



**2014 CIS Annual Meeting: Primary Immune Deficiency  
Diseases North American Conference**  
APRIL 10 – 13, 2014 • BALTIMORE, MD

# FINAL PROGRAM



## 2014 Annual Meeting Program Committee

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Children's National Health System  
Washington, DC

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Medical College of Wisconsin  
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## About the Clinical Immunology Society

The Clinical Immunology Society (CIS), established in 1986, is the key inter-disciplinary organization for the field of clinical immunology and is devoted to fostering developments in the science and practice of clinical immunology. CIS is an international professional organization which includes more than 700 clinicians, investigators, and trainees.

The mission of CIS is to facilitate education, translational research and novel approaches to therapy in clinical immunology to promote excellence in the care of patients with immunologic/inflammatory disorders.

The primary objectives and purposes of CIS are to:

- facilitate the interchange of ideas and information among physicians and other investigators who are concerned with immunological/inflammatory diseases;
- promote research on the causes and mechanisms of diseases relating to the immune system and, as a result, to unify concepts of disease pathogenesis;
- encourage investigators and clinicians to share in their knowledge of immunologically active drugs and other interventions;
- promote application and dissemination of recent advances in biomedical science for the prevention, diagnosis and treatment of diseases related to immunity and inflammation; and
- foster excellence in research and medical practice.

## Connect With Your Colleagues!



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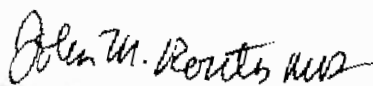
Dear Colleagues,

On behalf of the Clinical Immunology Society (CIS), thank you for participating in the 2014 Annual Meeting: Primary Immune Deficiency Diseases North American Conference taking place April 10-13, 2014 at the Hilton Baltimore in Baltimore, Maryland.

CIS is the key inter-disciplinary organization for the field of clinical immunology and is devoted to fostering developments in the science and practice of clinical immunology. The mission of CIS is to facilitate education, translational research and novel approaches to therapy in clinical immunology and to promote excellence in the care of patients with immunologic/inflammatory disorders.

The CIS leadership and the members of the Program Committee have jointly defined our goals and have engaged clinicians and researchers from all types of backgrounds to try to identify the best manner of addressing the critical needs. The primary goal of the Annual Meeting is to provide an exciting venue for the presentation of the newest immune deficiency diseases and the pathogenesis of these defects in molecular terms. The substance of the conference will be cutting edge clinical and basic science research. Another goal is to educate clinicians regarding the state of the art clinical care. We recognize that physicians in training who are likely to see these patients need sessions on the pragmatic aspects of diagnosis and clinical care; thus sessions were designed to provide a stimulating discussion of these issues, while delving into unsolved questions. The final major goal of this conference is to begin to grow the community of physicians who feel competent to see patients with primary immune deficiency. We believe that this is the only way to consolidate and build up a community of physicians and scientists who are working in this area. This Annual Meeting is sure to foster enthusiasm and provide advanced training for physicians and researchers working in the field of primary immune deficiency.

The CIS leadership is excited about the 2014 Annual Meeting and we look forward to bringing accomplished clinical researchers together to present what is sure to be outstanding science. We hope you enjoy the meeting!



John M. Routes, MD  
2013-2014 CIS President



# Submit a Manuscript

The *Journal of Clinical Immunology* accepts manuscripts in the areas of human, basic, and clinical immunology and molecular biology. The areas of basic immunology include (but are not limited to) studies of lymphocytes, antigen presenting cells, neutrophils, natural killer cells, complement components, immunoglobulins, antibodies, cytokines and their receptors, immunoregulation, signal transduction, T-cell receptors, and immunoglobulin genes. Papers on animal models of human diseases are welcome. Articles dealing with molecular biology related to human diseases are accepted. Special Articles are by invitation only. Case reports will only be considered if they are linked to novel new findings/science or are accompanied by an extensive review of the relevant medical literature to the findings of the case report.

Authors, editors and reviewers of *Journal of Clinical Immunology* use our fully web-enabled online manuscript submission and review system. To keep the review time as short as possible, we request authors to submit manuscripts online to the journal's editorial office. Our online manuscript submission and review system offers authors the option to track the progress of the review process of manuscripts in real time.

## About the Journal

The *Journal of Clinical Immunology* is a bimonthly international journal that helps researchers and academic clinicians keep current on investigative basic immunology and diseases related to the immune system. This well-established journal publishes articles on basic, translational, and clinical studies in all aspects of immunology, including animal models of human diseases.

The OnlineFirst™ feature allows articles to be viewed through the journal's website before they are available in the printed journal. The *Journal of Clinical Immunology* is the official journal of the Clinical Immunology Society.



To submit a manuscript, please visit <http://www.editorialmanager.com/joci/>

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### Founding Editor:

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## General Meeting Information

### Meeting Location

All educational sessions, posters, exhibits, and registration held as part of the CIS Annual Meeting will take place at the Hilton Baltimore.

#### Hilton Baltimore

401 W Pratt St, Baltimore, MD 21201  
P: (443) 573-8700

### Registration Desk

Hilton Baltimore ~ 2nd Floor, Key Ballroom South Foyer

#### Registration Desk Hours

Wednesday, April 9	4:00pm – 7:00pm
Thursday, April 10	7:00am – 7:00pm
Friday, April 11	7:00am – 6:00pm
Saturday, April 12	7:00am – 6:00pm
Sunday, April 13	7:30am – 12:00pm

### Exhibit Hall

Hilton Baltimore ~ 2nd Floor, Key Ballroom 8-12

Exhibitors provide the latest information on products and services available to physicians, researchers and allied health professionals in the field of immunology. Take this valuable opportunity to meet with companies and organizations specializing in all areas of the immunology field.

#### Exhibitor Move-In

Wednesday, April 9th	2:00pm – 7:00pm
Thursday, April 10th	8:00am – 10:00am

#### Exhibit Hours

Thursday, April 10th	11:00am – 1:00pm 7:00pm – 8:30pm
Friday, April 11th	11:00am – 1:00pm
Saturday, April 12th	11:30am – 1:30pm 6:00pm – 7:30pm

#### Exhibitor Move-Out

Saturday, April 12th	7:30pm – 9:00pm
Sunday, April 13th	8:00am – 11:00am

### Poster Sessions

Poster sessions are held in the exhibit hall and authors will be present with their posters during exhibit hall hours. Lunch will be available during the afternoon poster session hours and hors d'oeuvres and an open bar are available during the evening poster session hours.

### Publishing of Abstracts

The abstracts submitted to the 2014 Annual Meeting are published in the April issue of *Journal of Clinical Immunology*, the official journal of the Clinical Immunology Society.

### Accessibility

If you require special arrangements in order to fully participate in the CIS Annual Meeting, please speak with a CIS staff member at the registration desk.

### Name Badges

All registered attendees at the CIS Annual Meeting will receive a name badge as part of their registration packet. These badges should be worn at all times as they will be used to control access to sessions and activities.

### Smoking

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

### Evaluations

Delegates will have the opportunity to provide feedback on their experience at the 2014 CIS Annual Meeting. After the meeting all registered delegates will receive an online evaluation to complete. Evaluations are an important part in helping us to improve our educational sessions so please take a moment to complete it!

### NIT/FIT Lounge-New this Year!

The members of the CIS New-Immunologists-in-Training / Fellows-in-Training (NIT / FIT) are invited to visit the NIT/FIT Lounge throughout the conference. This area has been created to give NIT/FIT's a place they can go to network with each other. This area is located in the Exhibit Hall and can be utilized anytime between Thursday, April 10th 11:00am – Saturday, April 12th 7:30pm.

This year Fellows that were selected to present their submitted abstracts orally at the Annual Meeting will receive travel grants. These Travel Grants have been made possible through the support of the Immune Deficiency Foundation. The following fellows traveling to Baltimore are being awarded travel grants:

**Caroline Y. Kuo**, *David Geffen School of Medicine at UCLA*

**Cinzia Milito**, *Sapienza University of Rome, Italy*

**Elena Hsieh**, *Stanford University*

**Jean Jacques De Bruycker**, *CHU Sainte-Justine, University of Montreal, Canada*

**Kerstin Felgentreff**, *Division of Immunology, Boston Children's Hospital, Harvard Medical School*

**Merin Kuruvilla**, *UT Southwestern Medical Center*

**Niti Chokshi**, *Baylor College of Medicine*

**Solrun Melkorka Maggadottir**, *Children's Hospital of Philadelphia*



## Continuing Medical Education Information

### Purpose

Provide an opportunity for physicians to receive updated information and solidify their knowledge of primary immune deficiency diseases.

### Content Area

The content will cover practical, cutting edge and theoretical issues related to patient care. The majority of immune deficiencies will be covered to provide the maximal educational experience.

