THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS

AAI NEWSLETTER

IMMUNOLOGY 2017™

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PROGRAM PREVIEW

MAY 12-16, 2017

WALTER E. WASHINGTON CONVENTION CENTER

WASHINGTON, D.C.

APRIL 2017

THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS
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AAI President's Invitation to IMMUNOLOGY 2017™

Dear Colleagues,

I have been honored to serve the membership of The American Association of Immunologists as a member of the AAI Council and now, as the association's 100th president. It is the privilege of my career to preside over the 101st AAI annual meeting, which will take place May 12–16 in Washington, D.C. I invite you all to attend IMMUNOLOGY 2017™.

Once again AAI celebrates its members and their research by hosting the world's largest annual all-immunology event. This year's meeting will be held at the Walter E. Washington Convention Center, in the heart of the nation's capital. In addition to an outstanding scientific program, Washington, D.C., is a world-class destination offering countless museums, monuments, restaurants, and entertainment venues.

Attendees will hear from a wide range of scientists—from world leaders in immunology to those in the earliest stages of their careers—who will present their work in Major Symposia, Distinguished Lectures, Awards Lectures, Guest Society Symposia, NIH Institute-sponsored Symposia, 83 Block Symposia, and nearly 2,000 poster presentations. I look forward to chairing the President's Symposium. Four outstanding scientists will examine the field of co-stimulatory and co-inhibitory signals and how research into the receptors mediating these signals has been—and continues to be—translated into life-saving therapies. These exciting scientific sessions will be complemented by events focusing on career development, science policy, and education, along with career-enhancing resources, such as the AAI Jobs Board and an NIH Grant Review and Funding Information Room.

In addition to providing you with the latest science information, the meeting will offer an array of opportunities for networking and catching up with old friends. AAI is once again very grateful to BioLegend for generously sponsoring the AAI Gala, which will be held the evening of Monday, May 15. This grand party will take place at the Newseum, a world-famous museum of news and journalism. Meeting attendees are invited to dance, eat, drink, and party amidst the front pages of 80 international newspapers published that very day, interactive displays, and iconic photos of milestone moments in the powerful Pulitzer Prize Photographs Gallery. End the evening by taking in views of the Washington Monument and U.S. Capitol building from the Newseum's majestic balcony.

After the conclusion of the meeting, a group of AAI members will have the opportunity to visit the offices of their congressional delegates as part of IMMUNOLOGY 2017™ Capitol Hill Day. When you register for the meeting, consider registering for this event as well, so that you can do your part to advocate for biomedical research and increased funding for NIH.

I would like to thank our outstanding Program Chair, Wendy Havran, and her dedicated committee members for organizing an exciting scientific program. I also offer my gratitude to the staff at AAI, led by Executive Director Michele Hogan, for making this—and every meeting—memorable, informative, and fun.

It has never been more exciting to work in the field of immunology. With new discoveries, innovative research strategies, and treatments that benefit humanity, we're in an era when it is crucial—now, more than ever—to come together to share our research and ideas. I look forward to meeting you at IMMUNOLOGY 2017™: for the science, for the camaraderie, and for the future of this life-changing discipline.

Arlene H. Sharpe

Arlene H. Sharpe, M.D., Ph.D.
AAI President

The American Association of Immunologists

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Connect with AAI!

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2017 AAI Career Award Recipients

AAI proudly presents the 2017 AAI Awards for outstanding research and career achievements.

AAI Lifetime Achievement Award

Presented to

RICHARD J. HODES

Richard J. Hodes, M.D., National Institute on Aging (NIA), National Institutes of Health (NIH), is the recipient of the 2017 AAI Lifetime Achievement Award, in recognition of a career of extraordinary scientific achievement coupled with exceptional leadership and service to AAI. This award is the highest honor bestowed by the AAI Council upon an AAI member.

Dr. Hodes has been the director of the NIA since 1993. As a steward of the principal federal funding agency for studies of aging, he has overseen the development of a broad and balanced research program that covers many areas, from the study of basic cellular changes that occur with age to biomedical, social, and behavioral aspects of age-related conditions, including Alzheimer's disease. This research has profound impact on Americans over the age of 65, a group that has almost doubled in size in the past 35 years and is predicted to continue to exhibit unprecedented growth. Over the course of Hodes' direction, the NIA established multiple programs and initiatives to spur progress in aging research, including Nathan Shock Centers of Excellence in Basic Biology of Aging to provide leadership in the pursuit of basic research, the Resource Centers for Minority Aging Research program to investigate variability of health differences across under-represented groups, and the Long Life Family Study to examine families with high numbers of long-lived individuals to better understand the genetic and environmental contributions to exceptional long life.

Hodes is also an internationally renowned investigator with more than 250 publications to his credit. He remains active in research on the NIH campus in his role as senior investigator and chief of the Immune Regulation Section in the Experimental Immunology Branch of the National Cancer Institute (NCI), with research focused on cellular and molecular events that regulate the immune response. His laboratory has contributed to the understanding of the role of costimulatory molecules in lymphocyte development and activation, with analysis of the expression and function of B7 costimulatory molecules in T lymphocyte development, activation, and tolerance. The Hodes lab has also shown the importance of TNF receptor-associated factor 3 in mediating cross-talk between single-positive thymocytes and thymic epithelial cells. His work has also provided insight into the regulation of chromosomal integrity and lymphocyte replicative capacity, including the regulation of telomerase activity during development and activation of T and B lymphocytes; the function of the ataxia telangiectasia mutated gene in mediating chromosomal stability during TCR-dependent thymocyte development; and the role of the tumor suppressor p53 in regulating proliferation of T cells to antigen-specific and non-specific signals.

