

# *The Journal of* Immunology

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IMMUNOLOGY 2017™  
PROGRAM ISSUE



# EDITOR-IN-CHIEF

## *The Journal of Immunology*

**The American Association of Immunologists, Inc. (AAI)**  
seeks applicants for the position of Editor-in-Chief (EIC) for its publication,  
*The Journal of Immunology* (*The JI*).

*The JI* is a scholarly, peer-reviewed journal owned and published by AAI – a non-profit, professional association representing almost 8,000 bench immunologists world-wide. *The JI* was started in 1916, and is published twice monthly in print and online.

The EIC is responsible for maintaining *The JI* as a definitive resource within the research community. The EIC will do so by ensuring the scientific excellence of the content and the integrity of the peer-review process. To that end, the EIC will recommend an editorial board for appointment by the AAI Publications Committee and approval by the AAI Council; be responsible for the oversight of editorial conduct and the peer-review process; address concerns of authors; and make final decisions on manuscript publication. The EIC will address allegations of author misconduct and act in accordance with *The JI* Editorial Policies and Practices, and AAI policy.

The EIC is responsible to the AAI Publications Committee and, ultimately, to the AAI Council, and is an *ex officio* member of both groups.

Applicants are expected to have an accomplished scientific career with a significant publication record, in addition to appropriate editorial experience. Candidates should possess strong leadership qualities, intellectual vision and outstanding interpersonal skills. Applicants must be active members of AAI in good standing.

The term of service for this position is from July 1, 2018 to June 30, 2023. The appointed EIC is expected to overlap with the incumbent EIC starting January 1, 2018, to ensure a smooth transition of responsibilities. This position is considered to be part-time. A stipend and associated expenses are provided.

Interested individuals are invited to submit an application package that includes a *curriculum vitae*; a succinct letter of interest and qualifications; a statement on the possible conceptual direction of *The JI* in its pursuit of scientific excellence; and innovations that may be considered.

Applications will be accepted through July 7, 2017. Please mail or e-mail them to:

Chair  
AAI Publications Committee, c/o AAI  
1451 Rockville Pike, Suite 650  
Rockville, MD 20852  
EICsearch@aai.org

EOE

# IMMUNOLOGY 2017™

PROGRAM PREVIEW

MAY 12-16, 2017

WALTER E. WASHINGTON  
CONVENTION CENTER

WASHINGTON, D.C.

[www.IMMUNOLOGY2017.org](http://www.IMMUNOLOGY2017.org)





**Arlene H. Sharpe**  
AAI President



## SECOND SIGNALS: TRANSLATING UNDERSTANDING INTO THERAPY

Immune responses are regulated by an exquisite system of on and off signals that enable tolerance as well as protective immunity. The critical role of T cell costimulation in regulating immune responses has stimulated intense investigation in this area, since a mechanistic understanding of costimulation is of fundamental and therapeutic interest. I have spent most of my scientific career defining the functions of T cell costimulatory pathways and their role in controlling the balance between T cell activation and tolerance. Therapeutic manipulation of T cell costimulatory pathways is providing a means either to enhance immune responses that can cure diseases such as cancer or infections, or terminate harmful immune responses such as autoimmunity, allergy, or graft rejection.

I couldn't have imagined in my early years as an undergraduate working with the inspirational Jack Strominger, as a graduate student with the great Bernie Fields, or as a postdoc with the noted pioneer of transgenic science, Rudolf Jaenisch, that the work I pursued on the fundamental understanding of T cell biology would translate into the immunotherapies we are witnessing today. It is such a thrill to see the translation of basic discoveries made by many scientists into the immunotherapies that are offering hope for treating cancer, autoimmune diseases, and transplant rejection. It is incredibly exciting to see the enormous energy, creativity, and human benefit that have been unleashed.

For me, one of the special pleasures of my research career has been collaborating with innovative colleagues who have become dear friends. These collaborations have enriched my career. This symposium celebrates the power of collaboration.

I am delighted and honored to have the opportunity to develop a symposium featuring some of the most distinguished leaders in the field of costimulation. I have the pleasure of interacting and collaborating with these immensely creative and dedicated individuals.

**Rafi Ahmed** is a world-renowned immunologist whose work has shaped our current understanding of memory T cell differentiation and antiviral T and B cell immunity. His research has elucidated mechanisms of immunological memory and has provided insights for vaccine development. His observations on the differences in CD8 T cell activation during acute versus chronic viral infection resulted in the identification of the PD-1 inhibitory receptor as a major mediator of T cell dysfunction during chronic infection. This work guided human clinical studies where PD-1 antibody blockade has been used to treat both chronic infection and cancer.

**Ana C. Anderson** is an innovative immunologist who investigates mechanisms of T cell dysfunction in cancer. Her laboratory identified the inhibitory molecule TIM-3 as a key regulator of T cell dysfunction in cancer. She has applied transcriptional profiling approaches to analyze the molecular regulation of tumor infiltrating T cells and identified novel gene modules controlling T cell dysfunction, opening new avenues for targeting the dysfunctional T cell state.

**Dario A. A. Vignali** is an eminent immunologist who has identified disease pathways that prevent the immune system from eliminating cancer cells and regulate the pathogenesis of autoimmune disorders. He has made seminal contributions to understanding the role of the LAG-3 inhibitory receptor in regulating T cell tolerance and tumor immunity and has identified synergy between LAG-3 and PD-1 as well as other inhibitory receptors. He has also identified novel molecules expressed by regulatory T cells and their functions, including IL-35 and neuropilin.

**Suzanne L. Topalian** is a superb physician-scientist who has been internationally recognized for her pioneering work in cancer immunotherapy. Research led by Dr. Topalian identified PD-1 pathway blockade as an effective cancer immunotherapy for melanoma and other cancers, and has explored biomarkers predictive of clinical response. Her work has greatly increased our understanding of anticancer immune responses in people.

Please join me at the IMMUNOLOGY 2017™ President's Symposium to hear the exciting details of the research conducted by these outstanding scientists.

# IMMUNOLOGY 2017™

## PROGRAM PREVIEW

### AAI PRESIDENT'S PROGRAM

#### AAI President's Address

FRIDAY, MAY 12, 5:00 PM

Walter E. Washington Convention Center, Ballroom AB

#### Arlene H. Sharp

Harvard Med. Sch., AAI President

*Second signals make all the difference*

#### Vijay K. Kuchroo

Brigham and Women's Hosp., Harvard Med. Sch.

*Introduction*



*Arlene H. Sharpe*

#### AAI President's Symposium

#### Second Signals: Translating Understanding into Therapy

MONDAY, MAY 15, 12:30 PM – 2:30 PM

Walter E. Washington Convention Center, Ballroom AB

#### Chair:

Arlene H. Sharpe, Harvard Med. Sch., AAI President

#### Speakers:

Rafi Ahmed, Emory Univ., *From reovirus to PD-1*

Ana C. Anderson, Harvard Med. Sch., *Co-inhibitory receptors and T cell dysfunction*

Dario A.A. Vignali, Univ. of Pittsburgh, *Synergistic interactions between PD-1 and LAG-3*

Suzanne L. Topalian, Johns Hopkins Univ. Sch. of Med., *PD-1 pathway blockade: a common denominator for cancer therapy*



*Rafi Ahmed*



*Ana C. Anderson*



*Dario A.A. Vignali*



*Suzanne L. Topalian*

# THANK YOU TO OUR PREMIER SPONSORS

The American Association of Immunologists thanks the following sponsors for  
their generous support of IMMUNOLOGY 2017™

AAI Annual Meeting | May 12–16, 2017 | Washington, D.C.

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## AAI DISTINGUISHED LECTURES



**SATURDAY, MAY 13**  
**6:00 PM, BALLROOM AB**

**Giorgio Trinchieri**  
 NCI, NIH

*Cancer as a disease of the  
 metaorganism*

**Chair:**  
**Wendy L. Havran**, Scripps Res. Inst.,  
 AAI Program Committee Chair



**SUNDAY, MAY 14**  
**6:00 PM, BALLROOM AB**

**Ellen A. Robey**  
 Univ. of California, Berkeley

*Factors that determine T cell fate in  
 the thymus*

**Chair:**  
**Wendy L. Havran**, Scripps Res. Inst.,  
 AAI Program Committee Chair

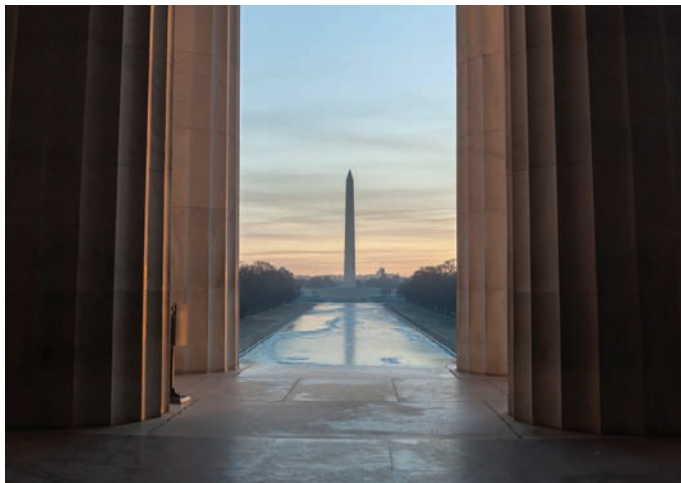


**MONDAY, MAY 15**  
**6:00 PM, BALLROOM AB**

**Gabriel Núñez**  
 Univ. of Michigan

*Pathogens, the microbiota, and  
 immunity at the intestinal barrier*

**Chair:**  
**Wendy L. Havran**, Scripps Res. Inst.,  
 AAI Program Committee Chair



## AAI BUSINESS MEETING &amp; AWARDS PRESENTATIONS

**SATURDAY, MAY 13, 1:00 PM – 2:30 PM**

**Chair:**  
**M. Michele Hogan**, AAI, Executive Director

AAI reports on the “state of the association” to its members at every AAI annual meeting. Members will hear from the Executive Director, the Secretary-Treasurer, the Editors-in-Chief of AAI journals (*The Journal of Immunology* and *ImmunoHorizons*), and the chair of the Committee on Public Affairs on the financial standing of AAI and other matters of importance to the membership. Selected 2017 AAI awards will also be presented during this session.

## AAI Distinguished Service Award Presentation



**Eugene M. Oltz**, Washington Univ.  
 Sch. of Med.

*For outstanding service to AAI  
 and the immunology community  
 as member and chair of the AAI  
 Publications Committee, 2012–2016*

## Other Awards Presentations

AAI annually provides more than 700 AAI meeting travel awards and grants to recognize the promise and promote the professional development of investigators of all career stages. Travel award and grant presentations and acknowledgments at the business meeting will include:

## Presentations

- AAI-Thermo Fisher Trainee Achievement Awards
- Chambers-Thermo Fisher Scientific Memorial Award
- Lefrançois-BioLegend Memorial Award
- Lustgarten-Thermo Fisher Scientific Memorial Award
- Pfizer-Showell Travel Award

## Acknowledgments

- AAI Early Career Faculty Travel Grants
- AAI Laboratory Travel Grants
- FASEB MARC Mentored Poster/Platform (Oral) Presenter Travel Awards  
*Sponsored by FASEB MARC Program under a grant from NIGMS, NIH [FASEB MARC Program: T36-GM08059-32 NCE]*
- AAI Undergraduate Faculty Travel Grants
- AAI Trainee Abstract Awards
- AAI Trainee Poster Awards

## AAI LIFETIME ACHIEVEMENT AWARD PRESENTATION

FRIDAY, MAY 12, 5:00 PM

Ballroom AB

### Chair:

Arlene H. Sharpe, Harvard Med. Sch., AAI President



### Award Recipient:

Richard J. Hodes, NIA, NIH

AAI President Arlene H. Sharpe will introduce the awardee and present the award prior to the start of the President's Address.

*The AAI Lifetime Achievement Award is the highest honor bestowed by the AAI Council upon an AAI member. This award recognizes a deserving member for a career of scientific achievement and for contributions to AAI and fellow immunologists.*

## AAI DISTINGUISHED SERVICE AWARD PRESENTATION

SATURDAY, MAY 13, 1:00 PM

Room 204AB

### Chair:

M. Michele Hogan, AAI, Executive Director



### Award Recipient:

Eugene M. Oltz, Washington Univ. Sch. of Med.

AAI Executive Director M. Michele Hogan will introduce the awardee and present the award during the AAI Business Meeting.

*The AAI Distinguished Service Award recognizes an individual for outstanding service to AAI and the immunology community. Dr. Oltz is honored for his outstanding service as member and chair of the AAI Publications Committee, 2012–2016.*



## AAI-BD BIOSCIENCES INVESTIGATOR AWARD PRESENTATION AND LECTURE

Generously supported by BD Biosciences

SATURDAY, MAY 13, 4:30 PM – 5:30 PM

Ballroom AB

### Chair:

Arlene H. Sharpe, Harvard Med. Sch., AAI President



### Award Recipient:

Jonathan C. Kagan, Harvard Med. Sch., Boston Children's Hosp.

*Initiation and regulation of innate immunity*

AAI President Arlene H. Sharpe and Robert Balderas, Vice President of Biological Sciences, BD Biosciences, will introduce the awardee and present the award immediately prior to Dr. Kagan's lecture.

*The AAI-BD Biosciences Investigator Award recognizes an early-career investigator who has made outstanding contributions to the field of immunology.*

## AAI-BIOLEGEND HERZENBERG AWARD PRESENTATION AND LECTURE

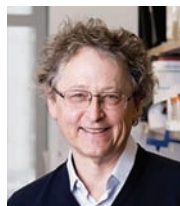
Generously supported by BioLegend

SUNDAY, MAY 14, 12:30 PM – 1:30 PM

Room 202B

### Chair:

Arlene H. Sharpe, Harvard Med. Sch., AAI President



### Award Recipient:

Michel C. Nussenzweig, HHMI, Rockefeller Univ.

*The HIV vaccine problem*

AAI President Arlene H. Sharpe and Gene Lay, President and CEO, BioLegend, will introduce the awardee and present the award immediately prior to Dr. Nussenzweig's lecture.

*The AAI-BioLegend Herzenberg Award recognizes outstanding research contributions to the field of immunology in the area of B cell biology.*



## AAI-THERMO FISHER MERITORIOUS CAREER AWARD PRESENTATION AND LECTURE

*Generously supported by Thermo Fisher Scientific*

**SUNDAY, MAY 14, 4:30 PM – 5:30 PM**

Ballroom AB

**Chair:**

**Arlene H. Sharpe**, Harvard Med. Sch., AAI President



**Award Recipient:**

**Yasmine Belkaid**, NIAID, NIH

*Microbiota control of tissue immunity: context and consequences*

AAI President Arlene H. Sharpe and Christoph Hergersberg, Vice President, Research and Development, Thermo Fisher Scientific, will introduce the awardee and present the award immediately prior to Dr. Belkaid's lecture.

*The AAI-Thermo Fisher Meritorious Career Award recognizes a mid-career scientist for outstanding research contributions to the field of immunology.*

## FASEB EXCELLENCE IN SCIENCE AWARD PRESENTATION AND LECTURE

*Generously supported by the Federation of American Societies for Experimental Biology (FASEB)*

**MONDAY, MAY 15, 10:15 AM – 11:15 AM**

Room 202B

**Chairs:**

**Virginia Shapiro**, Mayo Clin., AAI Committee on the Status of Women Chair

**Louis B. Justement**, Univ. of Alabama, Birmingham, FASEB Board Member



**Award Recipient:**

**Diane J. Mathis**, Harvard Med. Sch.

*Treg flavors*

*The FASEB Excellence in Science Award recognizes a woman in biological science whose outstanding research achievements have contributed significantly to understanding a specific discipline.*



## AAI EXCELLENCE IN MENTORING AWARD PRESENTATION

**MONDAY, MAY 15, 12:30 PM**

Ballroom AB

**Chair:**

**Arlene H. Sharpe**, Harvard Med. Sch., AAI President



**Award Recipient:**

**Lewis L. Lanier**, Univ. of California, San Francisco

AAI President Arlene H. Sharpe and Joseph Sun, Mem. Sloan Kettering Cancer Ctr., will introduce the awardee and present the award prior to the start of the President's Symposium.