### Target Audience

Physicians, scientists and nurses who are involved in the evaluation and/or care of patients with primary immune deficiencies. Participants should be pediatricians, internists, or scientists committed to the clinical management of patients with primary immunodeficiency diseases. These candidates may have backgrounds in immunology, adult medicine, rheumatology, hematology, laboratory immunology, or allergy/immunology.

### Expected Results

Provide advanced training for physicians and researchers working in the field of primary immune deficiency that covers diagnosis, therapy and future trends related to the care of patients with primary immune deficiency.

- Facilitate interactions among clinicians of diverse training to promote multicenter clinical trials and to coordinate participation in existing clinical trials.
- Improve recognition of primary immune deficiencies.
- Improve understanding of the diagnostic issues and the pathophysiology of primary immune deficiencies.
- Improve understanding of the appropriate interventions for these diseases.

### ACCME Accreditation Statement

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the sponsorship of the Clinical Immunology Society (CIS). The CIS is accredited by the ACCME to provide continuing medical education for physicians.

### Designation Statement

The Clinical Immunology Society designates this live activity for a maximum of 19.5 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

### Claiming CME

To claim CME credit and print out your CME certificate and/or certificate of attendance, please visit <http://www.clinimmsoc.org/cme/am14>

## 2014 Annual Meeting Program Committee and Speaker Disclosures

### Catherine M. Bollard, MD

The George Washington University Children's National Health System

There are no relationships to disclose.

### Vincent R. Bonagura, MD FAAAAI

Alexandra & Steven Cohen Children's Medical Center  
CSL Behring PID Committee member advisory committee receiving honorarium

Baxter-Speaking and teaching receiving honorarium

### Francisco A. Bonilla, MD PhD

Children's Hospital Boston  
CSL Behring-Consultant receiving Consulting fee  
UpToDate in Medicine-author receiving Royalty  
Octapharma-data safety monitor receiving Honoraria

### Sarah K. Browne, MD

NIH/NIAD

There are no relationships to disclose.

### Niti Y. Chokshi, MD

Baylor College of Medicine

There are no relationships to disclose.

### Mary Ellen Conley, MD

LeBonheur Children's Hospital

There are no relationships to disclose.

### Charlotte Cunningham-Rundles, MD PhD

Mt. Sinai Medical Center  
Baxter-Medical Advisory Board receiving Consulting fee  
CSL Behring-Medical Advisory Board receiving Consulting fee  
Biotest-Medical Advisory Board receiving Consulting fee

### Jean Jacques De Bruycker, MD

Sainte-Justine Hospital

There are no relationships to disclose.

### Carla M. Duff, ARNP

University of South Florida  
CSL Behring-Nurse consultant receiving consulting fee.  
Baxter-Advisory Board Member receiving consulting fee.

### Kerstin Felgentreff, MD

Boston Children's Hospital

There are no relationships to disclose.

### Thomas A. Fleisher, MD

National Institutes of Health  
Elsevier-Co-editor of the textbook Clinical Immunology: Principles and Practice receiving Royalty  
Georgia Regents University College of Medicine-Teaching program receiving Honorarium

### Alexandra F. Freeman, MD

NIH NIAID

There are no relationships to disclose.

### Raphaella Goldbach-Mansky, MD

NIAMS, NIH

Study support from SOBI, Novartis, Regeneron, Eli Lilly.

## 2014 Annual Meeting Program Committee and Speaker Disclosures

### **Anete Sevciovic Grumach, MD PhD**

University of São Paulo Medical School  
Shire-Membership on advisory board and speaker receiving consulting fee  
CSL Behring-Consulting receiving support for Medical Education

### **Elie Haddad, MD PhD**

CHU Ste-Justine, University of Montreal  
CSL Behring-receiving Investigator initiated trial funds.

### **Sophie Hambleton, MD PhD**

Newcastle University  
There are no relationships to disclose.

### **Mary Hintermeyer, APNP**

Children's Hospital of Wisconsin  
There are no relationships to disclose.

### **Steven M. Holland, MD**

NIAID, NIH  
There are no relationships to disclose.

### **Joyce T. Hsu, MD**

Childrens Hospital Boston  
There are no relationships to disclose.

### **Artemio M. Jongco, MPH MD PhD**

Hofstra - North Shore LIJ School of Medicine  
There are no relationships to disclose.

### **Michael B. Jordan, MD**

Cincinnati Children's Hospital Medical Center  
There are no relationships to disclose.

### **Carl H. June, MD**

University of Pennsylvania  
Novartis-Consulting receiving intellectual property licensed to Novartis-Speaker entitled to royalties from the University of Pennsylvania

### **Lloyd H. Kasper, MD**

Dartmouth Medical School  
There were no relationships reported at time of print of the final program.

### **Caroline Kuo, MD**

UCLA Medical Center  
There are no relationships to disclose.

### **Merin E. Kuruvilla, MD**

UTSW Medical Center  
There are no relationships to disclose.

### **Ian T. Lamborn, BSc**

National Institutes of Allergy & Infectious Diseases  
There are no relationships to disclose.

### **Yu-lung Lau, MBChB, MD**

The University of Hong Kong  
There are no relationships to disclose.

### **Howard M. Lederman, MD PhD**

Johns Hopkins Hospital  
There were no relationships reported at time of print of the final program.

### **Patricia Lugar, MD**

Duke University Medical Center  
There are no relationships to disclose.

### **James R. Lupski, MD PhD**

Baylor College of Medicine  
Ion Torrent Systems Inc.-Former Scientific Advisory Board Member receiving Stocks  
23andMe-Former Scientific Advistory Board Member receiving Stocks

### **Jonathan Lyons, MD**

NIH / NIAID  
There are no relationships to disclose.

### **Solrun Melkorka Maggadottir, MD**

Children's Hospital of Philadelphia  
There are no relationships to disclose.

### **Paul J. Maglione, MD PhD**

Mount Sinai School of Medicine  
There are no relationships to disclose.

### **Cinzia Milito**

Sapienza University of Rome  
There are no relationships to disclose.

### **Talal I. Mousallem, MD**

Wake Forest University School of Medicine  
There are no relationships to disclose.

### **Sarah K. Nicholas, MD**

Baylor College of Medicine  
There are no relationships to disclose.

### **Luigi D. Notarangelo, MD PhD**

Children's Hospital Boston  
Harvard Medical School  
There are no relationships to disclose.

### **Javier Ochoa-Reparaz, PhD**

Sanford-Burnham Medical Research Institute  
There are no relationships to disclose.

### **Jordan S. Orange, MD PhD**

Baylor College of Medicine  
There are no relationships to disclose.

### **Angela Orren, BSc MB ChB MD**

Cardiff University and University of Cape Town  
There are no relationships to disclose.

### **Elena E. Perez, MD PhD**

University of Miami School of Medicine  
Baxter-Consulting receiving consulting fee.  
CSL Behring-Consulting receiving consulting fee.

### **Capucine Picard, MD PhD**

Hopital Necker-Enfants Malades  
There are no relationships to disclose.

### **Eckhard R. Podack, MD**

University of Miami  
Patents through U. Miami-Inventor receiving Intellectual property rights

### **Matthew Porteus, MD**

Stanford School of Medicine  
CRISPR Therapeutics-Consulting receiving colnsulting fee.

### **Lindsey B. Rosen, BS**

NIAID, NIH  
There are no relationships to disclose.



## 2014 Annual Meeting Program Committee and Speaker Disclosures

### **Sergio D. Rosenzweig, MD PhD**

NIAID, NIH

There are no relationships to disclose.

### **John M. Routes, MD**

Medical College of Wisconsin

Baxter Pharmaceuticals-PI receiving PI initiated grant

### **Alexander Rudensky, PhD**

Memorial Sloan-Kettering Institute

There were no relationships reported at time of print of the final program.

### **Andrew Scharenberg, MD**

University of Washington

Collectis therapeutics-Chief Scientific Officer receiving salary, equity

Pregenen Inc.-Founder, member of board of directors receiving equity

### **Brahm H. Segal, MD FACP FIDSA**

Roswell Park Cancer Institute

There are no relationships to disclose.

### **Ralph S. Shapiro, MD**

Midwest Immunology Clinic

There are no relationships to disclose.

### **Amos J. Simon**

Sheba Medical Center-Tel Hashomer

There are no relationships to disclose.

### **Scott B. Snapper, MD**

Boston Children's Hospital

There were no relationships reported at time of print of the final program.

### **Evan Snitkin, PhD**

National Human Genome Research Institute

There were no relationships reported at time of print of the final program.

### **Raz Somech, MD PhD**

Safra Children's Hospital-Tel Hashomer, Israel

There are no relationships to disclose.

### **Helen Su, MD PhD**

NIAID/NIH

There are no relationships to disclose.

### **Kathleen E. Sullivan, MD PhD**

Children's Hospital of Philadelphia

Immune Deficiency Foundation-Consulting receiving Consulting fee

Baxter-Researcher receiving grant money

### **Stuart G. Tangye, PhD**

Garvan Institute of Medical Research

There are no relationships to disclose.