An AAI member since 1975, Hodes has been a frequent speaker at the AAI annual meeting, chairing and speaking at the annual NIA symposium, as well as participating in sessions organized by the AAI Committee on Public Affairs. Hodes has also served AAI as an editor and reviewer for *The Journal of Immunology*, as chair of the AAI Program Committee, and as an AAI representative to the Federation of American Societies for Experimental Biology Meetings Committee. He received the AAI Public Service Award in 2007 for his exemplary leadership and efforts on behalf of basic immunology and its application to the field of aging. Hodes' commitment to the scientific community is further evident from his service on the National Advisory Council on Aging, the NIH Scientific Management Review Board, the Center for Inherited Disease Research Board of Governors, and as NIH liaison to the Veteran's Administration, among others.

Hodes received his M.D. from Harvard Medical School in 1971. He completed a research fellowship at the Karolinska Institute in Sweden and an internship and residency at Massachusetts General Hospital. In 1973, he moved to the NIH as a clinical associate in the Immunology Branch at the NCI. He subsequently held appointments as investigator in the Immunology Branch, senior investigator and chief of the Immunotherapy Section and acting chief and deputy chief in the Immunology Branch at NCI, before assuming his current positions as director of the NIA and senior investigator and chief of the Immune Regulation Section in the Experimental Immunology Branch at the NCI.

Hodes is a diplomate of the American Board of Internal Medicine. He has been honored as an elected member of The Dana Alliance for Brain Initiatives, a fellow of the American Association for the Advancement of Science, and an elected member of the National Academy of Medicine. He has also received the Distinguished Service Medal from the Public Health Service, the Public Service Award from the Population Society of America, and the Ronald and Nancy Reagan Award and was named "Indispensable Person of the Year" for 2013 by the Alliance for Aging Research.

The AAI Lifetime Achievement Award is given annually in recognition of distinguished scientific accomplishment and extraordinary service to AAI.

AAI Distinguished Service Award

Presented to

EUGENE M. OLTZ

Eugene M. Oltz, Ph.D., Washington University School of Medicine, is being honored with the 2017 AAI Distinguished Service Award in recognition of his invaluable service to AAI and the immunology community as member and chair of the AAI Publications Committee.

Dr. Oltz served on the AAI Publications Committee from 2012 to 2016 and provided exemplary leadership and guidance as chair of the committee from

2013 to 2016. During his term of service, Oltz offered valuable input and direction for a number of committee responsibilities. He was responsible for bringing the Systems Immunology category to *The JI*, a very timely addition as the field continues to encompass more "big data" science. Another initiative implemented in *The JI* during his tenure was the evaluation of images in accepted manuscripts, further demonstrating the commitment of AAI to scientific integrity. Oltz's term of service ended during 2016, the centennial year of *The JI*. During this year, the journal celebrated with "a look back" at 100 years of publication, including an art show of 100 historical covers at IMMUNOLOGY 2016™, as well as a Centennial website. Among other items, the website hosted a number of articles on the history of *The JI*, a look at prestigious articles published in the journal, and a peek at *The JI* publications of Nobel Laureates. Finally, Oltz served during the period that the AAI Council approved the addition of an open-access journal, *ImmunoHorizons*, as a new publication of AAI. In these initiatives and many others, Oltz ensured that the Publications Committee focused on the needs of the field and how best to meet the many challenges in scientific scholarly publishing today.

Oltz has been an AAI member since 1995 and previously served AAI as a section editor for *The JI* from 2007 to 2011 and as an associate editor from 1999 to 2003. He has also been an AAI Advanced Course lecturer and a Major Symposium speaker at the AAI annual meeting.

Oltz received his Ph.D. in chemistry from Columbia University in 1987 and completed postdoctoral fellowships at Columbia University and Harvard University under the mentorship of Frederick Alt. In 1993, he joined the faculty of the Vanderbilt University Department of Microbiology and Immunology as an assistant professor. He rapidly ascended the faculty ranks, assuming appointments as associate professor and director of graduate studies and was a professor at the time of his departure in 2009. He moved to the Washington University School of Medicine, where he currently serves as professor of pathology and immunology, director of the Immunology Graduate Program, and co-leader of the DNA Metabolism and Repair Group at the Siteman Cancer Center.

Oltz is well recognized for his research contributions on epigenetic control of lymphocyte gene expression in health and disease. He has been honored as a Vice Chancellor's Research Scholar at Vanderbilt University, as a fellow of the Japan Society for Promotion of Science, with an Impact Award by the Vanderbilt Ingram Cancer Center, and with a Transformative Research Grant from the National Institutes of Health (NIH) Director's Fund. He is a popular invited speaker in the United States and abroad, lecturing at Cold Spring Harbor meetings, Keystone Symposia, the International Congress of Immunology, Emory University, the University of Pennsylvania, National Jewish Health, the Riken Institute, and Vriej University, among others. He has also served the immunology community on NIH study sections, as a grant reviewer for the National Science Foundation, as a reviewer for numerous scientific journals, and as a board member of the Aging Biology Foundation.

