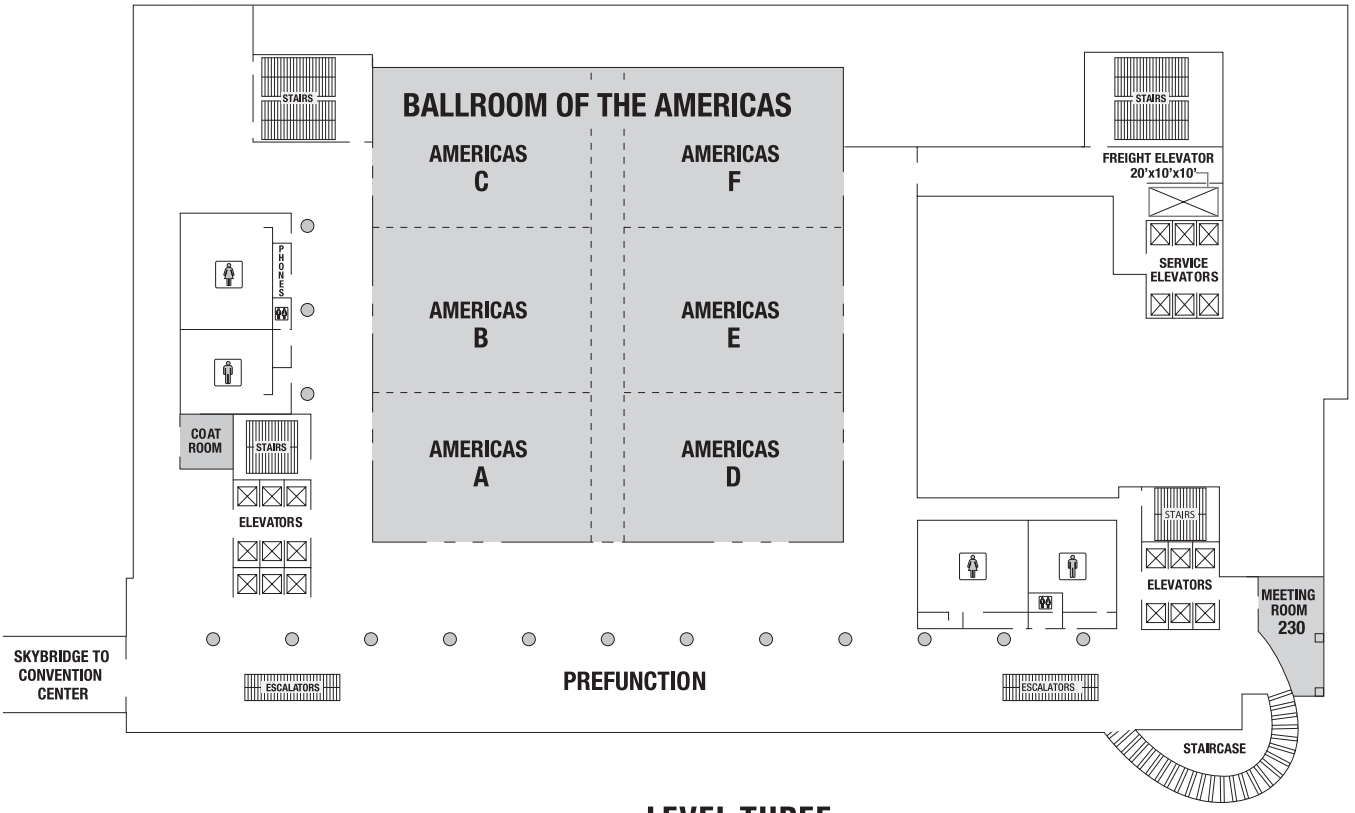
OPEN TO BELOW
SKYBRIDGE TO HOTEL
SOUTH BOARDROOMS
Press Room
•FIRE HOSE CABINETS
HARD WALLS
350ABC, 352ABC, 380ABCD