### **David T. Teachey, MD**

Children's Hospital of Philadelphia

There were no relationships reported at time of print of the final program.

### **Troy R. Torgerson, MD PhD**

University of Washington

Baxter Biosciences-Scientific advisory Board/Research fund recipient receiving Consulting fees/Research funds

CSL Behring-Research fund recipient receiving Research funds

### **Burcin Uygungil, MD MPH**

Children's National Health System

There are no relationships to disclose.

### **Gulbu Uzel, MD**

NIH / NIAID

There are no relationships to disclose.

### **James Verbsky, MD PhD**

Medical College of Wisconsin

There were no relationships reported at time of print of the final program.

### **Donald C. Vinh, MD**

McGill University Health Centre

CSL Behring Canada-Speaking and teaching; Membership on advisory committee receiving Unrestricted educational grant; speaker honoraria

Astellas Canada-Independent contractor receiving Research grant

### **Richard L. Wasserman, MD PhD**

Medical City Children's Hospital

Baxter-Consulting, speaking and teaching, advisory committees, investigator receiving honoraria, consulting fee

CSL Behring-Consulting, speaking and teaching, advisory committees, investigator receiving honoraria, consulting fee

ADMA-Principle investigator receiving consulting fee

### **Yesim Yilmaz Demirdag, MD**

Columbia University Medical Center

There are no relationships to disclose.

### **M. Elizabeth Younger, CPNP PhD**

Johns Hopkins

RMS Medical Products-Advisory Board membership receiving consulting fee

CSL Behring-Independent contractor, consulting, advisory board membership receiving consulting fee, research support

Immune Deficiency Foundation-Chair, Nurse Advisory Committee receiving pro bono

### **Yu Zhang**

National Institutes of Health

There are no relationships to disclose.

### **Qian Zhang, MD**

NIAID, NIH

There are no relationships to disclose.



## CIS Membership Information

### Networking Opportunities

Networking is essential to building a professional reputation. CIS membership offers a way to establish and maintain both professional and personal contacts within the field of clinical immunology. CIS offers opportunities to serve with colleagues on several committees as well as serve as faculty for meetings and schools.

### Publications

CIS membership includes a complimentary online subscription to the *Journal of Clinical Immunology*, the official journal of CIS. The *Journal of Clinical Immunology* is an international journal that helps researchers and academic clinicians keep current on investigative basic immunology and diseases related to the immune system.

### Learning Opportunities

CIS recognizes the importance of ongoing education in the field of clinical immunology. Annual Meetings are held at varying locations around the United States, and include invited speakers and both oral and poster abstract presentations, as well as opportunities to speak with representatives from leading companies in the field of immunology.

CIS is also proud to host the only meeting in North America that focuses on Primary Immunodeficiency. The primary goal of this biennial national conference is to provide a venue for the presentation of the newest primary immune deficiency diseases and the pathogenesis of these defects in molecular terms. Another goal is to grow the community of physicians who feel competent to see patients with primary immune deficiency diseases.

Registration fees for the Annual Meeting and Primary Immunodeficiency Diseases Conference are reduced for members of CIS.

### Paving the Way - Fellows in Training

CIS knows that young immunologists are both the future of the Society, and the future of clinical immunology. CIS is committed to meeting the needs of these emerging leaders by holding Summer Schools for senior fellows in the specialty of Primary Immunodeficiency Diseases. CIS also wants to ensure that these voices are heard, and has a committee specifically for them: New Immunologists in Training/Fellows in Training (NIT/FIT), who are fellows at leading institutions around the world. The NIT/FIT Committee interacts closely with all CIS committees and leadership to make certain that CIS's programs and publications reflect the needs of our Trainee Members. CIS also offers free membership to all trainees enrolled in a recognized Allergy/Immunology training program. Please contact the CIS National Office or visit [www.clinimmsoc.org](http://www.clinimmsoc.org) for more information.

**Regular membership** is open to those individuals who:

- are engaged in research in the area of clinical immunology or have contributed to or are engaged in the practice of clinical immunology;
- have an MD, DO, PhD or equivalent academic degree;
- have made scholarly contributions as defined by the Council;
- are active, bona fide representatives of the international scientific community with a specialty or interest in a field related to clinical immunology.

The cost for 2014 Developing Countries membership is \$50.00, Regular membership in CIS is \$50.00 for those who are one year out of training, \$125.00 for those two years out of training, and \$200.00 for those 3+ years out of training.

Please visit [www.clinimmsoc.org](http://www.clinimmsoc.org) or contact the CIS Office at [info@clinimmsoc.org](mailto:info@clinimmsoc.org) for more information.

### CIS Listservs

In addition, CIS members have access to the archived listserv discussions that are posted on the Members Only page of the website.

Please visit [www.clinimmsoc.org](http://www.clinimmsoc.org) and click on "Educational Resources" for more information.

### PIDD Listserv

CIS-PIDD is a professional group of physicians and scientists with an interest in primary immunodeficiencies. The purpose of the group is to enhance collaborations and exchange information among members. We welcome physicians who provide care for patients with immunodeficiencies and scientists who are doing research related to the primary immunodeficiencies who wish to join our group.

### FIT Listserv

CIS-NIT/FIT is a group of fellows-in-training and new immunologists who have completed their training within the past five years with an interest in primary immunodeficiencies. The purpose of this group is to enhance networking, collaborations and information exchange for NITs/FITs. This can be a venue to ask colleagues at a similar stage of your career regarding work-, research-, and/or care-related issues.

## Baltimore Visitor Information

### Things to Do:

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The Hilton Baltimore is located in downtown Baltimore's Inner Harbor district.

#### Harborplace and the Gallery

Located in the heart of the Inner Harbor on Pratt Street, Harborplace and The Gallery offer unique shopping, diverse dining and a variety of entertainment right on the picturesque waterfront.

#### Maryland Science Center

Let your senses and your mind wander as you experience the numerous sights and hands-on activities at the Maryland Science Center. Featuring an IMAX theater and a planetarium, it's sure to please everyone.

#### The National Aquarium

The National Aquarium in Baltimore houses sharks, dolphins, rays and tropical fish among the more than 16,000 creatures in naturalistic exhibits, including a walk-through rain forest, an exciting live-action dolphin show and a new Australian exhibit.

#### World Trade Center

Seeming to hover 405 feet directly over top of the harbor, the World Trade Center in Baltimore offers the best view of the city in every direction from the "Top of the World" Observation Level on the 27th floor. Constructed in 1977, its 32 floors make up the world's tallest equilateral 5-sided building.

#### Fort McHenry

A water-taxi ride away, you can learn about the Battle of Baltimore and the nation's history by visiting Fort McHenry. Fireworks conclude Flag Day and Defender's Day celebrations. And special events include living history weekends where the Fort McHenry Guard performs demonstrations.



#### Baltimore Water Taxi

For the perfect transportation in and around Baltimore's Inner Harbor, the water taxi is an affordable solution. Located on Lancaster Street, one price buys unlimited rides for the day and group discount rates are available. Native Baltimore residents and frequent city visitors often opt for the frequent floater annual pass.

#### Baltimore Maritime Museum

Located at Pier 3 and Pier 5, be sure to see the treasures of Inner Harbor by touring the USS Torsk, the USCGC Taney, the Lightship Chesapeake and more. Visit the Maritime Museum and you'll receive a discount for the USS Constellation, the only Civil War ship still floating today.

#### Baltimore Orioles

A visit to Camden Yards is just steps away and, if you're a true baseball fan, be sure to see the Baltimore Orioles Hall of Fame exhibit and the Babe Ruth Birthplace and Museum located nearby. You can also visit the Sports Legends Museum which offers 22,000 square feet of artifacts and interactive exhibits, transforming Camden Station into one of the most spectacular sports museums in America.

#### Port Discovery Children's Museum

Port Discovery Children's Museum provides experiences that ignite imagination, inspire learning and nurture growth through play. The Museum offers 3 floors of educational, interactive and hands-on/minds-on experiences designed for children ages 2-10 years of age. Port Discovery has served over 2.5 million visitors and continues to grow as one of the leading non-traditional educational resources in the Mid-Atlantic region.

#### Power Plant Live!

A block away from Baltimore's Inner Harbor is Power Plant Live, a premier dining and entertainment district that features a variety of restaurants and nightclubs surrounding a common plaza. There is also outdoor seating which often features live performances.

### Places to Dine:

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#### RUSTY SCUPPER (1.1 miles)

P: (410) 727-3678

Seafood

Open for lunch and dinner

From the inner harbor's very best authentic Maryland crab cakes and crab soups to the east coast's freshest oysters plus elegantly prepared shrimp, lobster and beef dishes.

#### SULLIVAN'S STEAKHOUSE (.4 miles)

P: (410) 962-5503

Steakhouse

Open for lunch and dinner

Indulge in mouthwatering steaks and succulent seafood.