The AAI Distinguished Service Award is presented for outstanding service to the AAI community and the immunology field as a whole.

AAI Excellence in Mentoring Award

Presented to

LEWIS L. LANIER

Lewis L. Lanier, Ph.D., University of California, San Francisco (UCSF), is the recipient of the 2017 AAI Excellence in Mentoring Award, in recognition of his contributions to a future generation of scientists.

Dr. Lanier is recognized for his fundamental contributions to the understanding of natural killer (NK) cells. His laboratory has identified many of the receptors, adapter proteins, and signaling components used by NK cells, T cells, and other immune cells, demonstrating their diverse range of interactions and functions. For example, many of the ligands for the NKG2D receptor were cloned in the Lanier lab, and therapies targeting these ligands are now being tested in the treatment of cancer. The Lanier lab developed mouse model systems in which the key signaling adapter proteins DAP10 and DAP12 were ablated to explore their role in resistance to infections with cytomegalovirus, poxviruses, and influenza, as well as primary tumorigenesis. Lanier and his colleagues also found that NK cells, long considered to be short-lived and antigen-independent, have traits of adaptive immunity, including immunological memory. Along with these important discoveries, Lanier has generated many of the tools, including antibodies, plasmids, cell lines, and transgenic and knockout mice, which immunologists in many labs use on a daily basis. Collectively, Lanier's studies, as evidenced by his prolific record of more than 450 publications and nearly 20 patents, have broadened the fundamental knowledge of the immune system and opened up new possibilities for the treatment of disease.

In addition to Lanier's excellent science, he is also a supportive and dedicated mentor to his trainees, more than 40 of whom are now scientific leaders working in academia, industry, or the non-profit sector in the United States and abroad. Joseph C. Sun, associate professor in the Department of Immunology at the Memorial Sloan Kettering Cancer Center and a former postdoctoral fellow in the Lanier lab, attributes much of his success in science to Lanier. Sun and Lanier discovered new features of NK cells, such as NK cell-mediated, antigen-specific recall responses. Sun explains that "in the experiments leading up to these findings, we challenged each other to 'think outside the box' on a daily basis—a unique experience for any trainee considering how vast Lewis' experience and knowledge were compared to mine." Sun describes Lanier as a mentor who "instills in his trainees a love for science and discovery. His humor, encouragement, open-mindedness, persistence, and enthusiasm are all traits I aspire to now that I am a mentor to others."

Part of instilling a love for science involves taking the time to listen to trainees about their scientific ideas and providing constructive feedback. Former postdoctoral fellow Jessica Hamerman, associate member in the Immunology Program at the Benaroya Research Institute, recounts an early experience in which Lanier had distributed an R01 grant draft to lab members ahead of submission to the National Institutes of Health (NIH): "He took all my

Continued, next page

comments seriously and substantially revised the grant based on my comments and comments from others. I was only a few months into my postdoc and didn't know much about NK cells yet, but his willingness to ask for and then listen to my opinion made a big impression on me." Hamerman praised Lanier's "open door policy," which meant that lab members were encouraged to discuss science informally on a daily basis. Another former postdoctoral fellow, Stuart Tangye, professor and head of the Immunology Division at the Garvan Institute of Medical Research, describes how Lanier had generously taken him in as an "orphan" after his original mentor left the DNAX Research Institute. In completing some of his existing projects, Tangye recalls that Lanier "took great care and time in discussing my results and reading drafts of my manuscripts from these projects even though the topic (human B cells and T cells) fell outside of Lewis' immediate interests." Tangye adds that Lanier "provided me with the independence to formulate my own ideas and test my own hypotheses, but was always in the background making sure that my ideas were not too ridiculous, and that my hypotheses were actually testable!"

Lanier also encourages his lab members to follow their passion and to channel their training into a career path that suits them, whether it is in academia, industry, beyond the bench, or outside of the United States. Hamerman comments that Lanier's "non-traditional route to academia after more than 15 years in biotech allowed him to appreciate that there was not just one career path available to scientists." This sentiment was echoed by other trainees as well.

"Lewis is one of those unique scientists who realizes that his legacy is dictated not only by the discoveries he makes, but more so by the people he's trained," says Sun. Lanier continues to discuss scientific ideas with his former postdoctoral trainees and has also provided advice on job transitions, critique of manuscripts and grants, vital reagents, and promotion of their career development through recommendations for awards and lectures.

Lanier received his Ph.D. in microbiology and immunology from the University of North Carolina (UNC) at Chapel Hill in 1978 and completed postdoctoral fellowships at UNC and the University of New Mexico Medical School. He joined Becton Dickinson Monoclonal Center, Inc., as a senior research scientist from 1981 to 1988. In 1988, Lanier became associate research director at Becton Dickinson Immunocytometry Systems and was subsequently promoted to research fellow and then associate research director through 1991. Lanier then moved to the Department of Immunology at the DNAX Research Institute of Molecular and Cellular Biology, Inc., as senior scientist from 1991 to 1993, associate director of the Department of Human Immunology from 1993 to 1996, and director of the Department of Immunobiology from 1997 to 1999. In 1999, Lanier left DNAX to join the Department of Microbiology and Immunology at UCSF.