LEVEL TWO



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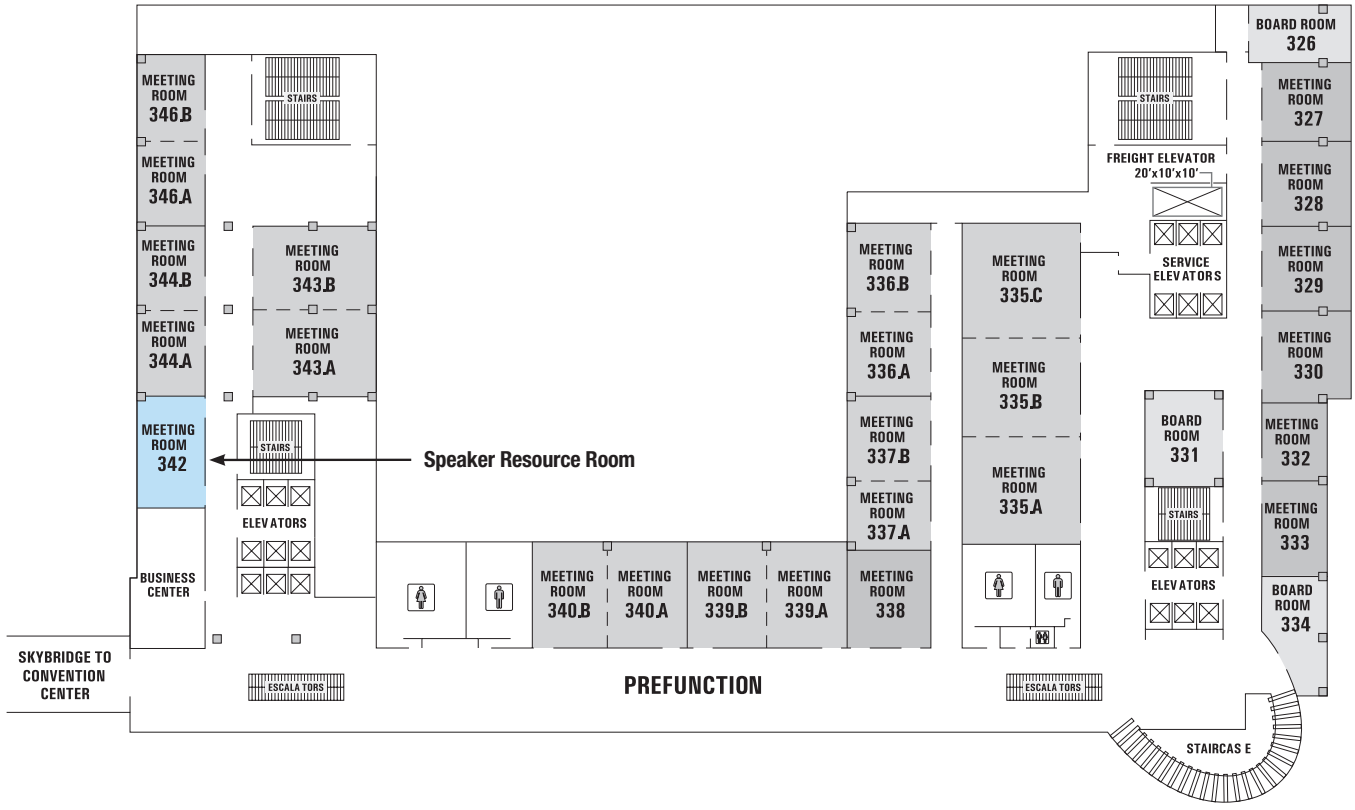
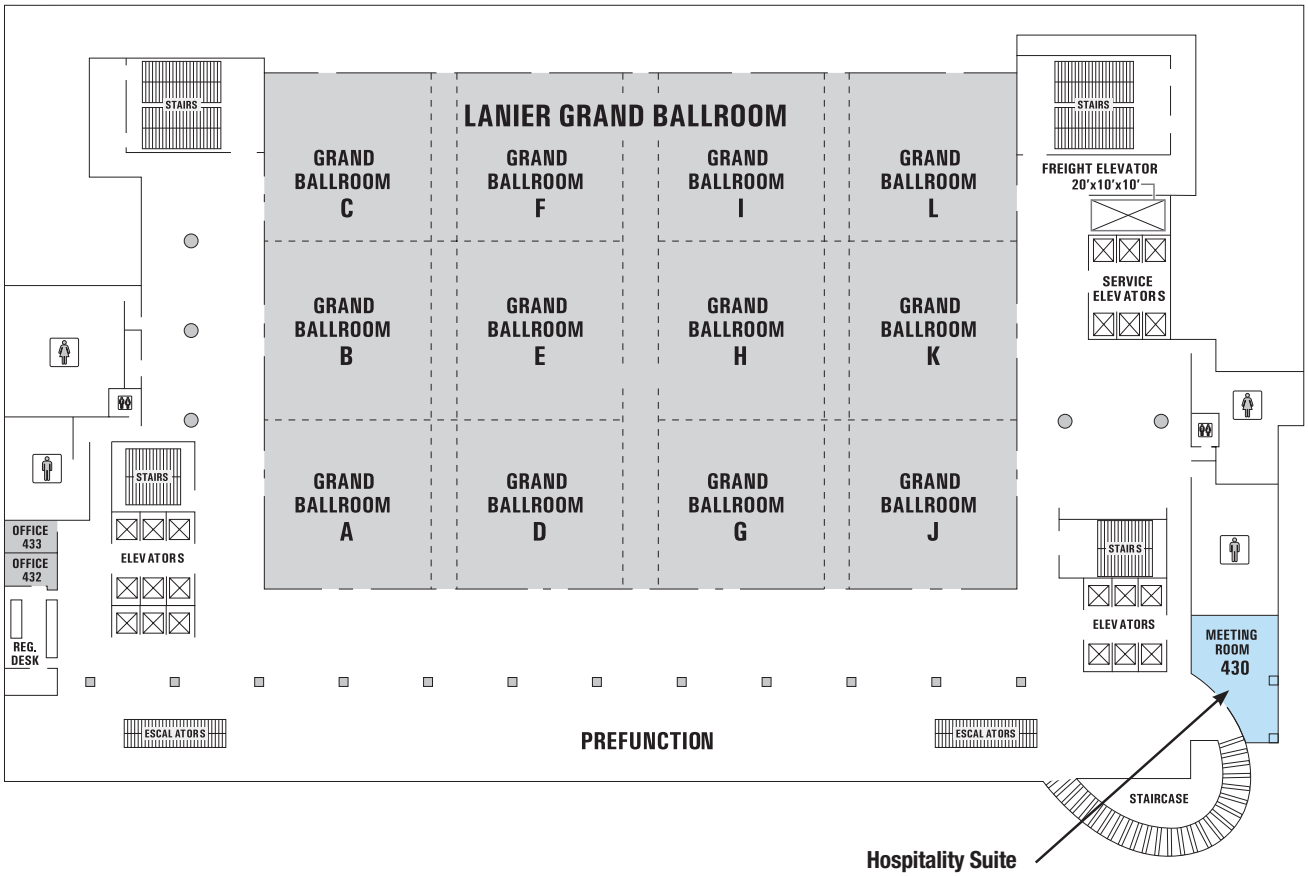