*The AAI Excellence in Mentoring Award recognizes exemplary career contributions to a future generation of scientists.*

## AAI-STEINMAN AWARD FOR HUMAN IMMUNOLOGY RESEARCH PRESENTATION AND LECTURE

**MONDAY, MAY 15, 4:30 PM – 5:30 PM**

Ballroom AB

**Chair:**

**Arlene H. Sharpe**, Harvard Med. Sch., AAI President



**Award Recipient:**

**Jean-Laurent Casanova**, HHMI, Rockefeller Univ.

*Toward a genetic theory of childhood infectious diseases*

AAI President Arlene H. Sharpe will introduce the awardee and present the award immediately prior to Dr. Casanova's lecture.

*The AAI-Steinman Award for Human Immunology Research recognizes an individual who has made significant contributions to the understanding of immune processes underlying human disease pathogenesis, prevention, or therapy.*

## AAI TRAVEL AWARDS

In addition to Career Awards, AAI annually provides more than 700 AAI meeting Travel Awards and Grants to recognize the promise and bolster the professional development of investigators of all career stages.

- AAI Trainee Abstract Awards
- AAI Trainee Poster Awards
- AAI-Thermo Fisher Trainee Achievement Awards
- Pfizer-Showell Travel Award
- Lefrançois-BioLegend Memorial Award
- Chambers-Thermo Fisher Scientific Memorial Award
- Lustgarten-Thermo Fisher Scientific Memorial Award
- AAI Early Career Faculty Travel Grants
- AAI Laboratory Travel Grants
- AAI Undergraduate Faculty Travel Grants

For information on all AAI Awards, visit [www.aai.org/Awards](http://www.aai.org/Awards).

## SATURDAY, MAY 13, 8:00 AM

**Major Symposium A: Mechanism-Guided Therapy of Immunologic Diseases****Ballroom A****Chairs:****Gerald T. Nepom**, Benaroya Res. Inst.**Qizhi Tang**, Univ. of California, San Francisco**Speakers:****John D. Rioux**, Univ. de Montréal and Montreal Heart Inst., Canada  
*Genetically-guided development of clinical assays for predicting response to biologic therapies***Virginia Pascual**, Baylor Inst. for Immunol. Res.  
*Genomic approaches to guide therapeutic decisions in autoimmune diseases***John E. Harris**, Univ. of Massachusetts Med. Sch.  
*Translational research in vitiligo: gaining insight into mechanisms of organ-specific autoimmunity***Amit Bar-Or**, Univ. of Pennsylvania  
*Targeting B cell cytokine networks in T cell-mediated autoimmune disease***Gerald T. Nepom**, Benaroya Res. Inst.  
*Therapeutic modulation of effector T cells in autoimmunity***Qizhi Tang**, Univ. of California, San Francisco  
*Treg cell therapy in autoimmune diseases and transplantation***Major Symposium B: Immune Regulation of Adipose Tissue Homeostasis****Ballroom B****Chairs:****Vishwa Deep Dixit**, Yale Sch. of Med.**Alyssa H. Hasty**, Vanderbilt Univ.**Speakers:****Alyssa H. Hasty**, Vanderbilt Univ.  
*A novel role for resident adipose tissue macrophages in iron handling***David Artis**, Weill Cornell Med. Col.  
*Regulation of immunity and inflammation***Lydia Lynch**, Harvard Med. Sch.  
*Immunometabolic crosstalk of the innate immune system in adipose tissue***Vishwa Deep Dixit**, Yale Sch. of Med.  
*Harnessing immune-metabolic interactions to enhance healthspan***Ye Zheng**, Salk Inst. for Biol. Sci.  
*Adipose tissue-resident Tregs in age-associated insulin resistance***Jorge Caamaño**, Univ. of Birmingham, United Kingdom  
*Fat associated lymphoid clusters in inflammation and immune responses*

## SUNDAY, MAY 14, 8:00 AM

**Major Symposium C: T and B Cell Tolerance: Old Subject, New Insights****Ballroom A****Chairs:****Mark M. Davis**, HHMI, Stanford Univ.**Kristin A. Hogquist**, Univ. of Minnesota**Speakers:****Kristin A. Hogquist**, Univ. of Minnesota  
*Stages of thymic clonal deletion***Peter A. Savage**, Univ. of Chicago  
*Going rogue: Aire and the enforcement of immune tolerance***Klaus Ley**, La Jolla Inst. for Allergy and Immunol.  
*Expansion and collapse of ApoB-specific CD4 T cells in atherosclerosis***James J. Moon**, Massachusetts Gen. Hosp., Harvard Med. Sch.  
*Regulation of tolerance in the self antigen-specific CD4<sup>+</sup> T cell repertoire***Katie Haskins**, Univ. of Colorado Sch. of Med.  
*Hybrid insulin peptides as autoantigens for CD4 T cells in autoimmune diabetes***Christopher C. Goodnow**, Garvan Inst. of Med. Res., Australia  
*Autoantibodies, anergy, mutations, and CTLA4: redemption or revolt of forbidden clones***Major Symposium D: Immune Restriction or Antagonism at the Host-Virus Interface****Ballroom B****Chairs:****Michael S. Diamond**, Washington Univ. Sch. of Med.**Sonja M. Best**, NIAID, NIH**Speakers:****Matthew Daugherty**, Univ. of California, San Diego  
*Evolution of innate antiviral immunity***Sonja M. Best**, NIAID, NIH  
*Restriction of flavivirus replication by TRIM proteins***Saumendra N. Sarkar**, Univ. of Pittsburgh Sch. of Med.  
*New insights in the mechanism of action of OAS-family proteins***Meike Dittmann**, New York Univ. Sch. of Med.  
*Innate and intrinsic barriers of respiratory virus infections***Daved H. Fremont**, Washington Univ. Sch. of Med.  
*Mechanisms of viral immune evasion***Brian M. Sullivan**, Scripps Res. Inst.  
*T cell responses and platelet function during viral hemorrhagic fever*

## MONDAY, MAY 15, 8:00 AM

### *Major Symposium E: Communication across Barriers at the Skin and Mucosal Surfaces*

Ballroom A

#### Chairs:

**Hiroshi Kiyono**, Univ. of Tokyo, Japan  
**Cathryn Nagler**, Univ. of Chicago

#### Speakers:

**Hiroshi Kiyono**, Univ. of Tokyo, Japan  
*Paneth, mesenchymal, and innate lymphoid cell alliance as an immunological firewall for commensal and pathogenic microorganisms*

**Ken Cadwell**, New York Univ. Sch. of Med.  
*Host-microbiome interactions and inflammatory bowel disease*

**Adrian C. Hayday**,\* Francis Crick Inst. and King's Col. London, United Kingdom  
*Epithelia use organ-specific butyrophilin-like molecules to compose local T cell compartments*

**Daniel Mucida**, Rockefeller Univ.  
*Adaptation to the gut tissue: implications for immunity and tolerance*

**Cathryn Nagler**, Univ. of Chicago  
*Regulation of allergic sensitization to food by commensal bacteria*

**Heidi H. Kong**, NCI, NIH  
*Host-microbial interactions at the skin surface*

### *Major Symposium F: Neutrophil Function in Autoimmunity, Infection, and Cancer*

Ballroom B

#### Chairs:

**Mariana J. Kaplan**, NIAMS, NIH  
**Clifford A. Lowell**, Univ. of California, San Francisco

#### Speakers:

**Clifford A. Lowell**, Univ. of California, San Francisco  
*Calcium signaling mechanisms in neutrophils*

**Hongbo R. Luo**, Harvard Med. Sch.  
*Gasdermin D in neutrophils: function and mechanism of activation*

**Sarah R. Walmsley**, Univ. of Edinburgh, United Kingdom  
*Hypoxia and the innate immune response*

**Attila Mócsai**, Semmelweis Univ., Hungary  
*Neutrophil signaling during inflammatory disease models*

**Mariana J. Kaplan**, NIAMS, NIH  
*Neutrophils as promoters of systemic autoimmunity*

**Evgeniy B. Eruslanov**, Univ. of Pennsylvania  
*Tumor-associated neutrophils with antigen-presenting cell features in human lung cancer*

## TUESDAY, MAY 16, 8:00 AM

### *Major Symposium G: Many Shades of Grey: Multifaceted Nature of Immune Suppression in Cancer*

Ballroom A

#### Chairs:

**Dmitry I. Gabrilovich**, Wistar Inst.  
**Suzanne Ostrand-Rosenberg**, Univ. of Maryland, Baltimore County

#### Speakers:

**Dmitry I. Gabrilovich**, Wistar Inst.  
*Regulation of immune responses in cancer by myeloid-derived suppressor cells*

**Juan Cubillos-Ruiz**, Weill Cornell Med.  
*Abnormal ER stress responses as drivers of immune cell dysfunction in cancer*

**Elizabeth A. Repasky**, Roswell Park Cancer Inst.  
*Stress and immunosuppression: a matter of degree?*

**Joseph D. Rosenblatt**, Univ. of Miami Miller Sch. of Med.  
*The emerging role of B regulatory cells in regulating antitumor immunity*

**Jeffrey C. Rathmell**, Vanderbilt Univ. Med. Ctr.  
*Metabolic barriers to immunity*

**Suzanne Ostrand-Rosenberg**, Univ. of Maryland, Baltimore County  
*The good, the bad, and the in-between: immune suppression, obesity, and tumor progression*

### *Major Symposium H: Germinal Centers: Islands of Diversity*

Ballroom B

#### Chairs:

**Garnett H. Kelsoe**, Duke Univ.  
**Patricia J. Gearhart**, NIA, NIH

#### Speakers:

**Garnett H. Kelsoe**, Duke Univ.  
*Introduction*

**Cristina Rada**, MRC Lab. of Molec. Biol., United Kingdom  
*Targeting and regulation of mammalian cytidine deaminases*

**Patricia J. Gearhart**, NIA, NIH  
*Components of somatic hypermutation*

**Gabriel Victora**, Rockefeller Univ.  
*Clonal dynamics in germinal centers*

**Mark J. Shlomchik**, Univ. of Pittsburgh Sch. of Med.  
*Signaling and selection in the germinal center*

**Ulf Klein**, Univ. of Leeds, United Kingdom  
*Molecular control of the germinal center B cell reaction*

**Garnett H. Kelsoe**, Duke Univ.  
*Selection by antigen in germinal centers*

\* British Society for Immunology Lecturer

## AAI PROGRAM COMMITTEE

*Back to School: A Review of Four Fast-Moving Fields*

FRIDAY, MAY 12, 2:30 PM – 4:30 PM

**Chairs:**

**Wendy L. Havran**, Scripps Res. Inst; AAI Program Committee Chair  
**Dorian B. McGavern**, NINDS, NIH

**Speakers:**

**Ellen V. Rothenberg**, California Inst. of Technol.  
*Transcriptional and epigenetic mechanisms regulating lymphocyte fate*

**Kathy D. McCoy**, Univ. of Calgary, Canada  
*The influence of the microbiome on systemic immunity*

**William R. Schief**, Scripps Res. Inst.  
*Germline-targeting vaccine design for HIV*

**Dorian B. McGavern**, NINDS, NIH  
*Imaging the immune response*

This workshop intends to bring a broad audience up-to-date on a few emerging or rapidly changing fields or areas of technological innovation. Expert lecturers will provide an overview of each trending topic with an emphasis on communicating big picture concepts.

## AAI PUBLICATIONS COMMITTEE

*Publish or Perish? Pearls and Perils in Writing and Reviewing Scientific Manuscripts*

SATURDAY, MAY 13, 10:15 AM – 12:15 PM

**Chairs:**

**Bethany B. Moore**, Univ. of Michigan; AAI Publications Committee Chair

**Pamela J. Fink**, Univ. of Washington Sch. of Med.; Editor-in-Chief,  
*The Journal of Immunology*

**Speakers:**

**Bethany B. Moore**, Univ. of Michigan  
*Ready, set, write...maintaining momentum in manuscript preparation*

**Kristin A. Hogquist**, Univ. of Minnesota  
*Responding to reviewers: what you want to say and what you should say*

**Michael P. Cancro**, Univ. of Pennsylvania Sch. of Med.  
*How to review scientific manuscripts: the forest or the trees?*

**Pamela J. Fink**, Univ. of Washington Sch. of Med.  
*Ethical issues in scientific publishing: just because you CAN doesn't mean you SHOULD*

Your data are good and now it's time to write the manuscript. What steps are essential to tell the story clearly and convincingly? What is the best way to present your data? Once the manuscript is reviewed, how should you respond to the reviewer comments? What ethical pitfalls should you be aware of in order to avoid possible problems? If you would like to become a reviewer, what do you need to know about how to review a manuscript? These and other questions will be addressed in this session sponsored by the AAI Publications Committee.

## AAI EDUCATION COMMITTEE

*Immunology Teaching Interest Group*

SATURDAY, MAY 13, 11:00 AM – 1:00 PM

**Chairs:**

**Julie M. Jameson**, California State Univ., San Marcos  
**David W. Mullins**, Dartmouth Col.

**Panelists:**

**Manoj K. Mishra**, Alabama State Univ.  
*Engaging undergraduate students in immunology through problem-based learning modules*

**David W. Mullins**, Dartmouth Col.  
*Digital communication and social media to connect with the modern student*

**Keith E. Garrison**, St. Mary's Col. of California  
*Undergraduate clinical lab simulation using ELISA*

**Devavani Chatterjea**, Macalester Col.  
*Discerning, crafting, and telling immunological stories: a semester-long scaffolded writing project for beginning immunologists*

**Edith Porter**, California State Univ., Los Angeles  
*Teaching students how to formulate research questions: adaptation of the question formulation technique to the upper-division immunology curriculum*

Are you looking for new ideas or strategies to enliven and improve your teaching? If so, please join us for this special interest group which will focus on strategies that instructors can use to successfully convey immunology concepts to students at the undergraduate and graduate level. Topics will include the applications of problem-based learning, the use of digital communication and social media in modern teaching, strategies for teaching laboratory methods, and more. The session will end with structured breakout discussion groups for undergraduate and graduate/medical school teaching. Current educators, new faculty, and trainees with an interest in teaching are welcome.



*The AAI Public Policy Fellows hold informal sessions at the AAI booth to talk about the program with interested AAI members. See page XII for this year's schedule.*

## AAI MINORITY AFFAIRS COMMITTEE

### *Careers Roundtable and Speed Networking Session*

SATURDAY, MAY 13, 11:45 AM – 2:15 PM

#### Chair:

**Cheríe L. Butts**, Biogen; AAI Minority Affairs Committee Chair

Networking skills have never been more crucial to ensure success for early/mid-career scientists, including those traditionally under-represented in biomedical research. At the roundtable, take advantage of the opportunity to meet in small-group format with accomplished, senior immunologists to hear how they have handled the career challenges you now face and learn what they believe will work for you today. Then practice networking in a relaxed environment offering a structured networking exercise and personalized feedback on communicating your scientific interests/objectives most effectively. Scientists and trainees of all backgrounds are encouraged to attend! *Registration Fee: \$25 (Includes lunch; coffee/cookies during networking hour.)*

#### Discussion topics and table leaders:

##### **Grad Student: finding a mentor, setting sights on postdoc training**

*Table Leaders:* **Claudia Jakubzick**, Natl. Jewish Hlth.;  
**Luis A. Sanchez-Perez**, Duke Univ.; **Tonya Webb**, Univ. of Maryland;  
**Harlan Jones**, Univ. of North Texas Hlth. Sci. Ctr.

##### **Postdoc: finding a mentor, setting sights on a faculty position**

*Table Leaders:* **Mireia Guerau-de-Arellano**, Ohio State Univ.;  
**Charlotte Vines**, Univ. of Texas, El Paso; **Eduardo Davila**, Univ. of Maryland Greenebaum Cancer Ctr.