Lanier has been the J. Michael Bishop Distinguished Professor of Microbiology and Immunology at UCSF since 2013 and chairman of the Department of Microbiology and Immunology since 2010. He also has served as the director of the George Williams Hooper Research Foundation at UCSF since 2016 and has been the director of the Parker Institute for Cancer Immunotherapy at UCSF since 2015.

Lanier has been honored with the AAI Distinguished Service Award, the University of North Carolina Distinguished Alumnus Award, the American Society for Histocompatibility and Immunogenetics Rose Payne Award, the William B. Coley Award for Distinguished Research in Basic and Tumor Immunology from the Cancer Research Institute, an American Cancer Society Research Professorship, and an NIH MERIT Award. He is an elected member of the National Academy of Sciences, a fellow of the American Academy of Microbiology, and an elected member of the American Academy of Arts and Sciences.

An AAI member since 1980, Lanier served on the AAI Council from 2001 to 2008 and was AAI president from 2006 to 2007. He has also served AAI as a deputy editor and an associate editor for *The Journal of Immunology*; a lecturer at the AAI Introductory and Advanced Immunology Courses; a Distinguished Lecturer and a Major Symposium speaker at the AAI annual meeting; a member and chair of the Program Committee; a member of the Nominating Committee; and an Abstract Programming Chair for the AAI annual meeting.

The AAI Excellence in Mentoring Award is presented annually in recognition of exemplary career contributions to a future generation of scientists.

AAI-Steinman Award for Human Immunology Research

Presented to

JEAN-LAURENT CASANOVA

Jean-Laurent Casanova, M.D., Ph.D., Howard Hughes Medical Institute (HHMI), The Rockefeller University, is the recipient of the 2017 AAI-Steinman Award for Human Immunology Research. He is recognized for his identification of mutant genes underlying diseases of immune dysregulation, which has led to the ability to treat immunodeficient individuals with directed therapies.

Dr. Casanova revolutionized the fields of pediatrics and infectious diseases with his proposal that life-threatening infectious diseases in otherwise healthy children and adolescents could result from single-gene inborn errors of immunity. Whereas these immunodeficiencies could be more subtle in presentation than severe combined immunodeficiency, he showed that they are no less significant in terms of clinical medicine and immunology. Casanova combined candidate gene and genome-wide approaches to identify single-gene variants conferring predisposition to tuberculosis and other mycobacterial diseases, invasive pneumococcal disease, herpes simplex encephalitis, chronic mucocutaneous candidiasis, dermatophytic disease, Kaposi sarcoma, and severe influenza. His description of inborn errors in the human JAK-STAT and NF-κB pathways, in the cytokines interleukin-12 (IL-12) and IL-17, and in interferon (IFN) and cytokine receptors has advanced our understanding of the function of these genes in host defense.

Casanova's work has also critically demonstrated the importance of studying infectious diseases in the context of natural infection, rather than solely as experimental infection in animal models, by showing the redundancy of pathways for immune-mediated protection in humans, as with his demonstration that human IL-17 cytokines are essential for mucocutaneous immunity to *Candida albicans* but otherwise redundant. His discoveries have led to the possibility of molecular diagnoses of immunodeficient patients and the ability

to treat these individuals with directed therapies, such as the use of IFN-γ to treat patients with mycobacterial disease resulting from impaired IFN-γ production, or treatment with IFN-α in patients with herpes simplex encephalitis resulting from mutations in the Toll-like receptor 3 pathway.

Isabelle Meyts, division head, Primary Immunodeficiency Unit, UZ Leuven, says, "Dr. Casanova's research is characterized not only by an exceptional capacity to discover disease-causing genes and to explore uncharted waters, but also by in-depth mechanistic, immunological investigations, and very careful and thorough clinical description of the genetic disorders discovered. Each of his publications is a model for the rigor and depth of its molecular and cellular phenotyping. During the past few years I have had the opportunity to work with Dr. Casanova and it has been an inspiring experience for me, my students, my institution." Stuart Tangye, professor and head, Immunology Division, Garvan Institute of Medical Research, adds, "Jean-Laurent's passion and enthusiasm for human genetics and immunology are boundless and inspirational. He is a pioneer in the fields of genetics, infectious disease, and immunology, and his stunning breakthroughs resonate across many disciplines of investigation, but none more important than human immunology."

Casanova received his Ph.D. in biology from Université Pierre et Marie Curie in 1992 and his M.D. from Université Paris Descartes in 1995. Following residency and a clinical and research fellowship at Assistance Publique-Hôpitaux de Paris, he joined Hôpital Necker at Université Paris Descartes, first as a research fellow and then as professor of pediatric hematology and head of the Laboratory of Human Genetics of Infectious Diseases. In 2008, he moved to The Rockefeller University, where he serves as professor, head of the St. Giles Laboratory of Human Genetics of Infectious Diseases, and senior attending physician. He maintains an appointment as visiting professor at Hôpital Necker, Université Paris Descartes, and has been an investigator with the HHMI since 2014.