#### PRATT STREET ALE HOUSE (.2 miles)

P: (410) 244-8900

American

Open for lunch and dinner

Casual restaurant, sports entertainment

#### LUNA DEL SEA STEAK & SEAFOOD BISTRO (.1 miles)

P: (410) 752-8383

Steak & Seafood

Open for lunch and dinner

Fresh Seafood by local fisheries, organic vegetables and produce from local farmers and grass beef and poultry from local markets.

#### KONA GRILL (.4 miles)

P: (410) 244-8994

Japanese

Open for lunch and dinner

Modern American cuisine - prepared in their scratch kitchen. Or, enjoy stunningly fresh sushi, prepared at their full sushi bar.

#### BRIO TUSCAN GRILLE (.9 miles)

P: (410) 637-3440

Italian

Open for lunch and dinner

Authentic, northern Italian cuisine

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## Schedule of Events

### THURSDAY, APRIL 10

6:00pm – 6:10pm	<b>Welcome from CIS President</b> KEY 6 BALLROOM <b>John Routes, MD</b> <i>Medical College of Wisconsin</i>
6:10pm – 7:00pm	<b>Robert A. Good Lecture: Opening Lecture</b> KEY 6 BALLROOM 1 AMA PRA Category 1 Credits™ <b>Moderator:</b> <b>Charlotte Cunningham-Rundles, MD PhD</b> <i>Mt. Sinai Medical Center</i> <b>Speaker:</b> MOLECULAR REGULATION OF HUMORAL IMMUNE RESPONSES-INSIGHTS FROM PIDS <b>Stuart G. Tangye, PhD</b> <i>Garvan Institute of Medical Research, Australia</i>
7:00pm – 8:30pm	<b>Opening Reception</b> KEY 8-12 BALLROOM

### FRIDAY, APRIL 11

7:00am – 8:00am	<b>Breakfast</b> KEY FOYER SOUTH
7:30am – 8:00am	<b>Guided Poster Session</b> <b>Group 1</b> KEY 8-12 BALLROOM <b>Moderator:</b> <b>Kathleen E. Sullivan, MD PhD</b> <i>Children's Hospital of Philadelphia</i> <b>Guided Posters:</b> EARLY DETECTION OF JUVENILE MYELOMONOCYTIC LEUKEMIA (JMML) DUE TO ABSENT TRECS ON NEWBORN SCREENING (NBS) FOR SEVERE COMBINED IMMUNODEFICIENCY (SCID) <b>Richard L. Wasserman, MD PhD</b> <i>Medical City Children's Hospital</i> KABUKI SYNDROME IS ASSOCIATED WITH IMMUNE DYSFUNCTION FEATURING NOT ONLY IMMUNE DEFICIENCY BUT ALSO AUTOIMMUNITY AND LYMPHOPROLIFERATION <b>Mark C. Hannibal, MD PhD</b> <i>University of Michigan</i> IMPULSE OSCILLOMETRY (IOS) REVEALS INCREASED PULMONARY IMPEDENCE IN CHILDREN WITH ADENOSINE DEAMINASE-DEFICIENT SEVERE COMBINED IMMUNODEFICIENCY (ADA-SCID) <b>Robert Sokolic, MD</b> <i>National Human Genome Research Institute, NIH</i> FOOD ALLERGY IN PRIMARY IMMUNODEFICIENCY DISEASES: PREVALENCE WITHIN THE USIDNET REGISTRY <b>Karen Thursday S. Tuano, MD</b> <i>Baylor College of Medicine</i> DISTURBED B AND T CELL HOMEOSTASIS AND NEOGENESIS IN PATIENTS WITH ATAXIA TELANGIECTASIA <b>Raz Somech, MD PhD</b> <i>Edmond and Lily Safra Children's Hospital</i>

7:30am – 8:00am	<b>Group 2</b> <b>Ralph S. Shapiro, MD</b> <i>Midwest Immunology Clinic</i> <b>Guided Posters:</b> HYPER IGM SYNDROME AND EBV INDEPENDENT HEMATOLOGIC MALIGNANCY ASSOCIATED WITH GAIN OF FUNCTION MUTATIONS IN PIK3CD <b>Jennifer K. Grossman, MD FRCP</b> HIGH THROUGHPUT SEQUENCING OF THE T CELL AND B CELL RECEPTOR REPERTOIRES IN PATIENTS WITH WISKOTT ALDRICH SYNDROME <b>Amy E. OConnell, MD PhD</b> <i>Boston Children's Hospital</i> IL-17 T CELLS' DEFECTIVE DIFFERENTIATION IN VITRO DESPITE NORMAL RANGE EX VIVO IN CHRONIC MUCOCUTANEOUS CANDIDIASIS DUE TO STAT1 GAIN OF FUNCTION MUTATION <b>Mohamed-Ridha Barbouche</b> <i>Institut Pasteur De Tunis and University Tunish El Manar</i> COEXISTENCE OF CLONAL EXPANDED AUTOLOGOUS AND TRANSPLACENTAL-ACQUIRED MATERNAL T CELLS IN RAG1-DEFICIENT SCID <b>Atar Lev</b> <i>Sheba Medical Center</i>
8:00am – 10:00am	<b>Plenary: The Colonizers and Us</b> KEY 6 BALLROOM 2 AMA PRA Category 1 Credits™ <b>Moderator:</b> <b>Alexandra Freeman, MD</b> <i>National Institute of Allergy and Infectious Diseases, National Institutes of Health</i> <b>Speakers:</b> <b>Scott Snapper, MD</b> <i>Boston Children's Hospital</i> <b>8:05am – 8:35am</b> <b>8:35am – 9:05am</b> GUT MICROBES: SOURCE OF THERAPEUTICS AGAINST INFLAMMATORY DEMYELINATION IN THE CENTRAL NERVOUS SYSTEM <b>Javier Ochoa-Reparaz, PhD</b> <i>Sanford-Burnham Medical Research Institute</i> <b>Lloyd Kasper, MD</b> <i>Geisel School of Medicine at Dartmouth</i> <b>Oral Abstract:</b> CHARACTERIZATION OF NEUTROPHIL DEATH AND DYSFUNCTION IN VPS45 MUTATED CELLS FROM PATIENTS WITH SEVERE CONGENITAL NEUTROPENIA 5 (SCN5) <b>Amos J. Simon</b> <i>Sheba Medical Center-Tel Hashomer</i> <b>9:45am – 10:00am</b> <b>Panel Discussion</b>
10:00am – 10:30am	<b>Morning Break</b> KEY FOYER SOUTH



## Schedule of Events

### FRIDAY, APRIL 11, *continued*

10:30am – 11:30am	<b>Tales from the Listserv</b> KEY 6 BALLROOM 1 AMA PRA Category 1 Credit™  <i>Moderator:</i> <b>Elie Haddad, MD PhD CHU Ste-Justine, University of Montreal</b>  <i>Speakers:</i> MYSTERY CASE <b>Jane Peake, MBBS FRACP DTM&amp;H Royal Children's Hospital, Australia</b> SHOULD WE TRANSPLANT? <b>Yesim Yilmaz Demirdag, MD Columbia University Medical Center</b>  ABNORMAL NEWBORN SCREEN AND T-CELL LYMPHOPENIA IN CARDIAC SURGERY PATIENTS <b>Richard L. Wasserman, MD PhD Medical City Children's Hospital</b>
11:30am – 1:00pm	<b>Lunch / Poster Viewing / Exhibit Hall</b> KEY 8-12 BALLROOM
1:00pm – 3:00pm	<b>Plenary: Infectious Manifestations of PID Around the World</b> KEY 6 BALLROOM 2 AMA PRA Category 1 Credits™  <i>Moderator:</i> <b>Sarah Browne, MD National Institute of Allergy and Infectious Diseases, National Institutes of Health</b>  <i>Speakers:</i> ENDEMIC INFECTIONS IN SE ASIA AS INDICATORS FOR PID <b>Yu-Lung Lau, MBChB MD The University of Hong Kong</b>
1:00pm – 1:30pm	ENDEMIC INFECTIONS IN SE ASIA AS INDICATORS FOR PID <b>Yu-Lung Lau, MBChB MD The University of Hong Kong</b>
1:30pm – 2:00pm	COMPLEMENT DEFICIENCIES AND INCREASED SUSCEPTIBILITY TO MENINGOCOCCAL DISEASE IN SOUTH AFRICA <b>Ann Orren, BSc MB ChB MD ADCRU, Departments of Medicine and Chemical Pathology, University of Cape Town Institute of Infection and Immunity School of Medicine, Cardiff, University, UK</b>
2:00pm – 2:30pm	BCG VACCINATION IN SCID PATIENTS: COMPLICATIONS, RISKS, POLICIES AND TIME FOR A CHANGE <b>Sergio Rosenzweig, MD PhD National Institute of Allergy and Infectious Diseases, National Institutes of Health</b>  <b>Oral Abstracts:</b> CRYPTOCOCCAL MENINGITIS ASSOCIATED WITH AUTO-ANTIBODIES AGAINST GM-CSF: A CASE REPORT <b>Merin E. Kuruvilla, MD UTSW Medical Center</b>
2:30pm – 2:40pm	CRYPTOCOCCAL MENINGITIS ASSOCIATED WITH AUTO-ANTIBODIES AGAINST GM-CSF: A CASE REPORT <b>Merin E. Kuruvilla, MD UTSW Medical Center</b>
2:40pm – 2:50pm	ANTI-GM-CSF AUTOANTIBODIES IN PATIENTS WITH NOCARDIOSIS OF THE CENTRAL NERVOUS SYSTEM <b>Lindsey B. Rosen NIAID, NIH</b>