LEVEL FOUR


LANIER GRAND BALLROOM
GRAND BALLROOM C
GRAND BALLROOM F
GRAND BALLROOM I
GRAND BALLROOM L
GRAND BALLROOM B
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GRAND BALLROOM H
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GRAND BALLROOM A
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GRAND BALLROOM G
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MEETING ROOM 430
ESCALATORS
ESCALATORS
PREFUNCTION
STAIRCASE
Hospitality Suite

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Keyword Index

This index lists all Annual Meeting sessions by the relevant keyword from the ABAI's topic outline (see page 25 for more information).

Keyword Index

ALPHABETIC INDEX BY ABSTRACT AUTHORS

Abstract numbers in bold type indicate first author.

Staff

Executive Office

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Email: annualmeeting@aaaai.org
Website: annualmeeting.aaaai.org

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Notes

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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 Baxter Healthcare Corporation, at 1-800-423-2862 (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

December 2014 USBS/MG89/14-0365

Baxter

HyQvia
[Immune Globulin Infusion 10% (Human)
with Recombinant Human Hyaluronidase]

DETAILED IMPORTANT RISK INFORMATION (continued from back cover)

WARNINGS and PRECAUTIONS [continued from back cover]

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 of hyperviscosity.

Immunogenicity of Recombinant Human Hyaluronidase (PH20)
Non-neutralizing antibodies to the recombinant human hyaluronidase component may 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. It is unknown whether these antibodies may interfere with fertilization in humans. The clinical significance of these antibodies is unknown.

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. Conduct a thorough neurological examination on patients exhibiting symptoms and signs, including cerebrospinal fluid studies, to rule out other causes of meningitis.

Hemolysis: IgG products, including HYQVIA, contain blood group antibodies which may cause a positive direct antiglobulin reaction and hemolysis. Acute intravascular hemolysis has been reported following administration of IgG products, including Immune Globulin Infusion 10% (Human) administered intravenously, and delayed hemolytic anemia can develop due to enhanced RBC sequestration. Monitor patients for clinical signs and symptoms of hemolysis.

Renal dysfunction/Failure: Acute renal dysfunction/failure, acute tubular necrosis, proximal tubular nephropathy, osmotic nephrosis, and death may occur upon administration 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 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. Periodic monitoring of renal function and urine output is particularly important in patients judged to be at increased risk for developing 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. Monitor patients for pulmonary adverse reactions.

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, the variant CJD (vCJD) agent, and theoretically, the Creutzfeldt-Jakob disease (CJD) agent. This also applies to unknown or emerging viruses and other pathogens. 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.

Please see Brief Summary of Prescribing Information, including Boxed Warning, on the 2 preceding pages.

Visit booth 821
to learn more

Now approved!

HyQvia

[Immune Globulin Infusion 10% (Human) with Recombinant Human Hyaluronidase]

HYQVIA is a subcutaneous immune globulin (SCIG) that can be administered once a month (every 3 or 4 weeks) for adults with primary immunodeficiency[1]*

*Frequency of infusions can be adjusted based on the patient's clinical response, taking into consideration volume, total infusion time, and tolerability.[1]

Visit **HYQVIA.com**

Reference 1. HYQVIA [package insert]. Westlake Village, CA: Baxter Healthcare Corporation; September 2014.

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 reactions to the administration of 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. Patients with antibodies to IgA are potentially at greater risk of developing potentially severe hypersensitivity and anaphylactic reactions. In case of hypersensitivity, discontinue HYQVIA infusion immediately and institute appropriate treatment.

DETAILED IMPORTANT RISK INFORMATION continued on preceding page.

Please see Brief Summary of Prescribing Information, including Boxed Warning, on preceding pages.

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