An AAI member since 2012, Casanova has been honored with the Jacques Oudin Prize from the Société Française d'Immunologie, the Richard Lounsbery Award from the French Académie des Sciences and the National Academy of Sciences, the Oswald Avery Award from the Infectious Diseases Society of America, the Presidential Award from the Clinical Immunology Society, the Stanley J. Korsmeyer Award from the American Society for Clinical Investigation, and the Robert Koch Prize, among others. He has been an international scholar of the HHMI and was elected as a foreign associate of the National Academy of Sciences and an international member of the National Academy of Medicine. His stature in the scientific community is also evident from his numerous invited speaking engagements around the world; his service on multiple editorial boards, including *The Journal of Experimental Medicine, Current Opinion in Pediatrics, Current Opinion in Immunology*, and *Journal of Medical Genetics*; and his advisory role on many scientific boards, including the Foundation for Primary Immunodeficiency Diseases, the Research Centre of the University of Montreal Hospitals, and the Care-for-Rare Foundation.

The AAI-Steinman Award for Human Immunology Research is presented annually for significant, sustained achievement in immunology research pertinent to human disease pathogenesis, prevention, or therapy.

AAI-Thermo Fisher Meritorious Career Award

Presented to

YASMINE BELKAID

Yasmine Belkaid, Ph.D., National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), is the recipient of the 2017 AAI-Thermo Fisher Meritorious Career Award in recognition of her outstanding achievement in the area of mucosal immunology.

Dr. Belkaid has fundamentally shaped the field of immunology by shifting attention away from a lymphoid organ-centric view into one in which tissue microenvironments are regulators of immune responses. Vanja Lazarevic, principal investigator of the Experimental Immunology Branch at the National Cancer Institute, describes Belkaid's research as "unconventional, original, and innovative."

Belkaid's work has focused on understanding the mechanisms controlling host microbe interactions at barrier sites, such as the skin and the gut. In particular, Belkaid is interested in exposure of the skin and the gut to factors from the outside environment, to dietary antigens, and to antigens derived from resident commensals. Her lab studies how barrier-site aberrant reactivity against commensal microorganisms can lead to life-threatening tissue damage and how constant exposure to innocuous antigens can occur while these sites simultaneously maintain the capacity to respond rapidly to encounters with pathogens.

Belkaid has addressed these questions in an integrated and multidisciplinary manner to elucidate many aspects of barrier immunity and its role in health and disease. Her work has demonstrated that the immune system cannot discriminate commensals from pathogens during a gastrointestinal infection. These findings suggest that primary immune responses to gastrointestinal infections occur in the context of broader secondary or tertiary responses against commensals. Belkaid's research in this area also has had a direct impact on our understanding of how recurrent immune responses to commensals could be linked to a variety of inflammatory disorders, such as inflammatory bowel disease, asthma, and psoriasis.

The Belkaid lab has also shown the complex immune regulation that occurs at barrier surfaces, including the role of dietary factors. Her studies established that vitamin A deficiency caused a switch to innate type 2 immunity and resulted in parasite infection resistance, a powerful adaptation of the immune system during malnutrition to promote host survival in the face of constant barrier challenges. In a model of chronic *Leishmania major* infection, her laboratory demonstrated that natural regulatory T (Treg) cells accumulated specifically at the sites of infection, proliferated, and displayed powerful suppressive functions in response to *Leishmania*-infected dendritic cells. These experiments showed that thymically derived Treg cells have antigen specificity to foreign antigens, which contributes to their immunosuppressive functions. Belkaid also found that the gut-associated lymphoid tissue is a privileged site that supports development of extrathymic Treg cells.

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Finally, Belkaid has also revealed the role for commensal microorganisms in initiating protective responses to infection. She has demonstrated that microflora-derived DNA can engage Toll-like receptor 9 in the gut and act as a natural adjuvant for priming mucosal responses to foreign antigens. Her laboratory also showed that skin commensals regulate dermal T cell effector function in the case of protective immunity against *L. major*.

Laurie H. Glimcher, CEO and president of the Dana-Farber Cancer Institute, calls Belkaid "a visionary and pioneer in the field." Glimcher elaborates: "Through her work, we have acquired a more nuanced recognition that immune modulation is dependent on the synergistic interplay between host and its microbiota. When this relationship breaks down, her work has explained that the dysregulation of mucosal immunity triggers inflammatory pathologies, including asthma and inflammatory bowel disease."

Belkaid obtained her Ph.D. in 1996 from the Institut Pasteur in France for studies on innate responses to infection. Following a postdoctoral fellowship on immune regulation during *Leishmania* infection at the Intracellular Parasite Biology Section of NIAID, she joined the Cincinnati Children's Hospital Medical Center as an assistant professor in 2002. In 2005, she joined the NIAID Laboratory of Parasitic Diseases as head of the Mucosal Immunology Unit and has been a senior investigator at NIAID since 2008. She also serves as an adjunct assistant professor of pathology and laboratory medicine at the University of Pennsylvania.

An AAI member since 2013, Belkaid has been honored with the Emil von Behring Prize, Sanofi-Institut Pasteur Award, NIAID MERIT Award (multiple times), NIH Director's Award, and Ellison Foundation New Scholar Award in Infectious Diseases. She is an elected fellow of the American Academy of Microbiology. Belkaid's leadership in the scientific community is further evident from her numerous invited speaking engagements around the world, including at the AAI annual meeting, and her service on multiple editorial boards, including *The Journal of Experimental Medicine, Cell,* and *Current Opinion in Immunology*. She also serves as a member of the NIH Action Task Force on Gender Inequity and on scientific advisory boards for the Trans NIH Center for Human Immunology, the Kennedy Institute of the University of Oxford, and the Singapore Immunology Network, among others.