2:50pm – 3:00pm	RECURRENT SPONTANEOUS CENTRAL NERVOUS SYSTEM CANDIDIASIS: WHAT TO DO WHEN THE CARDS ARE STACKED AGAINST YOU? <b>Donald C. Vinh, MD McGill University Health Centre</b>
3:00pm – 3:30pm	<b>Afternoon Break</b> KEY FOYER SOUTH
3:30pm – 5:00pm	<b>Concurrent Workshops</b> <b>Session 1: Malignancy in PID</b> KEY 21 BALLROOM 1.5 AMA PRA Category 1 Credits™  <i>Moderator:</i> <b>Helen Su, MD PhD National Institute of Allergy and Infectious Diseases, National Institutes of Health</b>  <i>Speakers:</i> CANCER IN PRIMARY IMMUNODEFICIENCIES <b>Brahm H. Segal, MD FACP FIDSA Roswell Park Cancer Institute</b>
3:30pm – 3:50pm	CANCER IN PRIMARY IMMUNODEFICIENCIES <b>Brahm H. Segal, MD FACP FIDSA Roswell Park Cancer Institute</b>
3:50pm – 4:10pm	VIRAL SUSCEPTIBILITY AND MALIGNANCY IN DOCK8 IMMUNODEFICIENCY <b>Helen Su, MD PhD National Institute of Allergy and Infectious Diseases, National Institutes of Health</b>
4:10pm – 4:30pm	<b>Patricia Lugar, MD Duke Medical Center University</b>
4:30pm – 4:40pm	EPIGENETIC MARKERS OF LYMPHOMA IN ATAXIA-TELANGIECTASIA <b>Burcin Uygungil, MD Children's National Health Systems</b>
4:40pm – 5:00pm	<b>Panel Discussion</b>
3:30pm – 5:00pm	<b>Session 2: Bugs and Drugs</b> KEY 6 BALLROOM 1.5 AMA PRA Category 1 Credits™  <i>Moderator:</i> <b>Steve Holland, MD National Institute of Allergy and Infectious Diseases, National Institutes of Health</b>  <i>Speakers:</i> <b>Alexandra Freeman, MD National Institute of Allergy and Infectious Diseases, National Institutes of Health</b>
3:30pm – 3:50pm	NOVEL ANTI-BACTERIAL EFFECTOR PATHWAY, PERFORIN-2, PROVIDES A NEW PARADIGM FOR CELLULAR DEFENSE AGAINST BACTERIAL PATHOGENS <b>Eckhard Podack, MD University of Miami</b>
3:50pm – 4:10pm	NOVEL ANTI-BACTERIAL EFFECTOR PATHWAY, PERFORIN-2, PROVIDES A NEW PARADIGM FOR CELLULAR DEFENSE AGAINST BACTERIAL PATHOGENS <b>Eckhard Podack, MD University of Miami</b>
4:10pm – 4:30pm	THE APPLICATION OF GENOME-SEQUENCING TO TRACK THE SPREAD OF HOSPITAL-ASSOCIATED INFECTIONS <b>Evan Snitkin, PhD National Human Genome Research Institute, National Institutes of Health</b>

## Schedule of Events

### FRIDAY, APRIL 11, *continued*

4:30pm – 4:40pm	<b>Oral Abstract:</b> DOCK8 REGULATES LYMPHOCYTE SHAPE INTEGRITY FOR SKIN ANTIVIRAL RESPONSES <b>Qian Zhang, MD</b> <i>National Institute of Allergy and Infectious Diseases, National Institutes of Health</i>
4:40pm – 5:00pm	<b>Panel Discussion</b>
5:00pm – 5:15pm	<b>Evening Break</b> KEY FOYER SOUTH
5:15pm – 6:15pm	<b>The CIS Fahey/Rose Founders Lecture</b> KEY 6 BALLROOM 1 AMA PRA Category 1 Credit™
<i>Moderator:</i>	<b>James Verbsky, MD PhD</b> <i>Medical College of Wisconsin</i>
<i>Speaker:</i>	<b>Alexander Rudensky, PhD</b> <i>Memorial Sloan- Kettering Cancer Center</i>

### SATURDAY, APRIL 12

7:30am – 9:00am	<b>Concurrent Breakfast Sessions</b> <b>Session 1: Immune Globulin &amp; Replacement Therapy: Individualizing a Regimen</b> KEY 2 BALLROOM 1.5 AMA PRA Category 1 Credits™
<i>Moderator:</i>	<b>Vincent R. Bonagura, MD</b> <i>Alexandra and Steven Cohen Children's Medical Center of NY</i>
<i>Panelists:</i>	<b>Carla Duff, CPNP MSN CCRP</b> <i>USF at All Children's Hospital</i> <b>Mary Hintermeyer, APNP</b> <i>Children's Hospital of Wisconsin</i> <b>Richard L. Wasserman, MD PhD</b> <i>Medical City Children's Hospital</i> <b>M. Elizabeth Younger, CPNP PhD</b> <i>Johns Hopkins</i>
7:30am – 9:00am	<b>Session 2: Targeted Manipulation of the Genome</b> KEY 6 BALLROOM 1.5 AMA PRA Category 1 Credits™
<i>Moderator:</i>	<b>Luigi D. Notarangelo, MD PhD</b> <i>Children's Hospital Boston, Harvard Medical School</i>
7:35am – 7:55am	<b>Speakers:</b> ENGINEERING T CELLS FOR CANCER AND HIV <b>Carl June, MD</b> <i>University of Pennsylvania</i>
7:55am – 8:15am	GENE CORRECTION OF HEMATOPOIETIC STEM CELLS FOR SEVERE COMBINED IMMUNODEFICIENCY DISEASES <b>Matthew Porteus, MD</b> <i>Stanford School of Medicine</i>

8:15am – 8:35am	NUCLEASE-MEDIATED GENOME ENGINEERING FOR ADOPTIVE T-CELL THERAPIES <b>Andy Scharenberg, MD</b> <i>University of Washington</i>
8:35am – 8:45am	<b>Oral Abstract:</b> TARGETED GENE THERAPY IN THE TREATMENT OF X-LINKED HYPER-IgM SYNDROME <b>Caroline Kuo, MD</b> <i>UCLA Medical Center</i>
8:45am – 9:00am	<b>Panel Discussion</b>
9:00am – 9:30am	<b>CIS Business Meeting</b> KEY 6 BALLROOM
9:30am – 10:00am	<b>Guided Poster Sessions</b> <b>Group 1</b> KEY 8-12 BALLROOM
<i>Moderator:</i>	<b>Kathleen E. Sullivan, MD PhD</b> <i>Children's Hospital of Philadelphia</i>
	<b>Guided Posters:</b> IPEX AND 'IPEX-LIKE' SYNDROME: FOXP3 AND RELATED PATHWAY <b>Eleonora Gambineri, MD</b> <i>University of Florence</i> FATAL HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS (HLH) IN A 24 YEAR OLD FEMALE DUE TO PREVIOUSLY UNDIAGNOSED PRF1 P.T450M MUTATION IN THE C2 DOMAIN <b>Sara Barmettler, MD</b> <i>Yale-New Haven Hospital</i> PROTEIN MODELING LED TO THE DISCOVERY THAT MUTATIONS IN THE GENE ENCODING PI(3) K CATALYTIC SUBUNIT p110d (PIK3CD) CAUSE PASLI (p110d ACTIVATING MUTATION CAUSING SENESCENT T CELLS, LYMPHADENOPATHY, AND IMMUNODEFICIENCY) DISEASE <b>Julie E. Niemela, MS</b> <i>MLS NIH</i> GAIN OF STAT1 SIGNALING ASSOCIATED WITH OVERLAPPING PATHOPHYSIOLOGY IN STAT3, IL21R AND STAT1 MUTANT PATIENTS <b>Diego B. Lopez</b> <i>NIH</i>
9:30am – 10:00am	<b>Guided Poster Sessions</b> <b>Group 2</b>
<i>Moderator:</i>	<b>Ralph S. Shapiro, MD</b> <i>Midwest Immunology Clinic</i>
	<b>Guided Posters:</b> ALTERED T CELL RECEPTOR DEVELOPMENT AND DIFFERENTIATION IN X-LINKED AGAMMAGLOBULINEMIA <b>Manish Ramesh, MBBS PhD</b> <i>Icahn School of Medicine at Mount Sinai</i> STAT1 GAIN OF FUNCTION MUTATIONS ARE INFREQUENT IN PULMONARY NONTUBERCULOUS MYCOBACTERIAL INFECTION <b>Eva P. Szymanski, BS</b> <i>National Institutes of Allergy &amp; Infectious Diseases</i>