##### **Junior Faculty: preparing for promotion and tenure**

*Table Leaders:* **Robert J. Binder**, Univ. of Pittsburgh; **Floyd Wormley**, Univ. of Texas, San Antonio; **Joseph Larkin III**, Univ. of Florida

##### **NEW! Mid-career Faculty: creative strategies for maintaining momentum in funding, research, people management**

*Table Leaders:* **Arturo Casadevall**, Johns Hopkins Bloomberg Sch. of Publ. Hlth.; **Avery August**, Cornell Univ. Col. of Vet. Med.;  
**Prosper N. Boyaka**, Ohio State Univ.

##### **Academia or Industry: how to decide (or switch sides)**

*Table Leaders:* **Jonathan A. Deane**, GNF/Novartis; **Robert Balderas**, BD Biosciences; **Margaret Bynoe**, Cornell Univ. Col. of Vet. Med.

##### **Government Agency Careers: CDC, FDA, NIH**

*Table Leaders:* **Marta Catalfamo**, Georgetown Univ.;  
**Charles Egwuagu**, NEI, NIH

##### **Non-bench Research Science Careers – e.g., scientific publishing; entrepreneurship; intellectual property/patent law; scientific non-profits/foundations**

*Table Leaders:* **James W. Lillard**, Morehouse Sch. of Med. and JYANT Technologies, Inc.; **Thandi M. Onami**, Bill & Melinda Gates Fndn. (Global Health – HIV Vaccines); **Fabiola V. Rivas**, Cell Press

## AAI VETERINARY IMMUNOLOGY COMMITTEE JOINT SYMPOSIUM AND AMERICAN ASSOCIATION OF VETERINARY IMMUNOLOGISTS (AAVI)

### *Tumor Immunotherapy in Comparative Oncology*

SATURDAY, MAY 13, 12:30 PM – 2:30 PM

#### Chairs:

**Crystal L. Loving**, Natl. Animal Dis. Ctr., ARS, USDA; AAVI Veterinary Immunology Committee Chair  
**Radhey Kaushik**, South Dakota State Univ.; AAVI President

#### Speakers:

**Nicola J. Mason**, Univ. of Pennsylvania Sch. of Vet. Med.  
*CAR T cell therapy in dogs with hematological malignancies*

**Lawrence B. Schook**, Univ. of Illinois Col. of Agricultural, Consumer and Envrn. Sci.

*The Oncopig Cancer Model (OCM): a platform for transitional, translational and transformative advances in cancer research*

**David M. Vail**, Univ. of Wisconsin Sch. of Vet. Med.  
*Defining the value of comparative cancer immunotherapy clinical trials in companion species*

**Jaime F. Modiano**, Univ. of Minnesota Col. of Vet. Med.  
*Opportunities to accelerate translation of cancer immunotherapy through companion animal trials*

This symposium will feature approaches for cancer immunotherapy relevant to both human and veterinary health, with an emphasis on immune system recognition and activation. Various active and passive immunotherapy approaches will be presented, highlighting the ability of antibodies and immune cells to destroy tumor cells while sparing healthy cells. The symposium will highlight recent advances in comparative tumor immunology that demonstrate translational cohesion and support the current “One Health” approach to identify scientific commonalities and medical treatments that benefit both humans and animals.

## AAI CLINICAL IMMUNOLOGY COMMITTEE

### *Lymphocyte Engineering for Cancer and Beyond*

SATURDAY, MAY 13, 3:45 PM – 5:45 PM

#### Chairs:

**Thomas F. Gajewski**, Univ. of Chicago Med. Ctr.; AAI Clinical Immunology Committee Chair  
**Agnes M. Azimzadeh**, Univ. of Maryland

#### Speakers:

**Marcela V. Maus**, Massachusetts Gen. Hosp.  
*The human T cell as a therapeutic drug*

**David W. Scott**, Uniformed Serv. Univ. of Hlth. Sci.  
*Driving CARs to BARs: the road to engineered human antigen-specific regulatory and cytotoxic T cells*

**Malcolm K. Brenner**, Baylor Col. of Med.  
*Adoptive immunotherapy of cancer: beyond the B cell barrier*

**Charles L. Sentman**, Geisel Sch. of Med., Dartmouth  
*Design and engineering of immune receptors for adoptive cell therapy*

The adoptive transfer of specific lymphocyte subsets has been pursued as a strategy for immunotherapy over the past several decades, either for immune potentiation or immune suppression. Advances in genetic engineering technologies have enabled the reprogramming of lymphocytes, providing these cells with new specificities and even new functional attributes. Perhaps the most advanced of these strategies in clinical development is the application of chimeric antigen receptor (CAR)-transduced T cells for the treatment of B cell malignancies. This session will explore the diversity of approaches being investigated in lymphocyte engineering, both in the context of cancer and in other clinical scenarios.

### AAI EDUCATION COMMITTEE

#### *Careers in Biotech: Panel Discussion and Networking*

SATURDAY, MAY 13, 7:00 PM – 9:00 PM

##### Chair:

**Kerry A. Casey**, MedImmune

##### Panelists:

**Ann Field**, Associate Director, Research Project and Portfolio Management, MedImmune

**Andrea Itano**, Vice President, Head of Tempero Discovery Performance Unit, GlaxoSmithKline

**Ingrid L. Scully**, Senior Principal Scientist, Pfizer

**Matthew Sleeman**, Executive Director, Immunology & Inflammation, Regeneron Pharmaceuticals, Inc.

Many opportunities exist in industry for scientists with advanced degrees. There are positions in laboratory research, program management, business development, regulatory affairs, clinical trials oversight, medical liaison, and more. This panel features scientists employed in a variety of positions in industry discussing their career paths and the skills required for success in each. Following the panel discussion, enjoy casual conversation with the speakers and other scientists from industry at a networking reception.

### AAI EDUCATION COMMITTEE AND AAI COMMITTEE ON THE STATUS OF WOMEN

#### *Careers in Science Roundtable*

SUNDAY, MAY 14, 11:30 AM – 1:00 PM

##### Chair:

**Virginia Shapiro**, Mayo Clin.; AAI Committee on the Status of Women Chair

At this popular session, you'll have the opportunity to meet with scientists at your own career stage and with more experienced scientists to explore specific career issues important to men and women in science today. Learn what others are thinking and gain insights into issues you are confronting in your own situation. Recently added topics offer insights into international opportunities in science, NIH Study Sections, considerations for scientists in M.D.-Ph.D. careers, and a number of ways scientists contribute to the field in non-research careers. Choose from these and other topics related to the environment you work in (academic research, biotech industry, governmental agencies, non-profits), the transitions from specific career stages, or issues in balancing career and family in any career path. Don't miss this great networking opportunity! *Registration Fee: \$25 (Lunch included.)*

##### Discussion topics and table leaders:

##### Research Careers in Academia

- Graduate student to postdoc: finding a postdoc, interviewing  
*Table Leaders:* **Steven M. Varga**, Univ. of Iowa; **Subbarao Bondada**, Univ. of Kentucky; **Ashok Kumar**, Children's Hosp. of East Ontario Res. Inst.; **Arash Grakoui**, Emory Univ.; **Chander Raman**, Univ. of Alabama, Birmingham; **Michelle A. Kutzler**, Drexel Univ. Col. of Med.; **Lori R. Covey**, Rutgers Univ.; **Klaus Ley**, La Jolla Inst. for Allergy and Immunol.; **Tonya J. Webb**, Univ. of Maryland Sch. of Med.
- Postdoc to PI: finding a position, interviewing, negotiating, lab start-up  
*Table Leaders:* **Lauren A. Zenewicz**, Univ. of Oklahoma Hlth. Sci. Ctr.; **Bao Q. Vuong**, City Col. of New York; **Damian L. Turner**, Williams Col.; **Lisa K. Denzin**, Rutgers Univ.; **Heather R. Conti**, Univ. of Toledo;

### SPECIAL ACTIVITIES AT THE AAI BOOTH

Visit the AAI Booth for the following activities throughout IMMUNOLOGY 2017™:

SATURDAY, MAY 13

- 2:30-3:45 PM: • Meet *ImmunoHorizons* Co-Editor-in-Chief Leslie J. Berg and Pamela J. Fink, Editor-in-Chief of *The Journal of Immunology*.  
• Learn about AAI Minority Affairs Committee activities from Cherié Butts, Chair, AAI Minority Affairs Committee.
- 3:45-4:30 PM: • Meet the AAI Public Policy Fellows.

SUNDAY, MAY 14

- 2:30-3:45 PM: • Meet the AAI Public Policy Fellows.  
• Meet Pamela J. Fink, Editor-in-Chief of *The Journal of Immunology* and *ImmunoHorizons* Co-Editor-in-Chief Michael S. Krangel.

MONDAY, MAY 15

- 2:30-3:45 PM: • Learn about the Career Advisory Board (CAB) from Virginia Shapiro, Chair, Committee on the Status of Women.



AAI member Bernadette Marrero with Cherié Butts, Chair, AAI Minority Affairs Committee

Fotini Gounari, Univ. of Chicago; Khashayarsha Khazaie, Mayo Clin.; Jennifer A. Punt, Columbia Univ. Med. Ctr.; Pooja Jain, Drexel Univ. Col. of Med.; Lyse A. Norian, Univ. of Alabama, Birmingham

- New PI

- Attracting students and postdocs

*Table Leaders:* Laura A. Solt, Scripps Res. Inst.;

Louise M. D'Cruz, Univ. of Pittsburgh

- Preparing for promotion

*Table Leaders:* Yina H. Huang, Dartmouth Geisel Sch. of Med.;

Lisa H. Butterfield, Univ. of Pittsburgh

- Negotiating an academic position

*Table Leaders:* Malini Raghavan, Univ. of Michigan;

Janice S. Blum, Indiana Univ. Sch. of Med.

- Undergraduate institutions: finding the balance in teaching, doing research

*Table Leaders:* Charlotte M. Vines, Univ. of Texas, El Paso;

Penny E. Shockett, Southeastern Louisiana Univ.;

Julie M. Jameson, California State Univ., San Marcos

- Mentoring effectively

*Table Leaders:* Partha Sarathi Biswas, Univ. of Pittsburgh;

Lawrence P. Kane, Univ. of Pittsburgh

#### Networking Skills

- How to build a network for postdocs

*Table Leaders:* Paula M. Oliver, Univ. of Pennsylvania;

Amanda C. Poholek, Univ. of Pittsburgh;

Elizabeth A. Repasky, Roswell Park Cancer Inst.

- Networking skills for PIs

*Table Leaders:* Madeleine W. Cunningham, Univ. of Oklahoma Hlth.

Sci. Ctr.; Suzanne Ostrand-Rosenberg, Univ. of Maryland,

Baltimore County

#### Career and Family: balancing parenthood and career; the dual career couple

*Table Leaders:* Cathryn Nagler, Univ. of Chicago;

Laura Santambrogio, Albert Einstein Col. of Med.

#### Careers in Biotech and Industry: moving from academia to industry and vice versa

*Table Leaders:* Andrew C. Chan, Genentech;

Divya Sagar, MedImmune; Saifur Rahman, MedImmune;

Jennifer Towne, Janssen Therapeutics; Laura L. Carter, Lycera Corp.;

Catherine J. McMahan, Emergent BioSolutions; Mandy J. McGeachy,

Univ. of Pittsburgh

#### Careers at Governmental Agencies

*Table Leaders:* Daniela Vertelyi, FDA; Pam L. Schwartzberg, NHGRI,

NIH; Joan K. Lunney, USDA; Alison Deckhut Augustine, NIAID, NIH;

Jonathan W. Yewdell, NIAID, NIH

#### NIH Study Section Insights

- Grant writing for fellowships/transition awards

*Table Leaders:* Maureen Ann McGargill, St. Jude Children's Res.

Hosp.; Michael A. Farrar, Univ. of Minnesota; Kristin A. Hogquist,

Univ. of Minnesota

- Grant writing for PIs

*Table Leaders:* Virginia Shapiro, Mayo Clin.; Mark L. Lang, Univ.

of Oklahoma Hlth. Sci. Ctr.; Robert J. Binder, Univ. of Pittsburgh;

Catherine C. "Lynn" Hedrick, La Jolla Inst. for Allergy and Immunol.

#### The Physician Scientist: balancing clinical and research duties

*Table Leaders:* Saad Kendarian, Mayo Clin.; Penelope A. Morel,

Univ. of Pittsburgh

#### Research from the M.D., Ph.D. Perspective

*Table Leader:* Ifor R. Williams, Emory Univ.

#### Non-Research Careers for Scientists: careers enabling scientists to advance the field away from the bench

- Scientific publishing

*Table Leaders:* Ellen C. Fox, AAI, *The Journal of Immunology*;

Angela Colmone, AAAS, *Science Immunology*

- Opportunities for scientists in foundations/non-profits

*Table Leaders:* M. Michele Hogan, AAI, Executive Director;

Susanna F. Greer, American Cancer Society

- Careers in technology transfer

*Table Leaders:* Wendy Martin, Univ. of Maryland, Baltimore County;

Mark L. Rohrbach, Office of Intramural Research, NIH

- Careers in science policy

*Table Leaders:* Lauren G. Gross, AAI, Public Policy and Government

Affairs; Carrie D. Wolinetz, Office of Science Policy, NIH

#### International Opportunities in Science

*Table Leaders:* Susan John, Kings Col. London; John E. Connolly,

Inst. of Molecular and Cell Biol., Singapore

## AAI COMMITTEE ON PUBLIC AFFAIRS

### *Biomedical Research Priorities in the New Administration and Congress*

MONDAY, MAY 15, 10:15 AM – 12:15 PM

#### Chair:

Beth A. Garvy, Univ. of Kentucky, AAI Committee on Public Affairs Chair

#### Speakers:

TBA

A new presidential administration can usher in a great deal of change, including new leadership in key scientific posts who will help implement the president's agenda and fulfill the missions of their agencies. This session will explore President Donald Trump's budget and policy priorities, as well as the priorities of the Republican-led Congress, in the area of biomedical research. What changes can we expect, and what issues are likely to dominate the debate? Join the AAI Committee on Public Affairs in welcoming experts who can share important insights and answer pivotal questions.

## AAI VANGUARD LECTURE

*Sponsored by the AAI Minority Affairs Committee*

MONDAY, MAY 15, 11:15 AM – 12:15 PM

#### Chair:

Cherié L. Butts, Biogen; AAI Minority Affairs Committee Chair

#### Speaker:

Tyler J. Curiel, Univ. of Texas Hlth. Sci. Ctr., San Antonio

*Advancing towards optimized cancer immunotherapy*

Since 2003, the AAI meeting has featured a scientific lecture presented by an AAI member who is an under-represented minority investigator. Selected for their achievements in the field of immunology, presenters are among the most prominent investigators in the field and models of successful career development.



## NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES (NIAID) SYMPOSIUM

### *The New Frontier: Diverse Mouse Models for the Advancement of Human Immunology*

SATURDAY, MAY 13, 12:30 PM – 2:30 PM

#### Chairs:

**Sonia Sharma**, La Jolla Inst. for Allergy and Immunol.  
**Kentner Singleton**, NIAID, NIH

#### Speakers:

**David Masopust**, Univ. of Minnesota Med. Sch.  
*Immunology in a dirty mouse model*

**Sonia Sharma**, La Jolla Inst. for Allergy and Immunol.  
*Adapting the CRISPR/Cas9 screening approach to primary immune cells and in vivo models of immunological disease*

**Jeffrey A. Frelinger**, Univ. of Arizona  
*Using the Collaborative Cross to address complex genetics in immunology*

**Bruce Beutler**, Univ. of Texas Southwestern Med. Ctr.  
*The new forward genetics*

## NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES (NIEHS) SYMPOSIUM

### *B Cell Responses to Environmental Exposures*

SUNDAY, MAY 14, 8:00 AM – 10:00 AM

#### Chairs:

**Michael C. Humble**, NIEHS, NIH  
**Mary H. Foster**, Duke Univ.

#### Speakers:

**Mary H. Foster**, Duke Univ.  
*Respiratory silica exposure and humoral autoimmunity*

**Allen Rosenspire**, Wayne State Univ.  
*Developmental and environmental regulation of B cell receptor sensitivity potentially shapes the B cell repertoire*

**Norbert E. Kaminski**, Michigan State Univ.  
*Role of aryl hydrocarbon-dioxin interaction in impairment of human stem cell to B cell lineage commitment*

**Jennifer J. Schlezinger**, Boston Univ.,  
*Tributyltin suppresses B cell development by inducing apoptosis and altering the bone marrow microenvironment*

## NATIONAL INSTITUTE ON AGING (NIA) SYMPOSIUM

### *Innate Immunity and Aging*

SUNDAY, MAY 14, 10:15 AM – 12:15 PM

#### Chairs:

**Rebecca A. Fuldner**, NIA, NIH  
**Elizabeth J. Kovacs**, Univ. of Colorado, Denver

#### Speakers:

**Matthew T. Rondina**, Univ. of Utah  
*Platelet reprogramming in aging drives dysregulated inflammation*

**Ruth R. Montgomery**, Yale Univ.  
*Systems analysis of innate immune responses in aging*

**Charles T. Lutz**, Univ. of Kentucky  
*Sex of elderly individuals affects NK cell immunity*

**Elizabeth J. Kovacs**, Univ. of Colorado, Denver  
*Aging alters macrophage responses in the lung*

## NATIONAL CANCER INSTITUTE (NCI) SYMPOSIUM

### *BRD4, a Central Player in Cancer and Immune Responses*

MONDAY, MAY 15, 10:15 AM – 12:15 PM

#### Chairs:

**Devaiah Ballachanda**, NCI, NIH  
**T. Kevin Howcroft**, NCI, NIH

#### Speakers:

**Dinah S. Singer**, NCI, NIH  
*BRD4, linking chromatin structure and transcription*

**Cheng-Ming Chiang**, Univ. of Texas Southwestern Med. Ctr.  
*BRD4 in gene-specific targeting and cancer therapeutics*

**Rugang Zhang**, Wistar Inst.  
*BRD4 and antitumor immunity in ovarian cancer*

**Gerald V. Denis**, Boston Univ. Sch. of Med.  
*BET bromodomain proteins couple microenvironment cytokines to breast cancer progression*

## NATIONAL INSTITUTES OF HEALTH IMMUNOLOGY INTEREST GROUP (IIG) SYMPOSIUM

### *The Rising Face of NIH: New Investigators in the NIH Intramural Program. A Tribute to Bill Paul*

MONDAY, MAY 15, 10:15 AM – 12:15 PM

#### Chairs:

**Vanja Lazarevic**, NCI, NIH  
**Pamela Schwartzberg**, NHGRI, NIH

#### Speakers:

**Vanja Lazarevic**, NCI, NIH  
*Transcriptional regulation of autoreactive CD4<sup>+</sup> T cell responses*

**Daniel L. Barber**, NIAID, NIH  
*Protective and pathogenic CD4<sup>+</sup> T cell responses in Mycobacterium tuberculosis infection*

**Michail S. Lionakis**, NIAID, NIH  
*Bench to bedside study of candidiasis*

**Jennifer A. Martinez**, NIEHS, NIH  
*Non-canonical autophagy links efferocytosis to inflammation*

**Iain D. Fraser**, NIAID, NIH  
*Novel insight to cross-species innate immune signaling networks through systematic genetic screening*

**John S. Tsang**, NIAID, NIH  
*Systems/quantitative approaches to study immunology: from humans to single cells*

## CANADIAN SOCIETY FOR IMMUNOLOGY (CSI) SYMPOSIUM

### *Dendritic Cells and Macrophages in Health and Disease: Remembering Cheolho Cheong*

SATURDAY, MAY 13, 8:00 AM – 10:00 AM

#### Chairs:

**Clinton S. Robbins**, Peter Munk Cardiac Ctr., Toronto Gen. Res. Inst., Canada

**Myron I. Cybulsky**, Peter Munk Cardiac Ctr., Toronto Gen. Res. Inst., Canada

#### Speakers:

**Maziar Divangahi**, McGill Univ., Canada  
*Macrophages in pulmonary infectious diseases*

**Filip K. Swirski**, Massachusetts Gen. Hosp., Harvard Med. Sch.  
*Unleashing inflammation in cardiovascular disease*

**Jaehoon Choi**, Hanyang Univ., Korea  
*Dissecting the function of dendritic cells in atherosclerosis*

**Myron I. Cybulsky**, Peter Munk Cardiac Ctr., Toronto Gen. Res. Inst., Canada  
*Homeostatic and pathogenic functions of arterial intimal dendritic cells*

**Slava Epelman**, Peter Munk Cardiac Ctr., Toronto Gen. Res. Inst., Canada  
*Defining cardiac dendritic cell origins and functions*

## SOCIETY FOR IMMUNOTHERAPY OF CANCER (SITC) SYMPOSIUM

### *Mechanisms of Resistance to Immunotherapy*

SATURDAY, MAY 13, 8:00 AM – 10:00 AM

#### Chairs:

**Michael B. Atkins**, Georgetown Lombardi Comprehensive Cancer Ctr.  
**Mario Sznol**, Yale Sch. of Med.

#### Speakers:

**Steven A. Rosenberg**, NCI, NIH  
*Characterizing tumor-specific T cell responses in tumors with low mutation rates*

**Roger S. Lo**, Univ. of California, Los Angeles  
*Pathway and mutation analyses in melanoma tumors resistant to anti-PD-1*

**Ira Mellman**, Genentech  
*Insights into mechanisms of immune cell antagonism by PD-1 engagement in animal models*

**Louis M. Weiner**, Georgetown Lombardi Comprehensive Cancer Ctr.  
*Use of shRNA screens to identify novel immune checkpoints*

**Carla V. Rothlin**, Yale Univ.  
*Role of receptor tyrosine kinases in function of intratumoral monocytes and macrophages*

**Nicholas P. Restifo**, NCI, NIH  
*Role of oxygen in immunosuppression*

## AMERICAN SOCIETY OF GENE AND CELL THERAPY (ASGCT) SYMPOSIUM

### *Extending Genetically Modified T cells to CD19-Negative Hematologic Malignancies*

SATURDAY, MAY 13, 10:15 AM – 12:15 PM

#### Chairs:

**Catherine M. Bollard**, Children's Natl. Med. Ctr., George Washington Univ.

**Saar Gill**, Univ. of Pennsylvania

#### Speakers:

**Catherine M. Bollard**, Children's Natl. Med. Ctr., George Washington Univ.

*Overcoming TGF- $\beta$  as an immune evasion strategy*

**Terry J. Fry**, NCI, NIH  
*Potential for improving durability of CAR-induced remissions*

**Saar Gill**, Univ. of Pennsylvania  
*CAR T cells for myeloid malignancies*

**Maksim Mamonkin**, Baylor Col. of Med.  
*Targeting T cell malignancies with CAR T cells*

## CHINESE SOCIETY OF IMMUNOLOGY (CSI) SYMPOSIUM

### *Host Responses to Infection and Tumor*

SATURDAY, MAY 13, 10:15 AM – 12:15 PM

#### Chairs:

**Zhigang Tian**, Univ. of Sci. and Technol. of China, China

**Yang-Xin Fu**, Univ. of Texas Southwestern Med. Ctr.

#### Speakers:

**Zhigang Tian**, Univ. of Sci. and Technol. of China, China  
*Retrospective overview of 10 years of CSI guest symposium*

**Cuihua Liu**, CAS Key Lab. of Pathogenic Microbiol. and Immunol., Inst. of Microbiol., Chinese Acad. of Sci., China  
*Regulation of host cellular functions by M. tuberculosis secreted effector proteins*

**Xiaoyu Hu**, Inst. for Immunol., Tsinghua Univ., China  
*Regulation of inflammation by Notch signaling*

**Chenqi Xu**, Inst. of Biochem. and Cell Biol., Chinese Acad. of Sci., China  
*Membrane lipids and T cell signaling*

**Lilin Ye**, Inst. of Immunol., Third Military Med. Univ., China  
*T cells in B cell follicle*

**Lai Wei**, Sun Yat-sen Univ., China,  
*Epigenetic therapy for inflammatory disease targeting helper T cells*

## GERMAN SOCIETY FOR IMMUNOLOGY (DGfI) SYMPOSIUM

### *T Cell Subsets*

SATURDAY, MAY 13, 10:15 AM – 12:15 PM

#### Chairs:

**Michael Lohoff**, Philipps Univ. Marburg, Germany  
**Ari Waisman**, Univ. Mainz, Germany

#### Speakers:

**Michael Lohoff**, Philipps Univ. Marburg, Germany  
*Introduction of the DGfI*

**Alexander Scheffold**, Charité Berlin, Germany  
*Antigen specificity of human Foxp3 regulatory T cells in mucosal tolerance*

**Tobias Bopp**, Univ. Mainz, Germany  
*Context- and tissue-specific regulation of immunity and tolerance by protein kinase CK2*

**Friederike Berberich-Siebelt**, Univ. Würzburg, Germany  
*The role of NFAT for regulatory T cells*

**Dietmar Zehn**, Tech. Univ. München, Germany  
*T cell subset diversification in chronic infections*

**Magdalena Huber**, Philipps Univ. Marburg, Germany  
*The role of IRF1 and IRF4 in T cell differentiation*

## AMERICAN ASSOCIATION OF VETERINARY IMMUNOLOGISTS (AAVI) AND AAI VETERINARY IMMUNOLOGY COMMITTEE JOINT SYMPOSIUM

### *Tumor Immunotherapy in Comparative Oncology*

SATURDAY, MAY 13, 12:30 PM – 2:30 PM

#### Chairs:

**Crystal L. Loving**, Natl. Animal Dis. Ctr., ARS, USDA; AAVI Veterinary Immunology Committee Chair  
**Radhey Kaushik**, South Dakota State Univ.; AAVI President

#### Speakers:

**Nicola J. Mason**, Univ. of Pennsylvania Sch. of Vet. Med.  
*CAR T cell therapy in dogs with hematological malignancies*

**Lawrence B. Schook**, Univ. of Illinois Col. of Agricultural, Consumer and Envrn. Sci.  
*The Oncopig Cancer Model (OCM): a platform for transitional, translational and transformative advances in cancer research*

**David M. Vail**, Univ. of Wisconsin Sch. of Vet. Med.  
*Defining the value of comparative cancer immunotherapy clinical trials in companion species*

**Jaime F. Modiano**, Univ. of Minnesota Col. of Vet. Med.  
*Opportunities to accelerate translation of cancer immunotherapy through companion animal trials*

## JAPANESE SOCIETY FOR IMMUNOLOGY (JSI) SYMPOSIUM

### *Innate and Adaptive Helper Cells in Metabolism and Infection*

SATURDAY, MAY 13, 12:30 PM – 2:30 PM

#### Chairs:

**Hiroshi Takayanagi**, Univ. of Tokyo, Japan  
**Kasuyo Moro**, RIKEN Ctr. for Integrative Med. Sci., Japan

#### Speakers:

**Kasuyo Moro**, RIKEN Ctr. for Integrative Med. Sci., Japan  
*Discovery of group 2 innate lymphoid cells*

**Norifumi Iijima**, Natl. Inst. of Biomed. Innovation, Health, and Nutrition, Japan  
*Peripheral immune protection against mucosal virus infection*

**Kazuo Okamoto**, Univ. of Tokyo, Japan  
*IL-17-producing T cells in the autoimmune and bone diseases*

**Yusuke Endo**, Chiba Univ., Japan  
*Elucidation of the role of fatty acid metabolism in Th cell differentiation under obese conditions*

**Hiroshi Takayanagi**, Univ. of Tokyo, Japan  
*Osteoimmunology and autoimmune diseases*

## INTERNATIONAL COMPLEMENT SOCIETY (ICS) SYMPOSIUM

### *21<sup>st</sup> Century Complement: Beyond the Textbooks*

SATURDAY, MAY 13, 3:45 PM – 5:45 PM

#### Chairs:

**Andrea J. Tenner**, Univ. of California, Irvine  
**Berhane Ghebrehwet**, Stony Brook Univ. Hlth. Sci. Ctr.

#### Speakers:

**Jörg Köhl**, Univ. of Lübeck, Germany, and Cincinnati Children's Hosp.  
*Complement as a potential clinical driver and therapeutic target in Gaucher's disease*

**Baerbel Rohrer**, Med. Univ. of South Carolina  
*Complement and age-related macular degeneration – anaphylatoxins and RPE signaling*

**Rick A. Wetsel**, Univ. of Texas McGovern Med. Sch.  
*Complement response to Listeria monocytogenes: modulation of an intracellular beta-interferon response pathway*

**Suzan H. M. Rooijakkers**,\* Med. Microbiology Univ. Med. Ctr. Utrecht, Netherlands  
*Complement activation as a target for combating infections*

\* EMBO Young Investigator Lecture

# IMMUNOLOGY 2017™ GALA AT THE NEWSEUM

**MONDAY, MAY 15, 2017 | 7:00PM—9:30PM**  
**555 PENNSYLVANIA AVENUE, N.W. | WASHINGTON, D.C. 20001**

Celebrate science in style at the Newseum, the world-famous museum of news and journalism. You're invited to enjoy appetizers from Wolfgang Puck, drink, and dance the night away amidst front pages from 80 international newspapers, the powerful Pulitzer Prize Photographs Gallery, and interactive displays that tackle real-life reporting dilemmas. View entire sections of the Berlin Wall and explore where rock and roll and politics meet at the Newseum's newest exhibit, "Louder than Words." Before you leave, visit the balconies for breathtaking views of the White House and the U.S. Capitol building.

**The news has never been more exciting! Your entry and two drink tickets are included with your registration. Make plans to attend!**

**GENEROUSLY SPONSORED BY BIOLEGEND**



Open to all IMMUNOLOGY 2017™ registered attendees and their paid guests. Complimentary shuttle service will be provided throughout the event between the Newseum and the Walter E. Washington Convention Center. Meeting badge required.