This award recognizes a mid-career scientist for outstanding research contributions to the field of immunology.

AAI-BD Biosciences Investigator Award

Presented to

JONATHAN C. KAGAN

Jonathan C. Kagan, Ph.D., Harvard Medical School, Boston Children's Hospital, is the recipient of the 2017 AAI-BD Biosciences Investigator Award in recognition of his outstanding research contributions in the areas of innate immunity and pattern recognition signaling.

Dr. Kagan began his investigations in immunology as a graduate student at Yale, where he showed the mechanism through which *Legionella pneumophila* cells escape degradation in macrophages. During his postdoctoral studies with Ruslan Medzhitov, Sterling Professor of Immunobiology at the Yale School of Medicine and Howard Hughes Medical Institute Investigator, Kagan focused on Toll-like receptors (TLRs) in signal transduction by using cell-biological approaches, which were unique to the field at the time. He discovered that TLR adaptor proteins function as both sorting and signaling adaptors, enabling different signaling pathways and downstream outcomes. In addition, he found a novel pathway of protein transport from the plasma membrane to early endosomes that is used by multiple signaling adaptors and scaffolding proteins. Medzhitov explains that Kagan has a "unique combination of intuition, insight, and deep knowledge of microbial pathogenesis, cell biology, cell signaling and innate immunity."

Kagan started his own lab at Boston Children's Hospital at Harvard Medical School, and he quickly published cutting-edge studies in innate immune signaling. He showed that innate sensing of viruses by RIG-I occurs from peroxisomes and discovered that microbes can shape the immune response by regulating endocytosis and recycling of TLR4. Most recently, he discovered that naturally occurring oxidized lipids produced by cell damage can amplify the immune response to bacterial infection in a TLR4-independent manner. Such studies have the potential for clinical applications in vaccine design.

Kagan is well respected by other academics in his field for his excellence and enthusiasm both in research and in teaching. Frederick W. Alt, director of the Program in Cellular and Molecular Medicine at Boston Children's Hospital and Howard Hughes Medical Institute Investigator, says that Kagan is "extremely bright, courageous in his approaches, and shows tremendous enthusiasm for his work." Alt adds that Kagan "is also highly invested in training aspiring young immunology students." This sentiment was echoed by Medzhitov, who noted that Kagan won the very prestigious PRIZE Teaching Fellowship from Yale and that a course that he developed and taught was highlighted in the *Yale Daily News* as one of the best new classes available for Yale biology undergraduates. Medzhitov expressed that he "has no doubt (Kagan) will continue to excel at the highest level."

Kagan obtained his Ph.D. in microbial pathogenesis from Yale University in 2003. Following a postdoctoral fellowship at Yale, Kagan assumed appointments as assistant professor of pediatrics at Harvard Medical School and associate scientific researcher in the Department of Medicine, Gastroenterology Division, at Boston Children's Hospital. He was promoted to associate professor of pediatrics at Harvard in 2013.

Kagan has been honored with the Alois H. Nowotny Award from the International Endotoxin and Innate Immunity Society, the Harry Shwachman Chair in Pediatric Gastroenterology from Boston Children's Hospital, the Burroughs Wellcome Fund Investigators in the Pathogenesis of Infectious Disease Award, an NIAID Pathway to Independence Award, and an Arthritis Foundation Postdoctoral Fellowship. Kagan is a frequently invited speaker at universities and conferences in the United States and abroad. He serves on the editorial boards of *Cell Reports* and *Trends in Immunology* and on the scientific advisory boards of Merrimack Pharmaceuticals and IFM Therapeutics. Kagan has been an AAI member since 2011 and has served AAI as an Advanced Course lecturer and a Major Symposium chair and speaker at the AAI annual meeting.

The AAI-BD Biosciences Investigator Award recognizes outstanding, early-career research contributions to the field of immunology.

AAI-BioLegend Herzenberg Award

Presented to

MICHEL C. NUSSENZWEIG

Michel C. Nussenzweig, M.D., Ph.D., Howard Hughes Medical Institute (HHMI), The Rockefeller University, is the recipient of the 2017 AAI-BioLegend Herzenberg Award. This award is given in recognition of his fundamental contributions in characterizing the development of effective antibody responses and applying that knowledge to new immunotherapeutics for the prevention and treatment of HIV.

Dr. Nussenzweig has focused his research on the mechanisms of generation and selection of somatically mutated antibodies and the characterization of the antibody response in humans. His laboratory has shown that cell division and hypermutation are proportional to the quality and amount of antigen presented by germinal center B cells and that selection is directly regulated by T cell help. He introduced single-cell antibody cloning as a method to track human B cell responses, a broadly applicable technique that has been transformative to the field. This work advanced the understanding of the autoreactivity of the B cell repertoire in normal and autoimmune individuals. It also facilitated huge forward leaps in the efforts to understand the B cell response against HIV and the properties of broadly neutralizing antibody (bNAb) responses. His work has led to the isolation of a large number of potent bNAbs against HIV and the re-invigoration of the field of antibody-based vaccines for HIV.