## Schedule of Events

### SATURDAY, APRIL 12, *continued*

	<p>INVESTIGATING THE ROLE OF INDUCIBLE T-CELL KINASE IN CD8+ T-LYMPHOCYTE CYTOLYTIC EFFECTOR FUNCTION</p> <p><b>Senta Kapnick</b> <i>NHGRI, NIH</i></p> <p>SOMATIC REVERSION IN DOCK8 IMMUNODEFICIENCY MODULATES DISEASE PHENOTYPE</p> <p><b>Huie Jing, PhD</b> <i>NIAID, NIH</i></p>
9:30am – 10:00am	<p><b>Morning Break</b></p> <p>KEY FOYER SOUTH</p>
10:00am – 12:00pm	<p><b>Plenary: Cellular Therapies</b></p> <p>KEY 6 BALLROOM</p> <p>2 AMA PRA Category 1 Credits™</p> <p><b>Moderator:</b> <b>Francisco A. Bonilla, MD PhD</b> <i>Children's Hospital Boston</i></p> <p><b>Speakers:</b></p> <p>TRANSPLANTATION</p> <p><b>Troy Torgerson, MD PhD</b> <i>University of Washington</i></p> <p>10:05am – 10:15am</p> <p>10:15am – 10:40am</p> <p>VIRUS SPECIFIC T-CELL THERAPY POST TRANSPLANT - BROADENING APPLICABILITY</p> <p><b>Catherine Bollard, MD</b> <i>Children's National Medical Center</i></p> <p>10:40am – 11:00am</p> <p><b>Elie Haddad, MD, PhD</b> <i>CHU Ste-Justine, University of Montreal</i></p> <p>11:00am – 11:20am</p> <p>PRIMARY IMMUNE DEFICIENCIES HELP TO REVEAL MOLECULAR REQUIREMENTS FOR HUMAN T FOLLICULAR HELPER CELLS</p> <p><b>Stuart G. Tangye, PhD</b> <i>Garvan Institute of Medical Research</i></p> <p>11:20am – 11:30am</p> <p><b>Oral Abstract:</b></p> <p>ADOPTIVE TRANSFER OF ANTI-VIRAL CYTOTOXIC T LYMPHOCYTES TO IMPROVE SURVIVAL IN PRIMARY IMMUNODEFICIENCY PATIENTS INDEPENDENT OF HEMATOPOIETIC STEM CELL TRANSPLANT</p> <p><b>Sarah K. Nicholas, MD</b> <i>Baylor College of Medicine</i></p> <p>11:30am – 11:40am</p> <p>DIFFERENTIAL ROLE FOR DNA LIGASE 4, ARTEMIS AND DNA-PKCS IN THE GENERATION, DNA DAMAGE RESPONSE AND MYELOID DIFFERENTIATION OF HUMAN IPS CELLS</p> <p><b>Kerstin Felgentreff, MD</b> <i>Boston Children's Hospital</i></p> <p>11:40am – 12:00pm</p> <p><b>Panel Discussion</b></p>
12:00pm – 1:30pm	<p><b>Lunch / Poster Viewing / Exhibit Hall</b></p> <p>KEY 8-12 BALLROOM</p>

1:30pm – 3:30pm	<p><b>Plenary Session: Hot New Defects</b>            KEY 6 BALLROOM            2 AMA PRA Category 1 Credits™</p>
<b>Moderator:</b>	<p><b>Elena E. Perez, MD PhD University of Miami School of Medicine</b></p>
1:35pm – 1:55pm	<p><b>Speakers:</b>            VERY EARLY DEFECTS IN B CELL DEVELOPMENT  <b>Mary Ellen Conley, MD Rockefeller University</b></p>
1:55pm – 2:15pm	<p>NEW GENETIC ETIOLOGIES OF PIDS  <b>Capucine Picard, MD PhD Hôpital Necker - Enfants Malades</b></p>
2:15pm – 2:35pm	<p>GAIN OF FUNCTION MUTATIONS IN PHOSPHOINOSITIDE 3-KINASE D-CONNECTING THE DOTS, FILLING IN THE GAPS  <b>Gulbu Uzel, MD National Institute of Allergy and Infectious Diseases, National Institutes of Health</b></p>
2:35pm – 3:00pm	<p><b>Oral Abstracts:</b>            A NOVEL CONGENITAL DISORDER OF GLYCOSYLATION, AGM1-CDG, WITH T-B-NK+ SCID, NEUTROPENIA AND SKELETAL DYSPLASIA, CAUSED BY MUTATIONS IN THE GENE ENCODING PHOSPHOACETYLGLUCOSAMINE MUTASE 1  <b>Niti Y. Chokshi, MD Baylor College of Medicine</b></p>
3:00pm – 3:10pm	<p>ERBB2IP MUTATIONS DISRUPT TGF-<math>\beta</math> PATHWAY SIGNALING IN SYNDROMIC ATOPY IN HUMANS  <b>Jonathan Lyons, MD NIH / NIAID</b></p>
3:10pm – 3:20pm	<p>NOVEL IMMUNODYSREGULATION DISORDER ASSOCIATED WITH A GAIN-OF-FUNCTION MUTATION IN AN UBIQUITOUS G-PROTEIN COUPLED RECEPTOR REGULATOR  <b>Ian T. Lamborn, BSc NIAID/NIAID</b></p>
3:20pm – 3:30pm	<p><b>Panel Discussion</b></p>
3:30pm – 4:00pm	<p><b>Afternoon Break</b>            KEY FOYER SOUTH</p>
4:00pm – 6:00pm	<p><b>Plenary: Innate Immunity &amp; Inflammation</b>            KEY 6 BALLROOM            2 AMA PRA Category 1 Credits™</p>
<b>Moderators:</b>	<p><b>Artemio M. Jongco, III, MD PhD Feinstein Institute of Medical Research</b>  <b>Joyce T. Hsu, MD Children's Hospital Boston</b></p>
4:05pm – 4:30pm	<p><b>Speakers:</b>  <b>Jordan Orange, MD PhD Baylor College of Medicine</b></p>
4:30pm – 4:50pm	<p><b>Raphaella Goldbach-Mansky, MD National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health</b></p>
4:50pm – 5:10pm	<p><b>Sophie Hambleton, MD PhD Newcastle University Medical School</b></p>

## Schedule of Events

### SATURDAY, APRIL 12, *continued*

5:10pm – 5:20pm	IMPAIRMENT OF T-INDEPENDENT ANTIBACTERIAL IGM RESPONSES DUE TO IRAK-4 AND MYD88-DEFICIENCIES <b>PJ Maglione, MD PhD Mount Sinai School of Medicine</b> <b>Oral Abstracts:</b> AUTOSOMAL RECESSIVE PGM3 MUTATIONS LINK GLYCOSYLATION DEFECTS TO ATOPY, IMMUNE DEFICIENCY, AUTOIMMUNITY, AND NEUROCOGNITIVE IMPAIRMENT <b>Yu Zhang National Institutes of Health</b>
5:20pm – 5:30pm	
5:30pm – 5:40pm	A NEW CASE OF HEREDITARY PULMONARY ALVEOLAR PROTEINOSIS CAUSED BY CSF2RB MUTATION: IMPORTANCE OF FUNCTIONAL TESTING AND BIOLOGICAL FEATURES TO EVOKE THE DIAGNOSIS <b>Jean Jacques De Bruycker, MD Sainte-Justine Hospital</b>
5:40pm – 6:00pm	<b>Panel Discussion</b>
6:00pm – 7:30pm	<b>CIS Past Presidents Reception</b> KEY 8-12 BALLROOM <i>Please note that this reception is open to everyone</i>