**NEWSEUM**  
THERE'S MORE TO EVERY STORY.



## SOCIETY FOR GLYCOBIOLOGY (SfG) SYMPOSIUM

### *Emerging Roles for Glycans in Immunity and Novel Tools to Understand Them*

SATURDAY, MAY 13, 3:45 PM – 5:45 PM

#### Chairs:

**Brian A. Cobb**, Case Western Reserve Univ. Sch. of Med.  
**Natasha Zachara**, Johns Hopkins Univ. Sch. of Med.

#### Speakers:

**Brian A. Cobb**, Case Western Reserve Univ. Sch. of Med.  
*Simple tools for the study of the glycome: an HIV glycomic biomarker case report*

**Rick L. Tarleton**, Univ. of Georgia  
*Manipulating the host: the Trypanosoma cruzi immune interface*

**Natasha Zachara**, Johns Hopkins Univ. Sch. of Med.  
*Tuning OGT and OGA expression reveals a role for dynamic O-GlcNAcylation in regulating AMPK signaling and autophagy*

**Stefan Ruhl**, Univ. of Buffalo Sch. of Dent. Med.  
*Saliva glycoproteins as a first line oral host defense*

**Michael Demetriou**, Univ. of California, Irvine Sch. of Med.  
*Metabolic regulation of immunity and autoimmunity via N-glycosylation*

## AMERICAN SOCIETY FOR REPRODUCTIVE IMMUNOLOGY (ASRI) SYMPOSIUM

### *Innate Immunity and Pregnancy*

SUNDAY, MAY 14, 10:15 AM – 12:15 PM

#### Chairs:

**Kenneth D. Beaman**, Chicago Med. Sch., Rosalind Franklin Univ. of Med. and Sci.  
**Peter J. Hansen**, Univ. of Florida

#### Speakers:

**Kenneth D. Beaman**, Chicago Med. Sch., Rosalind Franklin Univ. of Med. and Sci.  
*Pregnancy: a model for cancer, not transplantation*

**Svetlana Dambaeva**, Chicago Med. Sch., Rosalind Franklin Univ. of Med. and Sci.  
*The role of IL-22 cytokine in pregnancy*

**John Bromfield**, Univ. of Florida  
*Ovarian innate immunity: impacts of uterine infection on oocytes and follicles*

**Peter J. Hansen**, Univ. of Florida  
*Programming of mammalian development by maternally derived cytokines*

## SOCIETY FOR LEUKOCYTE BIOLOGY (SLB) SYMPOSIUM

### *Innate Lymphoid Cells in Immunity*

SUNDAY, MAY 14, 10:15 AM – 12:15 PM

#### Chairs:

**Mark A. Wallet**, Univ. of Florida  
**Matthew J. Delano**, Univ. of Michigan  
**Louis B. Justement**, Univ. of Alabama

#### Speakers:

**Jörg H. Fritz**, McGill Univ., Canada  
*Regulation of group 2 innate lymphoid cells*

**Kristine-Ann Buella**, Case Western Reserve Univ. Sch. of Med.  
*The role of ILC2s activated by microbiota-induced IL-33 in the pathogenesis of Crohn's-like ileitis*

**Jamie Lynn Sturgill**, Virginia Commonwealth Univ.  
*Targeting sphingolipids as a novel control mechanism for ILC2-mediated lung inflammation*

**Yin Guo**, Vanderbilt Univ. Med. Ctr.  
*Interleukin-15 enables septic shock by maintaining natural killer cell integrity and function*

## INTERNATIONAL CYTOKINE AND INTERFERON SOCIETY (ICIS) SYMPOSIUM

### *Cytokines, Cells, and Disease*

SUNDAY, MAY 14, 12:30 PM – 2:30 PM

#### Chairs:

**Ram Savan**, Univ. of Washington  
**Katrin Mayer-Barber**, NIAID, NIH

#### Speakers:

**Keiko Ozato**, NICHD, NIH  
*Super enhancers in macrophage innate immunity: the role of BRD4*

**Ram Savan**, Univ. of Washington  
*Regulatory elements controlling type III IFN responses during viral infection*

**Lisa Osborne**, Univ. of British Columbia, Canada  
*Immune-mediated regulation of the intestinal virome*

**Ari Molofsky**, Univ. of California, San Francisco  
*Defining group 2 innate lymphoid cell tissue niches*

**Katrin Mayer-Barber**, NIAID, NIH  
*Inflammatory cytokines and lipid mediators in host resistance to tuberculosis*

**Howard Young**, NCI, NIH  
*The dark side of interferon-gamma*



# AAI Courses in Immunology

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## *2017 Introductory Course in Immunology*

July 11–16, 2017

UCLA Luskin Conference Center, Los Angeles, California

Director: **Juan Carlos Zúñiga-Pflücker, Ph.D.**

University of Toronto and Sunnybrook Research Institute

This comprehensive two-part course, taught by leading experts, provides an in-depth overview of the basics of immunology. This course is for students new to the discipline or those seeking more information to complement general biology or science training. **Part I (July 11–13)** is a detailed introduction to the basic principles of immunology and is suitable for students with a general biology background. **Part II (July 14–16)** is a clinically oriented lecture series focusing on specialty areas. Parts I and II may be taken independently at the discretion of the student.

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## *2017 Advanced Course in Immunology*

July 23–28, 2017

Seaport World Trade Center, Boston, Massachusetts

Director: **Ulrich H. von Andrian, M.D., Ph.D.**

Harvard Medical School and Ragon Institute at MGH, MIT and Harvard

Established in 1966, this intensive course is directed toward advanced trainees and scientists who wish to expand or update their understanding of the field. World-renowned immunologists will present recent advances in the biology of the immune system and address its role in health and disease. This is not an introductory course; attendees will need to have a firm understanding of the basic principles of immunology and laboratory techniques.

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For more information visit

**[www.aai.org/Education/Courses](http://www.aai.org/Education/Courses)**

Please direct inquiries to [meetings@aai.org](mailto:meetings@aai.org) or 301-634-7178.

## SOCIETY FOR NATURAL IMMUNITY (SNI) SYMPOSIUM

### *Natural Killer Cells and Cancer: From Basic Research to Clinical Application*

SUNDAY, MAY 14, 12:30 PM – 2:30 PM

#### Chairs:

**Adelheid Cerwenka**, German Cancer Res. Ctr., Germany  
**Hans-Gustaf Ljunggren**, Karolinska Inst., Sweden

#### Speakers:

**Thierry Walzer**, Ctr. International de Recherche en Infectiologie (CIRI), Lyon, France

*Regulation and role of mTOR in NK cells during antitumor responses*

**Mariapia A. Degli-Esposti**, Univ. of Western Australia, Australia  
*NK cells, viral infection, and transplantation*

**Jianhua Yu**, Ohio State Univ.

*Chimeric antigen receptor-redirected natural killer cells for cancer treatment*

**Jeffrey S. Miller**, Univ. of Minnesota

*Novel strategies to make NK cells remember and become antigen specific*

## AMERICAN SOCIETY OF TRANSPLANTATION (AST) SYMPOSIUM

### *Non-Antibody-Mediated Roles of B Cells in Auto- and Allo-immunity*

SUNDAY, MAY 14, 3:45 PM – 5:45 PM

#### Chairs:

**Maria-Luisa Alegre**, Univ. of Chicago

**David M. Rothstein**, Univ. of Pittsburgh Med. Ctr.

#### Speakers:

**Claudia Mauri**, Univ. Col. London, United Kingdom  
*Regulatory B cells in autoimmunity*

**David M. Rothstein**, Univ. of Pittsburgh Med. Ctr.

*Modulation of the immune system by regulatory and effector B cells*

**Geetha Chalasani**, Univ. of Pittsburgh

*Role of B cells in shaping T cell memory and chronic rejection*

**Anita S. Chong**, Univ. of Chicago

*Tolerance of alloreactive B cells in transplantation*



## KOREAN ASSOCIATION OF IMMUNOLOGISTS (KAI) AND ASSOCIATION OF KOREAN IMMUNOLOGISTS IN AMERICA (AKIA) SYMPOSIUM

### *Crosstalk between Phagocytes and T Cells*

SUNDAY, MAY 14, 3:45 PM – 5:45 PM

#### Chairs:

**Cheong-Hee Chang**, Univ. of Michigan Sch. of Med.

**Chang-Duk Jun**, Guangju Inst. of Sci. and Technol., Korea

#### Speakers:

**Minsoo Kim**, Univ. of Rochester

*Neutrophil responses and resolution of flu infection in the airways*

**Wan-Uk Kim**, Catholic Univ. of Korea, Seoul St. Mary's Hosp., Korea

*Role of nuclear factor of activated T cells 5 in macrophage survival and chronic arthritis*

**Myong-Hee Sung**, NIA, NIH

*Epigenomic profiling to identify optimal steroid intervention of macrophage inflammatory responses*

**Seung-Hyo Lee**, Korea Advanced Inst. of Sci. and Technol., Korea

*Regulation of immune responses by lymphatic system*

**Yusang Gwack**, Univ. of California, Los Angeles

*Novel mechanisms of CRAC channel activation in T cells*

**Chang-Duk Jun**, Guangju Inst. of Sci. and Technol., Korea

*A pivotal role for TAGLN2 in Toll-like receptor-induced phagocytosis*

## INTERNATIONAL SOCIETY OF NEUROIMMUNOLOGY (ISNI) SYMPOSIUM

### *Innate and Adaptive Immunity in Neurodegenerative Disorders*

MONDAY, MAY 15, 10:15 AM – 12:15 PM

#### Chairs:

**Jonathan Kipnis**, Univ. of Virginia

**Ari Waisman**, Univ. of Mainz, Germany

#### Speakers:

**Maya Koronyo-Hamaoui**, Cedars Sinai Med. Ctr.

*Therapeutic roles of monocytes in Alzheimer's disease*

**Frauke Zipp**, Univ. of Mainz, Germany

*Counteracting inflammatory attacks on the brain*

**Steve Lacroix**, Laval Univ., Canada

*Involvement of the IL-1 system in spinal cord cell death after injury*

**Michal Schwartz**, Weizmann Inst. of Sci., Israel

*Harnessing the immune system to protect the brain: the prospect of immune checkpoint blockade for treating Alzheimer's disease*

## INTERNATIONAL SOCIETY FOR ADVANCEMENT OF CYTOMETRY (ISAC) SYMPOSIUM

### *The Many Colors of Flow, High Complexity Flow, and Image Cytometry*

MONDAY, MAY 15, 12:30 PM – 2:30 PM

#### Chairs:

**Andreas Radbruch**, Deutsches Rheuma-Forschungszentrum, Germany  
**Paul K. Wallace**, Roswell Park Cancer Inst.

#### Speakers:

**S. Alice Long**, Benaroya Res. Inst.  
*Identifying mechanisms of failed tolerance in human autoimmunity*

**Pia Kvistborg**, Netherlands Cancer Inst., Netherlands  
*Understanding immunotherapy by dissecting the tumor-specific T cell response*

**Pratip K. Chattopadhyay**, NIAID, NIH  
*Precision immunology through deeper, single cell cytometry*

**Jonathan M. Irish**, Vanderbilt Univ.  
*Learning and communicating cell identity in the context of cancer microenvironments*

**David W. Hedley**, Princess Margaret Cancer Ctr., Canada  
*High complexity of histological sections using imaging mass cytometry*

## SOCIETY FOR MUCOSAL IMMUNOLOGY (SMI) SYMPOSIUM

### *Environmental Sensors of Immune Regulation at Mucosal Surfaces*

MONDAY, MAY 15, 12:30 PM – 2:30 PM

#### Chairs:

**Lauren A. Zenewicz**, Univ. of Oklahoma Hlth. Sci. Ctr.  
**Joanne L. Viney**, SMI

#### Speakers:

**Liang Zhou**, Univ. of Florida  
*Regulation of innate lymphoid cell balance in the gut*

**Lauren A. Zenewicz**, Univ. of Oklahoma Hlth. Sci. Ctr.  
*Environmental regulation of the cytokine IL-22*

**Noah W. Palm**, Yale Sch. of Med.  
*Immunological profiling of the gut microbiota*

**Gary B. Huffnagle**, Univ. of Michigan  
*Pulmonary immunity, inflammation, and the microbiome*

## CHINESE SOCIETY OF IMMUNOLOGY, TAIWAN (CSIT) SYMPOSIUM

### *Recent Advances in Galectin Research*

TUESDAY, MAY 16, 8:00 AM – 10:00 AM

#### Chairs:

**Jenny P. Ting**, Univ. of North Carolina  
**Shie-Liang Hsieh**, Academia Sinica, Taiwan

#### Speakers:

**Betty A. Wu-Hsieh**, Col. of Med., Natl. Taiwan Univ., Taiwan  
*Galectin-3 negatively regulates innate cell response to fungal pathogen*

**Kuo-I Lin**, Academia Sinica, Taiwan  
*Galectins and O-GlcNAcylation in B cell activation and differentiation*

**Jr-Wen Shui**, Inst. of Biomed. Sci., Academia Sinica, Taiwan  
*Galectin-9 maintains epithelial immunity and regulates intestinal inflammation*

**Cheng-Lung Gu**, Chang-Gung Univ., Taiwan  
*Anti-IFN-gamma Ab in patients of mycobacterial diseases*

**Cheng-Yuan Kao**, Natl. Hlth. Res. Inst., Taiwan  
*A multi-pronged study reveals insights in dusp6 and gut microbiota in obesity resistance diseases*



## CAREER DEVELOPMENT SESSIONS

Through workshops, roundtables, and one-on-one counseling, IMMUNOLOGY 2017™ provides critical career development programs.

Career sessions and services this year include:

- Careers and Networking Roundtables (2)
- Careers in Biotech: Panel Discussion and Networking
- How to Convert Your CV into a Resumé (followed by one-on-one consulting)
- Immunology Teaching Interest Group
- International Opportunities in Science — *NEW!*
- Interviewing for a Job
- NIH Grants Workshop
- Publish or Perish? Pearls and Perils in Writing and Reviewing Scientific Manuscripts
- Secrets for a Successful Postdoctoral Fellowship

AAI is also offering an online and on-site Jobs Board free to meeting registrants and exhibitors and an NIH Grant Review and Funding Information Room.

### *International Opportunities in Science - NEW!*

FRIDAY, MAY 12, 2:30 PM – 4:00 PM

**Chair:**

**Courtney R. Pinard**, AAI, Education and Career Dev. Dept.

**Panelists:**

**John E. Connolly**, Inst. of Molecular and Cell Biol., Singapore

**Maziar Divangahi**, McGill Univ., Montréal, Canada

**Chen Dong**, Tsinghua Univ., Beijing, China

**Adrian C. Hayday**, King's Col. London, U.K.

**Hans-Martin Jack**, Univ. of Erlangen-Nürnberg, Erlangen, Germany

**Betty Wu-Hsieh**, Col. of Med., Natl. Taiwan Univ., Taipei, Taiwan

Working as a scientist outside of the United States requires curiosity, adaptability, and open-mindedness, which are qualities important for success in any career. Given the international reach of science, this new session will help immunologists learn about opportunities to gain professional experience beyond the United States. This panel features scientists employed at academic or research institutions around the globe. Panelists will discuss the postdoctoral fellowship and grant application process; the benefits of international training and employment; the challenges in finding science-related jobs outside of the U.S.; and the process of moving your lab to another country. This session is open to meeting attendees at all career stages.

### *How to Convert Your CV into a Resumé*

SATURDAY, MAY 13, 9:00 AM – 10:00 AM

**Chair:**

**Mary T. Litzinger**, AAI, Education and Career Dev. Dept.

**Speaker:**

**Derek Haseltine**, Director, Career Development Center, Baylor Col. of Med.

For anyone seeking a job outside of academia, how you present yourself on paper is critical. A well-prepared resumé can make all the difference in securing that interview. The focus of this session will be on the important elements of a resumé, the differences between a resumé and the standard academic curriculum vitae, and the information needed to make a good impression. In this special career development session, attendees will be instructed in how to transform their CVs into professional resumés. Small breakout sessions for individual consulting will follow from 10:30 AM to 12:30 PM. Bring your CV!

### *Publish or Perish? Pearls and Perils in Writing and Reviewing Scientific Manuscripts*

*Sponsored by the AAI Publications Committee*

SATURDAY, MAY 13, 10:15 AM – 12:15 PM

**Chairs:**

**Bethany B. Moore**, Univ. of Michigan; AAI Publications Committee Chair

**Pamela J. Fink**, Univ. of Washington Sch. of Med.; Editor-in-Chief, *The Journal of Immunology*

**Panelists:**

**Bethany B. Moore**, Univ. of Michigan

*Ready, set, write...maintaining momentum in manuscript preparation*

**Kristin A. Hogquist**, Univ. of Minnesota

*Responding to reviewers: what you want to say and what you should say*

**Michael P. Cancro**, Univ. of Pennsylvania Sch. of Med.

*How to review scientific manuscripts: the forest or the trees?*

**Pamela J. Fink**, Univ. of Washington Sch. of Med.

*Ethical issues in scientific publishing: just because you CAN doesn't mean you SHOULD*

Your data are good and now it's time to write the manuscript. What steps are essential to tell the story clearly and convincingly? What is the best way to present your data? Once the manuscript is reviewed, how should you respond to the reviewer comments? What ethical pitfalls should you be aware of in order to avoid possible problems? If you would like to become a reviewer, what do you need to know about how to review a manuscript? These and other questions will be addressed in this session sponsored by the AAI Publications Committee.