Frederick W. Alt, director of the Program in Cellular and Molecular Medicine at Boston Children's Hospital and HHMI Investigator, says, "While antibodies are now widely used in the clinic to treat malignancy, they are rarely used for infectious diseases, and they had been essentially discarded for HIV therapy based on rapid escape from the early generation antibodies in human and mouse studies. Nussenzweig has used the broad and potent antibodies that he cloned to establish the principle that broadly neutralizing antibodies are highly promising as an effective new class of anti-HIV therapeutics that can control infection."

Nussenzweig obtained his Ph.D. for work on dendritic cells under the mentorship of Ralph Steinman at The Rockefeller University. He earned his M.D. from New York University School of Medicine in 1982. He then trained in internal medicine and infectious diseases at Massachusetts General Hospital and performed postdoctoral research with Philip Leder at Harvard Medical School. In 1990, he joined the faculty of The Rockefeller University, where he currently holds appointments as the Zanvil A. Cohn and Ralph M. Steinman Professor and Senior Physician. He is also the director of the Christopher H. Browne Center for Immunology and Immune Diseases at The Rockefeller University and has been an investigator with the HHMI since 1999.

Nussenzweig received the AAI-Huang Foundation Meritorious Career Award, Solomon A. Berson Award for Basic Science, Lee C. Howley Sr. Prize for Arthritis Research, and Robert Koch Prize. He is an elected member of the National Academy of Sciences, National Academy of Medicine, American Society of Clinical Investigators, American Academy of Arts and Sciences, and Association of American Physicians. He delivered a Nobel Lecture on behalf of the late Ralph Steinman in 2011 and has been honored as an invited lecturer around the globe, presenting the Benacerraf Lecture at Harvard Medical School, Heidelberger-Kabat Lecture at Columbia University, Landsteiner Lecture in Vienna, and Georges Köhler Lecture in Freiburg.

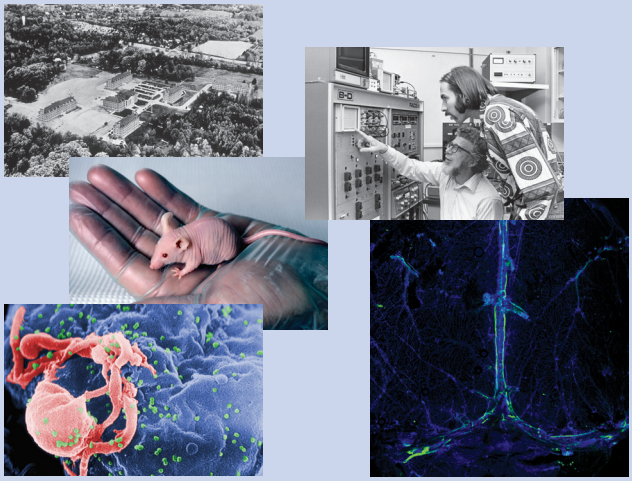
Nussenzweig has been an AAI member since 1991 and has served as a Distinguished Lecturer and President's Symposium speaker at the AAI annual meeting, a member of the Awards and Program Committees, and an Abstract Programming Chair for the AAI meeting.

The AAI-BioLegend Herzenberg Award is presented annually for outstanding contributions to the field of immunology in the area of B cell biology.

Immunology History at IMMUNOLOGY 2017™

The American Association of Immunologists enjoys a history more than a century in the making, devoted exclusively to immunology and the member scientists who have moved this field forward. To learn more, check out these exciting exhibits:

- **AAI Timeline,** on the Third Floor of the Walter E. Washington Convention Center opposite the Ballrooms, chronicles immunological events between the years 1913 through 2016.
- **AAI History Exhibits,** on the second floor of the Convention Center, examine the influence of immunology in the Washington Metropolitan area.
- **AAI StoryBooth,** in Room 301, is an opportunity for your story—and that of your friends, colleagues, and mentors—to become part of the rich history of AAI.



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. Sharpe
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

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TACONIC

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 & AWARDS PRESENTATIONS

SATURDAY, MAY 13, 1:00 PM – 2:30 PM
ROOM 204AB

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.*

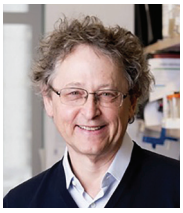
AAI-BIOLEGEND HERZENBERG AWARD PRESENTATION AND LECTURE

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, Board Member and Vice President-elect for Science Policy, FASEB

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*.

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 $CD4^+$ 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

* *British Society for Immunology Lecturer*

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
Germinal center B cells in atherosclerosis

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

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 23 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:

Cherié 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; AAI 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; **Fotini Gounari,** Univ. of Chicago; **Khashayarsha Khazaie,** Mayo Clin.;

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 (MAC) activities from Cherié Butts, Chair, MAC.

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, AAI Committee on the Status of Women.

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

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 ; **Lisa I. Hoover,** Precision for Medicine

Careers at Governmental Agencies
Table Leaders: **Daniela Vertelyi,** FDA; **Pam L. Schwartzberg,** NHGRI, NIH; **Joan K. Lunney,** USDA; **Chao Jiang,** 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. Rohrbaugh,** 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 $CD4^+$ T cell responses

Daniel L. Barber, NIAID, NIH
Protective and pathogenic $CD4^+$ 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-β 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

Future AAI Annual Meetings

Mark Your Calendar for the Premier Annual Immunology Event!