### SUNDAY, APRIL 13

8:00am – 9:30am	<b>Concurrent Breakfast Sessions</b> <b>Session 1: Proactive Surveillance</b> KEY 6 BALLROOM 1.5 AMA PRA Category 1 Credits™
<i>Moderator:</i>	<b>Burcin Uygungil, MD MPH Children's National Health Systems</b>
8:00am – 8:25am	<b>Speakers:</b> PROACTIVE SURVEILLANCE: THE GOLDBLOCKS PROBLEM <b>Charlotte Cunningham-Rundles, MD PhD Mt. Sinai Medical Center</b>
8:25am – 8:45am	<b>Howard Lederman, MD PhD Johns Hopkins</b>
8:45am – 9:05am	<b>David T. Teachey, MD Children's Hospital of Philadelphia, University of Pennsylvania School of Medicine</b> <b>Oral Abstract:</b> CLINICAL PHENOTYPE OF IDIOPATHIC CD4 LYMPHOPENIA (ICL) <b>Alexandra F. Freeman, MD NIH/NIAID</b>
9:05am – 9:15am	
9:15am – 9:30am	<b>Panel Discussion</b>
8:00am – 9:30am	<b>Session 2: Genetic Testing</b> KEY 2 BALLROOM 1.5 AMA PRA Category 1 Credits™
<i>Moderator:</i>	<b>Thomas A. Fleisher, MD National Institutes of Health</b>
8:00am – 8:45am	<b>Speakers:</b> CLINICAL GENOMICS IN IMMUNOLOGY <b>James Lupski, MD PhD Baylor College of Medicine</b>

8:45am – 9:05am	WHOLE GENOME SEQUENCING FOR PRIMARY IMMUNODEFICIENCY <b>Talal Imad Mousallem, MD Wake Forest University</b> <b>Oral Abstract:</b> HEREDITARY ANGIOEDEMA WITHOUT C1 INHIBITOR DEFICIENCY: EVALUATION OF 11 BRAZILIAN FAMILIES <b>Anete Sevciovic Grumach, MD PhD University of São Paulo</b>
9:05am – 9:15am	
9:15am – 9:30am	<b>Panel Discussion</b>
9:30am – 9:45am	<b>Morning Break</b> KEY FOYER SOUTH
9:45am – 10:00am	CHARACTERIZATION OF ANTIBODIES REACTIVE WITH RECOMBINANT HUMAN HYALURONIDASE (RHUPH20) FROM TREATMENT NAÏVE PLASMA DONORS AND PID SUBJECTS TREATED WITH IGHY <b>Sanna Rosengren, PhD Halozyme Therapeutics</b> KEY 6 BALLROOM
10:00am – 12:00pm	<b>Plenary: Targeted Therapies</b> KEY 6 BALLROOM 2 AMA PRA Category 1 Credits™ <b>Moderator:</b> <b>Michael D. Keller, MD Children's National Health System</b> <b>Speakers:</b> ABATACEPT AND LYMPHOCYTIC INTERSTITIAL LUNG DISEASE <b>Michael Jordan, MD Cincinnati Children's Hospital Medical Center</b> JAKINIBS 2014 <b>John J. O'Shea, MD National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health</b> 10:40am – 11:00am <b>John Routes, MD Medical College of Wisconsin</b> 11:00am – 11:10am <b>Oral Abstracts:</b> B CELL-TARGETED THERAPY IN NARCOLEPSY / CATAPLEXY POST H1N1 VACCINATION <b>Jean Jacques De Bruycker, MD Sainte-Justine Hospital</b> 11:10am – 11:20am CHANGES IN IMMUNOGLOBULIN LEVELS AND T-CELL NUMBERS WITH AGE IN PATIENTS WITH 22Q11.2 DELETION SYNDROME <b>Solrun Melkorka Maggadottir, MD Children's Hospital of Philadelphia</b> 11:20am – 11:30am IMMUNOGLOBULIN REPLACEMENT TREATMENT - A CULPRIT OF SYMPTOMATIC CHRONIC HAEMOLYSIS <b>Cinzia Milito Sapienza University of Rome</b> 11:30am – 12:00pm <b>Panel Discussion</b>





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At CSL Behring, we are committed to saving lives and improving the quality of life for people with rare and serious diseases worldwide.

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## Co-Chairs:

Charlotte Cunningham-Rundles, MD PhD  
Mount Sinai Medical Center  
New York, NY

Kathleen E. Sullivan, MD PhD  
Children's Hospital of Philadelphia  
Philadelphia, PA

## Faculty:

Thomas A. Fleisher, MD  
National Institutes of Health  
Bethesda, MD

Elie Haddad, MD PhD  
CHU Ste-Justine, University of Montreal  
Montreal, Canada

Steven M. Holland, MD  
NIAID, NIH  
Bethesda, MD

Luigi D. Notarangelo, MD PhD  
Children's Hospital Boston  
Harvard Medical School  
Boston, MA

Hans D. Ochs, MD  
University of Washington  
Seattle, WA

Sergio Rosenzweig, MD PhD  
NIAID, NIH  
Bethesda, MD

Jordan S. Orange, MD PhD  
Baylor College of Medicine  
Houston, TX

Troy Torgerson, MD PhD  
University of Washington  
Seattle, WA

## Applications need to be submitted via the CIS website, [www.clinimmsoc.org](http://www.clinimmsoc.org). Applications must be supported by a:

- Letter from the Training Program Director or Department Chair;
- Curriculum Vitae;
- Statement of how the School will be beneficial;
- Abstract of the case or research project. CIS is looking for a case report including those which can be presented as a mystery for discussion purposes but should have a final diagnosis. Alternatively, cases with diagnostic dilemmas which could be discussed are acceptable. In addition, completed research projects germane to the field of primary immune deficiency are also acceptable.

Accepted abstracts will be provided with travel grants to assist with airfare, hotel, and meal expenses. The language of the School will be in English and selected participants are required to become CIS members at the conclusion of the School.

## Target Audience:

- Fellows-in-training;
- Junior faculty members.

Participants should be pediatricians, internists, or scientists committed to the clinical management of patients with primary immunodeficiency diseases. Candidates may have backgrounds in immunology, infectious diseases, adult medicine, rheumatology, hematology, laboratory immunology, stem cell transplantation, or allergy/immunology.

## Objectives:

- Education on the diagnosis, pathogenesis, and treatment of PIDD;
- Attract and develop future scientists in academic medicine;
- Enhance awareness of clinical immunology and its importance in scientific discoveries and clinical applications;
- Stimulate future collaborations between young investigators in different medical centers and countries, and between young investigators and experienced physician/scientists in the field.



Proud sponsor of the 2014 Annual Meeting:  
*Clinical Immunology Society*



## Therapy and Beyond Baxter's ongoing commitment

For over 25 years, Baxter has provided the primary immunodeficiency community with therapies that can help patients reduce the risk of infection.

Today, we continue our commitment to improving patient experiences through working with clinical experts and patient advocacy groups like the **Immune Deficiency Foundation** and the **Jeffrey Modell Foundation**.

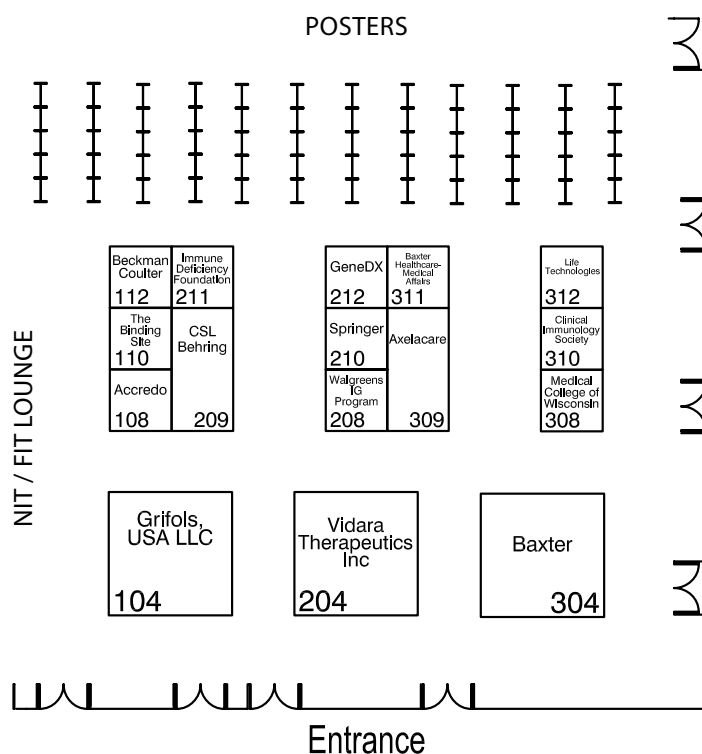
We remain dedicated to answering needs through clinical initiatives and programs that offer an essential layer of support for patients and healthcare providers.

**Visit the Baxter Booth #304 to learn more.**

Committed to advancing therapies and services  
in the field of primary immunodeficiency



## Exhibit Hall Floor Plan



## Exhibitors

### Booth #: 104

#### Grifols USA, LLC.

Grifols is a global healthcare company whose mission is to improve the health and well-being of people around the world. We have three primary divisions – Bioscience, Diagnostic and Hospital – that develop, produce and market our innovative products and services to medical professionals in more than 100 countries around the world.

### Booth #: 108

#### Accredo

Headquartered in Memphis, Tennessee, Accredo provides specialty pharmacy and related services for patients with certain complex and chronic health conditions.

At Accredo, we know that treatment with specialty medications can be difficult and stressful. We do everything we can to make it simple. Each patient is unique and has different needs. That's why our services are tailored to you, making sure you receive the best possible treatment.