## Immunology Teaching Interest Group

Sponsored by the AAI Education Committee

SATURDAY, MAY 13, 11:00 AM – 1:00 PM

### Chairs:

**Julie M. Jameson**, California State Univ., San Marcos

**David W. Mullins**, Dartmouth Col.

### Panelists:

**Manoj K. Mishra**, Alabama State Univ.

*Engaging undergraduate students in immunology through problem-based learning modules*

**David W. Mullins**, Dartmouth Col.

*Digital communication and social media to connect with the modern student*

**Keith E. Garrison**, St. Mary's Col. of California

*Undergraduate clinical lab simulation using ELISA*

**Devavani Chatterjea**, Macalester Col.

*Discerning, crafting, and telling immunological stories: a semester-long scaffolded writing project for beginning immunologists*

**Edith Porter**, California State Univ., Los Angeles

*Teaching students how to formulate research questions: adaptation of the question formulation technique to the upper-division immunology curriculum*

Are you looking for new ideas or strategies to enliven and improve your teaching? If so, please join us for this special interest group which will focus on strategies that instructors can use to successfully convey immunology concepts to students at the undergraduate and graduate level. Topics will include the applications of problem-based learning, the use of digital communication and social media in modern teaching, strategies for teaching laboratory methods, and more. The session will end with structured breakout discussion groups for undergraduate and graduate/medical school teaching. Current educators, new faculty, and trainees with an interest in teaching are welcome.

## Careers Roundtable and Speed Networking Session

Sponsored by the AAI Minority Affairs Committee

SATURDAY, MAY 13, 11:45 AM – 2:15 PM

### Chair:

**Cher   L. Butts**, Biogen; AAI Minority Affairs Committee Chair

Networking skills have never been more crucial to ensure success for early/mid-career scientists, including those traditionally under-represented in biomedical research. At the roundtable, take advantage of the opportunity to meet in small-group format with accomplished, senior immunologists to hear how they have handled the career challenges you now face and learn what they believe will work for you today. Then practice networking in a relaxed environment offering a structured networking exercise and personalized feedback on communicating your scientific interests/objectives most effectively. Scientists and trainees of all backgrounds are encouraged to attend! *Registration Fee: \$25 (Includes lunch; coffee/cookies during networking hour.)*

### Discussion topics:

**Grad student:** finding a mentor, taking aim at postdoc training

**Postdoc:** finding a mentor, taking aim at a faculty position

**Junior faculty:** preparing for promotion and tenure

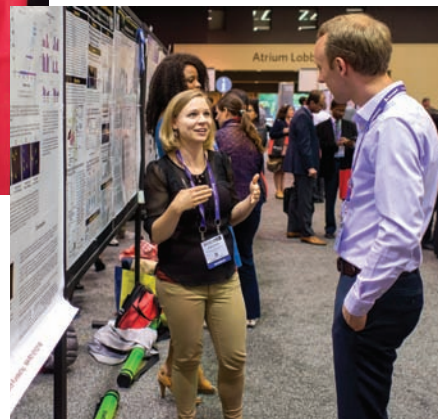
**NEW! Mid-career faculty:** creative strategies for maintaining momentum in funding, research, people management

**Academia or industry:** how to decide (or switch sides)

**Government agency careers:** CDC, FDA, NIH

**Non-bench research science careers** – e.g., scientific publishing; entrepreneurship; intellectual property/patent law; scientific non-profits/foundations

*For a complete list of table leaders please see page XI.*



## Careers in Biotech: Panel Discussion and Networking

Sponsored by the AAI Education Committee

SATURDAY, MAY 13, 7:00 PM – 9:00 PM

### Chair:

Kerry A. Casey, MedImmune

### Panelists:

**Ann Field**, Associate Director, Research Project and Portfolio Management, MedImmune

**Andrea Itano**, Vice President, Head of Tempero Discovery Performance Unit, GlaxoSmithKline

**Ingrid L. Scully**, Senior Principal Scientist, Pfizer

**Matthew Sleeman**, Executive Director, Immunology & Inflammation, Regeneron Pharmaceuticals, Inc.

Many opportunities exist in industry for scientists with advanced degrees. There are positions in laboratory research, program management, business development, regulatory affairs, clinical trials oversight, medical liaison, and more. This panel features scientists employed in a variety of positions in industry discussing their career paths and the skills required for success in each. Following the panel discussion, enjoy casual conversation with the speakers and other scientists from industry at a networking reception.

## Interviewing for a Job

SUNDAY, MAY 14, 10:15 AM – 11:15 AM

### Chair:

Mary T. Litzinger, AAI, Education and Career Dev. Dept.

### Speaker:

**Derek Haseltine**, Director, Career Development Center, Baylor Col. of Med.

This session will focus on tips and techniques to help you successfully navigate the interview process. Emphasis will be on how you can present yourself in the best possible light. You will also learn how to respond to unexpected questions. This session is open to anyone but is especially intended for student and postdoctoral attendees.

## NIH Grants Workshop: Demystifying the Grant Application Submission, Review, and Funding Processes

SUNDAY, MAY 14, 10:15 AM – 12:15 PM

### Chair:

Tina McIntyre, Center for Scientific Review, NIH

### Panelists:

**Tina McIntyre**, Scientific Review Officer, III Study Section, Immunology IRG, DPPS, CSR, NIH

**Deborah Hodge**, Scientific Review Officer, Immunology Fellowships and AREA Study Section, Immunology IRG, DPPS, CSR, NIH

**Alison Deckhut-Augustine**, Chief, Basic Immunology Branch, Division of Allergy, Immunology, and Transplantation, NIAID, NIH

**Priti Mehrotra**, Chief, Immunology Review Branch, Division of Extramural Activities, NIAID, NIH

**T. Kevin Howcroft**, Chief, Cancer Immunology and Hematology Etiology Branch, Division of Cancer Biology, NCI, NIH

This workshop will provide participants with an overview of NIH grant submission, assignment, review, and funding opportunities. Emphasis will be given to identification of the most appropriate funding agencies and mechanisms available through NIH, how to make an application “reviewer friendly,” and other strategies that contribute to applications that succeed in obtaining research funding. The workshop will also provide information on how to understand the peer-review system, which is essential to competing successfully for funding, with a focus on recent changes to the review process. NIH review and program staff will provide a broad array of expertise and encourage questions from seminar participants. This workshop is open to anyone interested in learning more about preparing an NIH grant application and obtaining NIH funding. Trainees and independent investigators are welcome.



# IMMUNOLOGY 2017™

Annual Meeting of The American Association of Immunologists

**May 12 - 16, 2017**

Walter E. Washington Convention Center  
Washington, D.C.

## Visit the AAI Jobs Board!

**A Free Recruiting Service for Registrants and Exhibitors  
Only at IMMUNOLOGY 2017™**

*Post Online and Meet On-site*

AAI is offering career services to both job seekers and employers through a Jobs Board free to meeting registrants and exhibitors at [www.immunology2017.org/jobs-board](http://www.immunology2017.org/jobs-board).

### Job Seekers

Whatever your career stage, use this career service at **IMMUNOLOGY 2017™** to enhance your professional development.

#### ■ Job Postings

Review the online AAI Jobs Board to identify postings you wish to pursue. View new Advance Postings through May 3. Watch for additional On-site Postings in the Exhibit Hall.

#### ■ Direct Access to Recruiters

Job postings will include recruiters' e-mail addresses so that you can contact them directly.

### Employers

Advertise your position on the virtual Jobs Board located on the **IMMUNOLOGY 2017™** website. By including a contact email, you will receive inquiries directly.

#### ■ Advance Postings

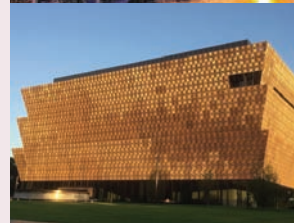
Postings will be accepted as of February 15 and will remain online until the end of the meeting. To post job listings in advance of the meeting, contact [meetings@aai.org](mailto:meetings@aai.org). Advance Postings must be submitted to AAI by May 3, 2017.

#### ■ On-site Postings

After May 3, 2017, employers may still advertise a job on the **IMMUNOLOGY 2017™** Jobs Board by visiting the AAI Office in the Walter E. Washington Convention Center between 9:00 AM and 5:00 PM. Ads submitted on-site will be posted on the Jobs Board in the Exhibit Hall.

### Save Thousands of Dollars in Recruiting Expenses

Take advantage of this complimentary hiring opportunity at **IMMUNOLOGY 2017™**. To register for the meeting, visit [www.immunology2017.org/register](http://www.immunology2017.org/register).



[WWW.IMMUNOLOGY2017.ORG](http://WWW.IMMUNOLOGY2017.ORG)

### *Careers in Science Roundtable*

*Sponsored by the AAI Education Committee and AAI Committee on the Status of Women*

SUNDAY, MAY 14, 11:30 AM – 1:00 PM

#### **Chair:**

**Virginia Shapiro**, Mayo Clin.; AAI Committee on the Status of Women Chair

At this popular session, you'll have the opportunity to meet with scientists at your own career stage and with more experienced scientists to explore specific career issues important to men and women in science today. Learn what others are thinking and gain insights into issues you are confronting in your own situation. Recently added topics offer insights into international opportunities in science, NIH Study Sections, considerations for scientists in M.D.-Ph.D. careers, and a number of ways scientists contribute to the field in non-research careers. Choose from these and other vital topics related to the environment you work in (academic research, biotech industry, governmental agencies, non-profits), the transitions from specific career stages, or issues in balancing career and family in any career path. Don't miss this great networking opportunity!  
*Registration Fee: \$25 (Lunch included.)*

#### **Discussion topics:**

##### **Research Careers in Academia**

- Graduate student to postdoc: finding a postdoc, interviewing
- Postdoc to PI: finding a position, interviewing, negotiating, lab start-up
- New PI
  - Attracting students and postdocs
  - Preparing for promotion
- Negotiating an academic position
- Undergraduate institutions: finding the balance in teaching, doing research
- Mentoring effectively

##### **Networking Skills**

- How to build a network for postdocs
- Networking skills for PIs

**Career and Family: balancing parenthood and career; the dual career couple**

**Careers in Biotech and Industry: moving from academia to industry and vice versa**

**Careers at Governmental Agencies**

##### **NIH Study Section Insights**

- Grant writing for fellowships/transition awards
- Grant writing for PIs

**The Physician Scientist: balancing clinical and research duties**

**Research from the M.D., Ph.D. Perspective**

**Non-Research Careers for Scientists: careers enabling scientists to advance the field away from the bench**

- Scientific publishing
- Opportunities for scientists in foundations/non-profits
- Careers in technology transfer
- Careers in science policy

#### **International Opportunities in Science**

*For a complete list of table leaders please see page XII.*

### *Secrets for a Successful Postdoctoral Fellowship*

MONDAY, MAY 15, 1:30 PM – 2:30 PM

#### **Speaker:**

**Lori Conlan**, Director, Office of Postdoctoral Services, NIH

A postdoctoral fellowship is the time to develop research skills you will need to succeed as an independent scientist. It is, however, just as important to realize that you need to prepare for a career path at the same time. This session will highlight ways of getting the most out of your postdoctoral fellowship, relating successfully with your mentor, and understanding how to use the resources available to you to ensure that your training prepares you adequately for a seamless transition into the next phase of your career.

### **NIH GRANT REVIEW AND FUNDING INFO ROOM**

NIH program and review staff will be available in the NIH Grant Review and Funding Information Room for individual conversations and consultations. A schedule will be posted online and on site to show specific times staff members will be available to answer questions about the scientific review process, grant/fellowship opportunities, and NIH institute-specific interests. Consultations will be available on a drop-in basis. No appointments are necessary.

**Rooms 304-306**



## POSTER SESSIONS AND BLOCK SYMPOSIA

Abstracts of unpublished, original research are presented during Poster Sessions and Block Symposia (oral presentations of poster data).

This is perhaps the most dynamic aspect of IMMUNOLOGY 2017™. Take part in face-to-face discussions with abstract authors and learn about their most recent, unpublished research. Poster Sessions will be held daily (unopposed by any other sessions) in the Exhibit Hall from 2:30 PM – 3:45 PM.

## VISIT THE AAI BOOTH (401) TO LEARN ABOUT AN EXCITING NEW AAI CAREER DEVELOPMENT RESOURCE

### *The Career Advisory Board (CAB)*

The Career Advisory Board (CAB) is a referral service that matches senior postdocs (start of fourth year and beyond) or early-career PIs with an established scientist who can provide the confidential advice needed to move a career forward.

CAB is sponsored by the Committee on the Status of Women and is open to all senior postdoc and early-career PI members of AAI.

## EXHIBIT HALL PASSPORT PROGRAM

**FILL OUT YOUR EXHIBIT HALL PASSPORT FOR A CHANCE TO WIN ONE OF THREE \$250 AMERICAN EXPRESS GIFT CARDS!**

Entries must be received by Monday, May 15, at 2:00 PM. The drawing will be held during the Poster Presentations on Monday, May 15, from 2:30 PM – 3:45 PM. You'll find your Passport in your meeting bag or you may pick one up at the AAI Booth (401).

## EXHIBITOR WORKSHOPS

Be sure to take advantage of the knowledge-building opportunities presented in Exhibitor Workshops. Located on the Exhibit Floor, these workshops explore exhibitors' latest technologies, products, and services through demonstrations and discussions.

*Workshops are planned and conducted by exhibitors; the listing of those workshops does not constitute endorsement of any products or services by AAI.*

**NOW OPEN FOR SUBMISSIONS!**

[www.immunohorizons.org](http://www.immunohorizons.org)



Editors-in-Chief

**Leslie J. Berg**  
University of Massachusetts  
Medical School

and

**Michael S. Krangel**  
Duke University  
Medical Center

**ImmunoHorizons** is a fully peer-reviewed journal committed to advancing the knowledge of immunology. All decisions are made by editors who are practicing scientists.

Questions? Email [infoih@aai.org](mailto:infoih@aai.org)



## SOCIAL EVENTS

**New Member Reception (By Invitation Only)***Sponsored by the AAI Membership Committee*

FRIDAY, MAY 12, 4:00 PM – 4:45 PM

(BADGE AND INVITATION REQUIRED)

AAI welcomes new Regular, Associate, and Postdoctoral Fellow members to meet each other at a relaxed gathering. Members of the AAI Membership Committee, AAI President Arlene Sharpe, and fellow Council members will join the new members for casual conversation and light refreshments.

**Opening Night Welcome Reception**

FRIDAY, MAY 12, 6:00 PM – 8:00 PM

WALTER E. WASHINGTON CONVENTION CENTER –  
BALLROOM FOYER – 3RD FLOOR

Following the President's Address, exit the Ballroom for the Opening Night Welcome Reception. Connect with friends, make new acquaintances, plan your week of science, and enjoy the views of D.C. Bring the complimentary drink ticket included with your meeting badge. Registered attendees only.

**The AAI Journals Editorial Boards Dinner and Meeting (By Invitation Only)***Generously sponsored by Sheridan Journal Services*

SATURDAY, MAY 13, 7:00 PM – 10:00 PM

Editorial Board members meet to discuss items of interest and concern regarding *The Journal of Immunology* and *ImmunoHorizons* specifically, and scientific publishing in general.

**Service Appreciation Reception (By Invitation Only)***Generously sponsored by BioLegend*

SUNDAY, MAY 14, 7:30 PM – 9:30 PM

(BADGE AND INVITATION REQUIRED)

AAI honors its dedicated member volunteers—committee members, editors, abstract programming chairs, and others—who have worked on the membership's behalf throughout the year (2016–2017) by giving generously of their time in support of the AAI mission.

**IMMUNOLOGY 2017™ Gala***Generously sponsored by BioLegend*

MONDAY, MAY 15, 7:00 PM – 9:30 PM

NEWSEUM  
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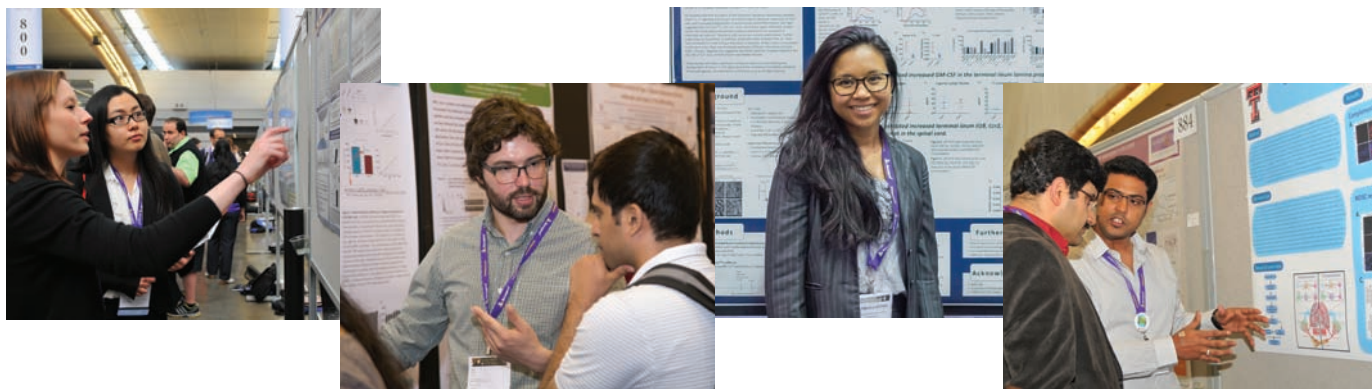
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## FRIDAY, MAY 12

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2:30 PM – 4:30 PM

Cell Subset and Pathway Dysregulation in Human Disease I  
Environmental Triggers of Autoimmunity  
Immune Regulation at Mucosal Surfaces  
Molecular Cascades and Host Immunity  
NK and CD8 T Cell Activity during Virus Infection  
Novel Strategies for Cancer Vaccines  
Technological Innovations I

## SATURDAY, MAY 13

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8:00 AM – 10:00 AM

CD8 T Cell Responses during Acute and Chronic Virus Infections  
Cytokines Shape Host Immune Responses to Infection  
Inflammation and Infection at Mucosal Surfaces  
Leukocyte Adhesion and Migration  
Lymphocyte Development and Homeostasis  
Regulatory Mechanisms in Aging and Tumor Responses

10:15 AM – 12:15 PM

Inflammation and Microbiota in Tumors  
Mast Cells and Basophils  
Novel Approaches for Enhancing Immunity against Viral  
and Bacterial Infection  
Regulation of Humoral Responses

12:30 PM – 2:30 PM

Antibody-based Cancer Therapeutics  
Cytokines/Chemokines and the Innate Immune  
Response to Viruses  
Innate Immune Sensing and Signaling  
Regional Immunity and Mucosal Inflammation  
Technological Innovations II

3:45 PM – 5:45 PM

B Cells, Antibodies, and the Adaptive Immune Response to Viruses  
IFN and Chemokine Signals in Tumors  
Lymphocyte Activation and Differentiation  
MHC I, MHC II, CD1: Antigen Processing and Presentation  
Regulation of Cell-mediated Host Defense

## SUNDAY, MAY 14

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8:00 AM – 10:00 AM

Innate Immune Cells  
Innate Immunity and B Cells in the Tumor  
Metabolism, Microbiomes, and Host Immunity  
Molecular Pathways in Autoimmunity  
Pathogen Control and Evasion Strategies  
Regulation of Innate Inflammatory Responses

10:15 AM – 12:15 PM

CD8 T Cells in Tumor Immunology  
Novel Approaches to Autoimmunity of the Nervous System  
Regulatory Mechanisms of Innate Immune Responses  
Signaling and Gene Regulation in the Immune System

12:30 PM – 2:30 PM

Immune Responses in Tumor Immunotherapy  
Innate Effectors of Autoimmunity  
Mucosal Immune Regulation by Microbiota and Diet  
Novel Factors in the Regulation of T Helper Cell Differentiation  
Regulation of Inflammatory Responses

3:45 PM – 5:45 PM

Biology of B Cells  
Cell Subset and Pathway Dysregulation in Human Disease II  
Immunosuppressive Networks and Tumor Immunity  
Metabolism and Immune Signatures in Tumor Immunity  
New Treatment Strategies in SLE  
T Cell Development

## MONDAY, MAY 15

---

8:00 AM – 10:00 AM

Antigen Receptor Signaling  
Checkpoints and Tumor Immune Regulation  
Co-infection and Host-Pathogen Heterogeneity  
Genetics of Human Immune-Mediated Diseases  
Graft-versus-Host Disease and Hematopoietic Stem Cell  
Transplantation  
IL-17 Cytokine Family Regulation and Function  
Mechanisms of Innate Immunity  
T Cells and Autoimmunity

10:15 AM – 12:15 PM

Asthma and Airway Immunity  
Cellular and Molecular Regulation of Immune Responses Induced by  
Vaccine/Immunotherapy

12:30 PM – 2:30 PM

B Cells and Autoimmunity  
Impacting Innate Immune Signaling and Cell Function  
Innate Immunity to Microbes I  
Regulatory, Inflammatory, and Helper T Cell Activities during a Virus  
Infection  
Tolerance and Rejection in Transplantation

3:45 PM – 5:45 PM

B and Innate Cell Development  
Cytokine Regulation and Autoimmunity  
Inflammasomes  
Regulation of Immunity at the Lung Mucosa  
T Cell Subsets in Cancer Immunotherapy  
Veterinary and Comparative Immunology

## TUESDAY, MAY 16

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8:00 AM – 10:00 AM

Anti-Pathogen Immunity  
Host-Microbial Interactions in Human Disease  
Immune Response to Respiratory Viruses  
Immune Therapies for Inflammatory Conditions  
Immune-Tissue Interactions  
Regulation of Autoimmune Responses  
Regulation of CD4 T Cell Differentiation

10:15 AM – 12:15 PM

Allergic Mechanisms  
Cell Therapy for Cancer  
Cellular Immune Responses at the Mucosa  
Inflammation and Disease  
Innate Immunity to Microbes II  
Lymphocyte Response, Regulation, and Memory  
Vaccines and Immunotherapy for HIV and Other Viral Infections

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## SATURDAY, MAY 13

*Peptide Microarrays: A Versatile Platform for Immunological Research*

10:00 AM – 10:45 AM EXHIBITOR WORKSHOP ROOM 1

**PEPperPRINT***Presenter:***Jill Roughan, Ph.D.**, US Technical Representative

Peptide microarrays offer a wide range of applications, including linear and conformational epitope mapping, peptide substitution scans, autoantibody discovery, and fingerprint analysis of humoral immune responses upon infection or vaccination. PEPperPRINT's unique peptide microarrays are synthesized in situ by digital laser printing directly onto glass slides. The benefits of this novel technique are the flexibility in terms of custom peptide content and high spot densities, allowing high-resolution mappings with minimal sample needed. PEPperPRINT has a strong focus on infectious disease and cancer research, biomarker discovery in autoimmunity, and characterization of therapeutic antibodies, including a human epitope-wide antibody cross-reactivity profiling. To learn more about PEPperPRINT's technology for precise, fast, and cost-effective antibody characterization, including case studies demonstrating the various applications, PEPperPRINT invites you to join its upcoming scientific presentation, followed by a Q&A session.

*Advanced Antibody Validation through Specificity Verification*

11:15 AM – 12:00 PM EXHIBITOR WORKSHOP ROOM 2

**Thermo Fisher Scientific***Presenter:***Matt Baker**, Director of Strategy and Partnering, Antibodies and Immunoassays

Thermo Fisher Scientific recently published a new set of antibody specificity testing guidelines. Matt Baker will present these guidelines and how they will be applied to help further advance validation practices, to ensure that antibodies are definitively binding their protein target of interest. This includes techniques such as mass spectrometry based confirmation of proteins immunoprecipitated by antibodies, cell models such as CRISPR knock-outs, and orthogonal approaches such as cellular treatments and independent antibody binding signatures.

*Advancements in Immunotherapeutic Research with Magnetic Cell Separation*

12:30 PM – 1:15 PM EXHIBITOR WORKSHOP ROOM 1

**Miltenyi Biotec***Presenter:***Julie Clark, Ph. D.**, Marketing Manager

Advancements in cell selection and gene editing have reshaped the reality of immunotherapy. New advances in tissue regeneration and effective treatment of cancer and autoimmune diseases depend on the advancement of highly specialized cellular products. Medical progress is therefore dependent on complete and versatile solutions for GMP-compliant cell manufacturing, including cell separation, differentiation, expansion, formulation, and cryopreservation. In order to realize the goal of cellular therapy, our R&D team collaborates closely with the world's leading immunologists to develop unique solutions. This session will highlight the work of two extraordinary scientists whose research exemplifies scientific excellence, biomedical innovation, and potential therapeutic impact.

*Exosomes Present in Human Ovarian Tumor Microenvironments Rapidly Arrest T Cells*

12:30 PM – 1:15 PM EXHIBITOR WORKSHOP ROOM 2

**ACEA Biosciences, Inc.***Presenter:***Paul K. Wallace, Ph.D.**, Professor of Oncology, Director of Flow and Image Cytometry Facility

Membrane-bound extracellular vesicles isolated from ovarian cancer patients have biophysical and compositional characteristics similar to vesicles called exosomes. These tumor-associated exosomes inhibit an early activation endpoint of a significant portion of virus (EBV and CMV)-specific CD8<sup>+</sup> T cells that are stimulated with viral peptides presented in the context of Class I MHC. Early- and late-activation endpoints of peripheral blood CD4<sup>+</sup> and CD8<sup>+</sup> T cells stimulated with immobilized antibodies to CD3 and CD28 are also significantly inhibited by the exosomes. The inhibition of the T cells is induced directly and rapidly and occurs coincidentally with the exosomes binding to and internalization by the T cells. The early arrest in the activation occurs without a loss of viability in the T cells. The immune-suppressive exosomes in the tumor microenvironment and the ability to block their T cell inhibitory activity represent a potential therapeutic target to enhance the anti-tumor immunity of quiescent tumor-associated T cells and to prevent the functional arrest of endogenous or adoptively transferred T cells upon their entry into the tumor.



## *Fighting Cancer from Multiple Angles: Exploring RANK-RANKL, PD-L1, and Cell Depletion in the Control of Melanoma in Mouse Models*

1:45 PM – 2:30 PM EXHIBITOR WORKSHOP ROOM 1

### **BioLegend**

*Presenter:*

**Miguel Tam, Ph.D.**, Senior Product Manager

Tumor growth is a complex condition where multiple systems interlace in an often fatal outcome. RANKL (Receptor activator of nuclear factor-kappaB ligand) is a member of the tumor necrosis factor family of cytokines. RANKL binds to its receptor RANK (receptor activator of NF-kappaB) and plays an important role in several homeostatic processes. It has also recently been found that RANKL is involved in migration of epithelial and melanoma cancer cells, thereby promoting cancer dissemination. Likewise, blockade of important immune checkpoint molecules, such as PD-L1 and depletion of key cell types, are emerging as safe and efficient cancer immunotherapies. Here, Dr. Tam presents data characterizing the intracellular signaling pathway associated with the RANK-RANKL axis, as well as the effect in dendritic cells, antigen-specific T cells, cytokines, and chemokine profiles after in vivo treatment with blocking PD-L1 and T cell-depleting antibodies in a melanoma cancer model.

## *Learn How to Validate ELISA and Multiplex Assays and How to Evaluate Kit Validation Data*

1:45 PM – 2:30 PM EXHIBITOR WORKSHOP ROOM 2

### **Abcam**

*Presenters:*

**Teri Girtsman**, Senior Scientist, Product Development, and  
**Mandy Lund**, Senior Scientist

Discover which validation data you need to demonstrate that an immunoassay kit, or your own assay, is specific, sensitive, and reproducible. To confirm that your sandwich ELISA or multiplex immunoassay performs well, it is important to review the validation data before you purchase the kit or run the assay. However, many immunoassay kits lack the necessary full biological validation, which can affect the performance of your assay. In this workshop, Abcam's senior R&D scientists will cover the different types of assay validation data and why these are important to your research. This will help you make an informed decision to select the best immunoassay kit for your research. It will also ensure that you can critically evaluate your own assay and include the necessary levels of validation.

## **SUNDAY, MAY 14**

## *Enabling the Biomarker Discovery-to-Validation Workflow with Invitrogen Immunoassays*

10:00 AM – 10:45 AM EXHIBITOR WORKSHOP ROOM 1

### **Thermo Fisher Scientific**

*Presenter:*

**David Bourdon, Ph.D.**, Senior R&D Manager and Immunoassay Strategy Lead

Detecting protein biomarkers is critical to the study of human disease. Thus, scientists require powerful immunoassay platforms for measuring these clinically relevant analytes. This scientist-to-scientist based presentation will highlight the newest Invitrogen immunoassay products available to accelerate the biomarker discovery-to-validation workflow. Come learn about the various solutions from the largest screening panels for multiplexing protein detection to high sensitivity and reproducible assays for validation studies. Regardless of where you may be in your research path, Invitrogen immunoassays offer reliable solutions to meet your needs.

## *Imaging Flow Cytometry: An Embarrassment of Riches*

11:15 AM – 12:00 PM EXHIBITOR WORKSHOP ROOM 2

**MilliporeSigma** (formerly EMD Millipore and Sigma-Aldrich)

*Presenters:*

**Haley Pugsley, Ph.D.**, Senior Research Scientist, Amnis—part of MilliporeSigma, and **Margery Pelletier, Ph.D. Candidate**, Biomedical and Biomedical Engineering, University of Massachusetts Lowell

The year 2017 ushered in a special edition of *Methods* with a collection of manuscripts all reporting imaging flow cytometry applications using the Amnis® imaging flow cytometers, FlowSight® and ImageStream®. Applications ranging from the analysis of immune synapses and leukemic cells to extracellular vesicles and individual chromosomes were reported. Contributions from many corners of the world include Roswell Park Cancer Institute, NIH, Weizmann Institute of Science, University of Western Australia, Health Canada, Cambridge University, and Moscow State University. Come to the MilliporeSigma workshop to hear Haley Pugsley's contribution on studying autophagic flux, Margery Pelletier's ex vivo culture techniques for hematopoietic stem cells, a characterization of netosis and phagocytosis, as well as several other applications from the other authors.



### *Controlled Oxygen for Generating Physiologically Relevant Immune Cell Data: Old Logic, New Technology*

11:15 AM – 12:00 PM EXHIBITOR WORKSHOP ROOM 1

**BioSpherix, Ltd.**

*Presenters:*

**Ray Gould**, Laboratory Sales, and **Alicia Henn, Ph.D., MBA**, Chief Scientific Officer

Oxygen is a critical cell culture parameter, and its role in regulating important cell processes has been widely established. Tissue where immune cells concentrate (such as lymphoid tissue or bone marrow) features oxygen percentages far below ambient, room-air levels. Until recently, oxygen's fundamental role in regulating immune cell activity has been widely disregarded. Traditional methods for controlling cell culture oxygen (O<sub>2</sub> incubators) have proven nearly impossible for gaining relevant in vitro data. New cell incubation technology has removed these obstacles and has opened pathways for improving physiological relevance in the dish. These new approaches are contributing to emerging data establishing oxygen's crucial role in regulating immune cell function. This talk briefly covers the evidence establishing oxygen's fundamental role in regulating cell function. It reviews a number of recent publications that establish the essential role oxygen plays in regulating immune cell activity. Furthermore, it explores the historical challenges associated with use of oxygen and shares new technologies for proper use of oxygen in the generation of physiologically relevant cell data.

### *Super Bright Antibody Conjugates: Expanding Choice for the Violet Laser in Multicolor Immunophenotyping*

11:15 AM – 12:00 PM EXHIBITOR WORKSHOP ROOM 2

**Thermo Fisher Scientific**

*Presenter:*

**Jolene A. Bradford**, Associate Director, Flow Cytometry Systems

The Invitrogen™ eBioscience™ Super Bright polymer dyes represent a suite of bright fluorophores excited by the violet laser (405 nm). Optimized for use in flow cytometry, Super Bright antibody conjugates allow for expanded use of violet laser excitation and, due to their inherent brightness, detection of cell populations with low abundance targets is possible. Data using the Super Bright conjugates will be presented in multicolor applications. The Invitrogen™ Attune™ NxT Flow Cytometer four laser system with Violet-6 (V6) configuration brings greater capability, allowing detection of six violet-excited fluorophores. Ideally suited for using the Super Bright conjugates, the unique acoustic focusing technology of Attune NxT Flow Cytometer enables rapid and accurate detection with sensitivity at high flow rates without compromise of data quality. The Attune NxT cytometer is designed to accommodate a wide variety of experimental conditions, and combined with the Super Bright conjugates, provides expanded choice for panel design. For research use only. Not for use in diagnostic procedures.