Our team of specialty-trained pharmacists, nurses, patient care advocates, social workers and insurance coordinators are here to handle everything about your medications for you. When needed, we can coordinate with your doctor and insurer to help you achieve the best possible outcomes from your specialty therapy. - See more at: <http://www.accredo.com>

### Booth #: 110

#### The Binding Site

Binding Site is committed to developing special protein assays and automated systems for the improvement of patient care. The market leader in immunodiagnosics for Primary Immunodeficiency Disease, Binding Site assays measure specific antibody response to vaccinations and quantify immunoglobulins, IgG and IgA subclasses. Run on the SPAPLUS® analyzer, an easy-to-use, reliable, efficient complement for laboratories, our assays include Freelite®, widely used in diagnosis and monitoring of myeloma. With our extensive development expertise, patented antibody production technology, and medical educators, backed by clinical practice guidelines, Binding Site provides healthcare professionals with tools to significantly improve diagnosis and management of patients. [www.thebindingsite.com](http://www.thebindingsite.com)

### Booth #: 112

#### Beckman Coulter

Beckman Coulter develops, manufactures and markets products that simplify, automate and innovate complex biomedical testing. Our diagnostic systems are found in hospitals and other critical care settings around the world and produce information used by physicians to diagnose disease, make treatment decisions and monitor patients. Scientists use our life science research instruments to study complex biological problems including causes of disease and potential new therapies or drugs.

Hospital laboratories are our core clinical diagnostic customers. Our life science customers include pharmaceutical and biotechnology companies, universities, medical schools and research institutions. More than 275,000 Beckman Coulter systems operate in both diagnostics and life sciences laboratories on six continents. For more than 75 years, our products have been making a difference in peoples' lives by improving the productivity of medical professionals and scientists, supplying critical information for improving patient health and reducing the cost of care.

### Booth #: 204

#### Vidara Therapeutics, Inc.

Vidara Therapeutics is a specialty biopharmaceutical company focused on serious and often life-threatening rare diseases. [www.vidararx.com](http://www.vidararx.com)

### Booth #: 208

#### Walgreens IG Program

Walgreens Infusion Services is the nation's largest provider of home and alternate treatment site infusion services. With a staff of more than 1,400 clinicians and over 70 infusion pharmacies nationally, Walgreens Infusion Services IG Program treats patients with a wide range of conditions requiring IG therapy. IG trained clinicians and insurance experts are available to support you and your patients 24 hours a day every day. Last year Crescent Healthcare joined the Walgreens team, bringing together two clinical leaders in home and alternate site IG services.



## Exhibitors

### Booth #: 209

#### CSL Behring

CSL Behring is a global leader in plasma protein therapeutics. The company manufactures safe and effective plasma-derived and recombinant therapies for treating coagulation disorders, primary immune deficiencies, hereditary angioedema and inherited respiratory disease, and neurological disorders in certain markets. The company's products are also used in cardiac surgery, organ transplantation, burn treatment and to prevent hemolytic disease of the newborn. CSL Behring is a subsidiary of CSL Limited (ASX:CSL), a biopharmaceutical company with headquarters in Melbourne, Australia. For more information: [www.cslbehring-us.com](http://www.cslbehring-us.com).

### Booth #: 210

#### Springer

Springer is the largest international publisher of scientific books with a portfolio of over 8,000 new books per year and more than 2,200 journals. Take your research and skills to the next level with Springer Immunology products. Stop by our booth to discover an authoritative range of books, and browse the Journal of Clinical Immunology, the official journal of the Clinical Immunology Society. Meet the Immunology editor, Rita Beck, explore our new publications, and enjoy a 20% discount on our books.

### Booth #: 211

#### Immune Deficiency Foundation

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 and research.

### Booth #: 212

#### GeneDx

GeneDx is highly respected laboratory, specializing in genetic testing for rare Mendelian disorders. GeneDx offers sequencing and deletion/duplication testing for inherited cardiac disorders, mitochondrial disorders, neurological disorders, inherited cancer disorders, prenatal disorders and other rare genetic disorders. GeneDx also offers whole exome sequencing, next-generation and microarray-based testing.

### Booth #: 304

#### Baxter Healthcare

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.

Come visit Baxter's BioTherapeutics booth, where our specialists will be available to answer your questions about Baxter products and our commitment to the fields of immunology and neurology. For more information on Baxter's products and services, please visit [www.baxter.com](http://www.baxter.com).

### Booth #: 308

#### Medical College of Wisconsin

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.

### Booth #: 309

#### AxelaCare

AxelaCare specializes in the administration of Immune Globulin IVIG and other infusible medications. CareExchange is our proprietary clinical outcomes measurement system using validated data that is collected and presented in simple graphical display via secure web access to clinicians to determine optimal care based on dose versus time and collected outcomes.

### Booth #: 310

#### Clinical Immunology Society

The Clinical Immunology Society (CIS) is devoted to fostering developments in the science and practice of clinical immunology. CIS is an international professional organization which includes more than 600 clinicians, investigators, and trainees. The mission of CIS is to facilitate education, translational research and novel approaches to therapy in clinical immunology to promote excellence in the care of patients with immunologic/inflammatory disorders. [www.clinimmsoc.org](http://www.clinimmsoc.org)

### Booth #: 311

#### Baxter Healthcare-Medical Affairs

The Baxter 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 Baxter BioTherapeutics, please visit [www.baxter.com](http://www.baxter.com).

### Booth #: 312

#### Life Technologies

Life Technologies Corporation (NASDAQ: LIFE) is a global biotechnology company dedicated to moving science forward to improve life in meaningful ways for everyone. Our premier brands are the most cited, most trusted in the life sciences industry: Invitrogen™, Applied Biosystems®, Gibco®, Molecular Probes®, Novex®, Ambion®, and Ion Torrent™.

## Poster Listing

- 1 WHOLE EXOME SEQUENCING IN PEDIATRIC PATIENTS WITH EARLY ONSET RARE PERINATAL ONSET IMMUNODYSREGULATORY DISEASES THAT PRESENT WITH FEVER AND SYSTEMIC INFLAMMATION  
**Adriana A Jesus, MD** *National Institutes of Health (NIH)*
- 2 STAT3-DEFICIENT HYPER IGE SYNDROME IN A PEDIATRIC COHORT  
**Aisling Flinn, MB BAO BCh MRCPCH** *Our Lady's Children's Hospital*
- 3 SUCCESSFUL BILATERAL LUNG TRANSPLANT IN AUTOSOMAL DOMINANT HYPER IgE SYNDROME  
**Alexandra F. Freeman, MD** *NIH NIAID*
- 4 INFECTION PROPHYLAXIS COMPLIANCE IN A CHRONIC GRANULOMATOUS DISEASE POPULATION  
**Amanda K. Rudman** *Spergel*
- 5 NORMAL PERIPHERAL BLOOD B-CELL MATURATION CHARTS  
**Amer M. Khojah** *Inova Children's Hospital*
- 6 HIGH THROUGHPUT SEQUENCING OF THE T CELL AND B CELL RECEPTOR REPERTOIRES IN PATIENTS WITH WISKOTT ALDRICH SYNDROME  
**Amy E. OConnell, MD PhD** *Boston Children's Hospital*
- 7 IL2RG REVERSION EVENT IN A COMMON LYMPHOID PROGENITOR LEADS TO DELAYED DIAGNOSIS AND Milder PHENOTYPE  
**Amy Hsu, BA** *National Institutes of Allergy & Infectious Diseases (NIAID)*
- 8 POLYCLONAL HUMAN INTRAVENOUS IMMUNE GLOBULIN (IGIV) WITH HIGH-LEVELS OF RSV NEUTRALIZING ANTIBODIES: A SUMMARY OF ANIMAL AND HUMAN STUDIES  
**Ann Falsey, MD** *University of Rochester*
- 9 MAST CELL ACTIVATION SYNDROME IN PATIENTS WITH IDIOPATHIC CD4 LYMPHOPENIA  
**Anne Maitland, MD PhD** *Mt Sinai School of Medicine*
- 10 22q11 DELETION SYNDROME. PATIENTS FROM AGUASCALIENTES MEXICO  
**Aristoteles Alvarez-Cardona, MD** *Universidad Autonoma De Aguascalientes*
- 11 EXPLORING THE ROLE OF NEUTROPHIL DYSFUNCTION IN THE DEVELOPMENT OF BRONCHIECTASIS IN X-LINKED AGAMMAGLOBULINEMIA  
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- 46 BEYOND T, B, AND NK FLOW: AN EXTENDED ANALYTICAL PANEL FOR THE FLOW CYTOMETRIC EVALUATION OF PRIMARY IMMUNE DEFICIENCIES  
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**Jose Marcos Telles Cunha, MD PhD** *Federal University of Rio De Janeiro*

## Poster Listing

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**Julie E. Niemela, MS MLS** *CC/NIH*
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