### *A Force from Within: Unexpected Roles of Complement in Th1 Biology*

12:30 PM – 1:15 PM EXHIBITOR WORKSHOP ROOM 2

**Hycult Biotech Inc.**

*Presenters:*

**Claudia Kemper, Ph.D.**, Senior Investigator, Section Chief at the National Heart, Lung, and Blood Institute (NHLBI) at the National Institutes of Health, and **Erik Toonen, Ph.D.**, Scientist, Hycult Biotech

For a long time, studying the adaptive immune system has been central in the design of therapeutics. New insights indicate that complement activation also regulates fundamental processes of the cell, such as metabolic activity and homeostasis. It also serves as a nexus for the interaction with other effector systems. Specifically, intracellular complement/NLRP3 inflammasome crosstalk has emerged as critical for normal IFN-γ secretion by T cells. Advancing insights have not only shown that innate immune regulators are present but are also key in directing immunological responses. This is of great significance to our understanding of the biology of immune cells, immune system evolution, and explains why targeting just one arm of the immune system is insufficient for disease treatment. This workshop will give an overview of the emerging key roles of autocrine complement activity in the regulation of Th1 responses and then invites discussion about their implications for design of next-generation therapeutics and monitoring.

### *Fighting Cancer from Multiple Angles: Exploring RANK-RANKL, PD-L1, and Cell Depletion in the Control of Melanoma in Mouse Models*

1:45 PM – 2:30 PM EXHIBITOR WORKSHOP ROOM 1

**BioLegend**

*Presenter:*

**Miguel Tam, Ph.D.**, Senior Product Manager

Tumor growth is a complex condition where multiple systems interlace in an often fatal outcome. RANKL (Receptor activator of nuclear factor-kappaB ligand) is a member of the tumor necrosis factor family of cytokines. RANKL binds to its receptor RANK (receptor activator of NF-kappaB) and plays an important role in several homeostatic processes. It has also recently been found that RANKL is involved in migration of epithelial and melanoma cancer cells, thereby promoting cancer dissemination. Likewise, blockade of important immune checkpoint molecules, such as PD-L1 and depletion of key cell types, are emerging as safe and efficient cancer immunotherapies. Here, Dr. Tam presents data characterizing the intracellular signaling pathway associated with the RANK-RANKL axis, as well as the effect in dendritic cells, antigen-specific T cells, cytokines, and chemokine profiles after in vivo treatment with blocking PD-L1 and T cell-depleting antibodies in a melanoma cancer model.

### *Development of Inexpensive Multiplex Immunoassays: Assessment of Food Allergens in Plasma*

1:45 PM – 2:30 PM EXHIBITOR WORKSHOP ROOM 2

SCIENION US, Inc.

*Presenter:*

**Robert S. Matson, Ph.D.**, Consulting Senior Scientist

Attack by foreign substances, such as allergens, triggers a cascade of events, in which IgE is a first responder. An allergic reaction to certain foods, e.g., shellfish or peanuts, can elicit a response within minutes of ingestion. There are also more subtle responses, such as IgG, which remains in the bloodstream for an extended period, and is monitored to assess this delayed response. Th2 cytokines are involved in the humoral response, leading to the production of IgE antibodies. Other cytokines, such as IL-25, are also involved in the induction of Th2 responses. In this study, a microplate-based microarray of “allergenic” proteins from food sources was constructed together with antibodies to measure inflammatory cytokines. Plasma from patients with known food allergy was assessed for specific IgG subclasses, specific IgE, and Th2 cytokine levels. Quantitative multiplex immunoassays were performed, and resulted in bright and colorful spots. The plates were analyzed using a novel colorimetric microplate imaging reader (sciREADER CL2, Scienion).

## **MONDAY, MAY 15**

### *Real-time, Live Cell Analysis of T Cell Activation: Understanding the Drivers of Activation, Development, and Function*

10:00 AM – 10:45 AM EXHIBITOR WORKSHOP ROOM 1

**Agilent Technologies**

*Presenter:*

**David Ferrick, Ph.D.**, Senior Director Seahorse, Cell Analysis Business Unit

It is well established that metabolic phenotype and metabolic switching are pivotal to the activation and function of immune cells. This metabolic switch occurs rapidly following an activation signal, and serves as both predictor and driver of downstream immunologic function. Agilent Seahorse XF Technology is the only cell analysis platform that enables researchers to interrogate this metabolic switch in real time, opening a window into the earliest events of activation. In this workshop, you will learn how XF technology can be used to detect real-time activation responses, enabling researchers to: detect and monitor activation of T cells within six minutes of stimulation; identify the metabolic requirements, fuels, and substrates required for immune cell activation, development, and function; and design experiments to perturb or modulate early activation events. Join us for this informative session to get practical advice on designing and performing T cell activation assays on Seahorse XF Analyzers; how to interrogate and quantify glycolytic and mitochondrial function; and generating and interpreting metabolic phenotypes of primary immune cells.

### *Visualization of Patterns of Co-expression of Immune Checkpoint Markers in Non-small Cell Lung Cancer by RNAscope® Technology*

10:00 AM – 10:45 AM EXHIBITOR WORKSHOP ROOM 2

**Advanced Cell Diagnostics**

*Presenter:*

**Xiao-Jun Ma, Ph.D.**, Chief Scientific Officer

Although cancer immunotherapy is changing the paradigm of how cancer is treated, there is an urgent need to develop predictive biomarkers to identify patients who are most likely to benefit from various immunotherapeutic strategies. Whereas many biomarker analysis technologies are available, most do not provide spatial and cell type-specific information critical for assessing the immune response in the evolving microenvironment of each tumor. Furthermore, multiplexing capabilities are highly desirable to obtain comprehensive, single-cell-level co-expression information and to maximize the use of limited biopsied sample material. Advanced Cell Diagnostics will demonstrate how the RNAscope technology for RNA in situ hybridization can be used to visualize various immune checkpoint markers directly, to reveal complex patterns of co-expression at single-cell resolution in morphological context.

### *Enhanced Human Hemato-/Myelopoiesis in Humanized hGM-CSF/hIL3-NOG Mice Compared with Humanized NOG Mice*

11:15 AM – 12:00 PM EXHIBITOR WORKSHOP ROOM 1

**Taconic Biosciences and HuMurine Technologies**

*Presenters:*

**Azusa Tanaka, Ph.D.**, Product Manager of Precision Research Models, Taconic Biosciences, and **Gerold Feuer, Ph.D.**, Founder/Chief Scientific Officer, HuMurine Technologies

The humanized immune system CIEA NOG mouse® (NOG) has become a powerful tool to evaluate a wide range of preclinical applications, including the safety and efficacy of immune checkpoint inhibitors—agents that stimulate human hematopoiesis and gene therapies against HIV-1 infection. Taconic, the sole provider of the NOG portfolio in the European Union and the United States, will present data supporting the consistency, reliability, and chimeric ratios for the production of over 1,500 humanized NOG (huNOG) and over 800 humanized hGM-CSF/hIL-3 NOG (huNOG-EXL). HuMurine Technologies will present its recently developed and validated humanized mouse platform: humanization of Taconic Bioscience's hGM-CSF/hIL-3 NOG mouse (Hu-3GM™). The humanization platform is based on the Hu-M™ mouse, HuMurine's commercially successful humanized immune system NOG mouse that supports consistent and robust levels of human hematopoiesis. Expect to learn about the comparatively analyzed kinetics and robustness of human lympho- and myelopoiesis of both the Hu-3GM™ and Hu-M™ mice and advantages and disadvantages of working with both models.

### *Automated Cell Culture for Dynamic Analysis of Immune Cell Function in Real Time*

11:15 AM – 12:00 PM EXHIBITOR WORKSHOP ROOM 2

**MilliporeSigma (formerly EMD Millipore and Sigma-Aldrich)**

*Presenter:*

**Amedeo Cappione, Ph.D.,** Senior Technology Lead

Precise regulation of lymphocyte function is critical to mounting a specific immune response and is dependent on a complex array of cell–cell interactions and responses to an ever-changing microenvironment. The understanding of the mechanisms underlying these interactions is essential for development of therapeutics to enhance immune function. Techniques enabling live cell analysis with more in vivo-like conditions provide key insights into dynamic processes. The microfluidics-based CellASIC® ONIX2 system offers precise real-time control of media perfusion, reagent switching, temperature level, and gas content. Comprised of a microfluidic plate and controller, the system delivers programmable, hands-free control and, importantly, is fully compatible with microscope stages for dynamic live cell imaging. Learn how the ONIX2 enhances the study of cell–cell interactions and single-cell responses to changes in the environment, such as hypoxia, metabolic content, and stimuli/inhibitor gradients.

### *Isolation of Unique and Complex Immune Cell Types Using Sequential EasySep™ Immunomagnetic Cell Separation*

12:30 PM – 1:15 PM EXHIBITOR WORKSHOP ROOM 1

**STEMCELL Technologies Inc.**

*Presenter:*

**Catherine Ewen, Ph.D.,** Senior Scientist, and Product Manager

There are over 370 known CD markers for immunophenotyping, providing seemingly endless possibilities of marker combinations and ways to isolate cells. EasySep™ Release is a new column-free immunomagnetic cell-separation technology that allows scientists to perform sequential selections to isolate unique and complex cell types based on their surface marker expression profile. The flexibility and customizability of the new indirect EasySep™ Release Positive Selection Kits enable researchers to use antibodies directed to virtually any targets of their choice. Use these kits sequentially with STEMCELL Technologies' extensive portfolio of positive- or negative-selection EasySep™ kits to create endless antigen-targeting combinations. This workshop will describe the different applications and cell types that use EasySep™ Release to highly purify immune cells with more complex phenotypes.



### *Live Cell Assay Approaches for Immunology and Immuno-oncology: Cell Health, Chemotaxis, Immune Cell Killing, and More*

12:30 PM – 1:15 PM EXHIBITOR WORKSHOP ROOM 2

**Essen Bioscience**

*Presenter:*

**Dan Appledorn, Ph.D.,** Director of Biology

Join this workshop to learn how to add real-time visualization and analysis of immune cell cultures to your in vitro assay toolkit for immunology research. The IncuCyte® Live-Cell Analysis System continuously analyzes cell activity within your incubator, providing insights into the complex and dynamic cellular processes of immunology. Unlike traditional approaches, which are mostly endpoint, invasive, and labor intensive, the IncuCyte reagents, protocols, and high-throughput-enabled assays are kinetic, simple, and cell sparing—ready to complement your current assay and cell biology workflows. This workshop will showcase real-time, live-cell assays for immune cell activation, proliferation, chemotaxis, transendothelial migration, immune cell killing, and phagocytosis.

### *Harnessing the Microbiome in Mouse Research*

1:45 PM – 2:30 PM EXHIBITOR WORKSHOP ROOM 1

**Taconic Biosciences**

*Presenter:*

**Philip Dubé, Ph.D.,** Field Applications Scientist, and  
**Alexander Maue, Ph.D.,** Associate Director Microbiome Products and Services

The microbiome is emerging as a critical factor in the development and function of the immune system. Dysbiosis, an imbalance in the community structure of the microbiome, is associated with the development and progression of numerous diseases, and therapeutic strategies targeting the microbiome are gaining traction. This revolution has been driven by basic research in mice, which has furthered our understanding of how the microbiome influences homeostasis and disease. This seminar will provide an overview of the strategies and solutions to study the microbiome and to control for its effects and will emphasize the latest resources available for researchers.

### *Accelerating Innovation with Immunosequencing*

1:45 PM – 2:30 PM EXHIBITOR WORKSHOP ROOM 2

**Adaptive Biotechnologies**

*Presenter:*

**Dr. Katie Boland, DVM, Ph.D.,** Scientific Liaison

Immunosequencing opens a new window of discovery, revealing the immune repertoire in exquisite molecular detail. Dr. Katie Boland will share case studies illustrating discoveries inspired by this deeper view into the adaptive immune response. Join her and learn how immunoSEQ® technology combines bias-controlled multiplex PCR with high-throughput sequencing and expert bioinformatics to deliver the most robust, quantitative way to sequence millions of T cell and B cell receptors. This accurate, quantitative immune-profiling method has been used in over 200 publications. You don't want to miss this workshop!



# Important Dates for Two AAI Awards Programs

*AAI Programs to Benefit Your Lab's Current or Future Research*

## AAI Careers in Immunology Fellowship

KEY DATES	APPLICATIONS OPEN	APPLICATIONS CLOSE
	<b>JANUARY 15</b>	<b>MARCH 16</b>

These fellowships provide AAI member PIs with one year of salary support for a graduate student or postdoctoral fellow in their labs. Member PIs in good standing with less than \$250,000 (excluding PI's salary) in annual direct costs are eligible to apply.

Selection is based on the potential of the trainee, merit of the project, quality of the training environment, and financial need.

Direct inquiries to [fellowships@aai.org](mailto:fellowships@aai.org).

## AAI Travel for Techniques Award Program

AWARDS CYCLE	APPLICATIONS OPEN	APPLICATIONS CLOSE
<b>WINTER</b>	<b>DECEMBER 15</b>	<b>FEBRUARY 15</b>
<b>SPRING</b>	<b>APRIL 15</b>	<b>JUNE 15</b>
<b>FALL</b>	<b>AUGUST 15</b>	<b>OCTOBER 15</b>

The Travel for Techniques Award is given to member PIs, reimbursing up to \$1,500 in expenses for travel to learn a new technique. Member PIs in good standing with less than \$250,000 (excluding PI's salary) in annual direct costs are eligible to apply.

Direct inquiries to [awards@aai.org](mailto:awards@aai.org).

These two exciting awards programs were launched by the American Association of Immunologists in 2014, adding significantly to its already robust support for scientists through fellowships, career awards, and travel grants. For more information, visit [www.aai.org/awards](http://www.aai.org/awards).

# Meet the Editors-in-Chief of the AAI journals!

Visit the AAI booth, **Booth 401**, in the Exhibit Hall

- A trusted resource for immunologists since 1916, *The Journal of Immunology* (*The JI*) is the most cited journal in the field of immunology.\* Fully peer-reviewed articles on major advances in all areas of basic and clinical immunology are rapidly published in *The JI* and broadly cited.
- New for 2017, AAI now offers an open access journal. *ImmunoHorizons* (*IH*) is a fully peer-reviewed journal committed to advancing the knowledge of immunology.

**Come meet the Editors-in-Chief**  
at the AAI Booth (**Booth 401**) during the weekend:

*Saturday, May 13, 2017*

**2:30 PM – 3:45 PM**

**Leslie J. Berg**

Co-Editor-in-Chief, *ImmunoHorizons*

**Pamela J. Fink**

Editor-in-Chief, *The Journal of Immunology*

*Sunday, May 14, 2017*

**2:30 PM – 3:45 PM**

**Pamela J. Fink**

Editor-in-Chief, *The Journal of Immunology*

**Michael S. Krangel**

Co-Editor-in-Chief, *ImmunoHorizons*

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1. 2015 Journal Citation Reports

2. Eigenfactor is a “metric that uses citing journal data from the entire Journal Citation Report file to reflect the prestige and citation influence of a journal by considering scholarly literature as a network of journal-to-journal relationships”. <http://thomsonreuters.com/content/dam/openweb/documents/pdf/scholarly-scientific-research/fact-sheet/esi-jcr-brochure.pdf>, accessed 12/23/15

3. [https://scholar.google.com/citations?view\\_op=top\\_venues&hl=en&vq=med\\_immunology](https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=med_immunology), accessed 12/21/15

4. <http://www.scimagojr.com/journalrank.php?area=2400&country=US&order=h&ord=desc>, accessed 7/11/16

5. <http://nexus.od.nih.gov/all/2016/03/02/nih-publication-impact-a-first-look/>, accessed 3/2/16

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