2018

IMMUNOLOGY 2018™
May 4–8
Austin, Texas

2019

IMMUNOLOGY 2019™
May 9–13
San Diego, California

2020

IMMUNOLOGY 2020™
May 8–12
Honolulu, Hawaii

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; AAI 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 innnate 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

21st Century Complement: Beyond the Textbooks

SATURDAY, MAY 13, 3:45 PM – 5:45 PM

Chairs:

Andrea J. Tenner, Univ. of California, Irvine
Berhane Ghebrehiwet, 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 U.S. Capitol building and National Mall.

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.

AMERICAN ASSOCIATION OF IMMUNOLOGISTS
FOUNDED 1913

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 Buela, 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

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:

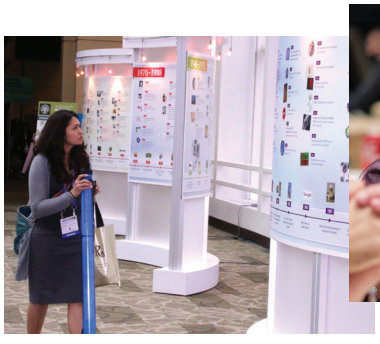
Bethany B. Moore, Univ. of Michigan
Ready, set, write…maintaining momentum in manuscript preparation

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.



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:

Cherié 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

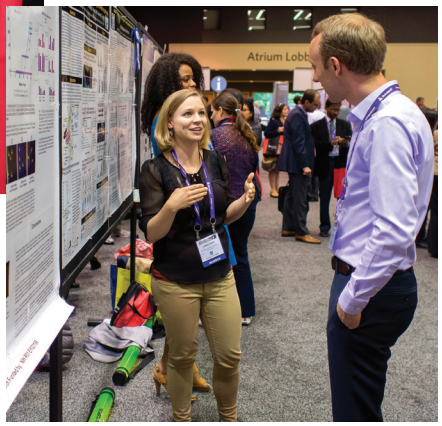
NEW! **Mid-career faculty: creative strategies for maintaining momentum in funding, research, people management**

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 22.



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

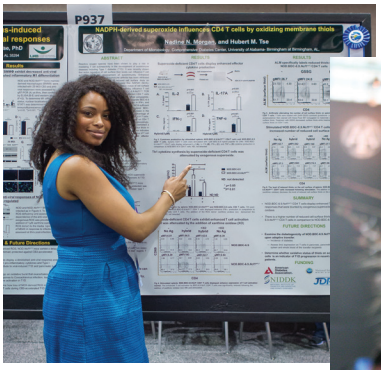
Deborah Hodge, Scientific Review Officer, Immunology Fellowships and AREA Study Section, Immunology IRG, DPPS, CSR, NIH

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.



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 23.

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.

Room 203A

2016–2017 AAI PROGRAM COMMITTEE

AAI gratefully acknowledges the efforts of the Program Committee for IMMUNOLOGY 2017™.

Wendy L. Havran, Chair
The Scripps Research Institute

Julie Magarian Blander
Weill Cornell Medical College of Cornell University

Daniel J. Campbell
Benaroya Research Institute

Arup K. Chakraborty
Massachusetts Institute of Technology

José R. Conejo-Garcia
Moffitt Cancer Center

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Paul Kubes
University of Calgary

Mark L. Lang
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University of Florida College of Veterinary Medicine

Jennifer A. Punt
Haverford College

Anne I. Sperling
University of Chicago

AAI ABSTRACT PROGRAMMING CHAIRS

AAI gratefully acknowledges the efforts of the Abstract Programming Chairs for IMMUNOLOGY 2017™.

Antigen Processing and Presentation

Robert J. Binder
University of Pittsburgh

Laura Santambrogio
Albert Einstein College of Medicine

Basic Autoimmunity

Laura Mandik-Nayak
Lankenau Institute for Medical Research

Chandra Mohan
University of Houston

Cellular Adhesion, Migration, and Inflammation

Minsoo Kim
University of Rochester

S. Celeste Morley
Washington University School of Medicine

Cytokines and Chemokines and Their Receptors

Laurie E. Harrington
University of Alabama at Birmingham

Mandy J. McGeachy
University of Pittsburgh

Hematopoiesis and Immune System Development

Jose Alberola-Ila
Oklahoma Medical Research Foundation

Michael A. Farrar
University of Minnesota

Immediate Hypersensitivity, Asthma, and Allergic Responses

Paul J. Bryce
Northwestern University Feinberg School of Medicine

Mitchell H. Grayson
Nationwide Children's Hospital

Immune Mechanisms of Human Disease

Clara Abraham
Yale University

Jane H. Buckner
Benaroya Research Institute

Immune Response Regulation: Cellular Mechanisms

Rachel Ettinger
MedImmune

Thomas C. Mitchell
University of Louisville School of Medicine

Immune Response Regulation: Molecular Mechanisms

Lee Ann Garrett-Sinha
State University of New York at Buffalo

Mark H. Kaplan
Indiana University School of Medicine

Innate Immune Responses and Host Defense: Cellular Mechanisms

Thirumala-Devi Kanneganti
St. Jude Children's Research Hospital

David M. Underhill
Cedars-Sinai Medical Center

Innate Immune Responses and Host Defense: Molecular Mechanisms

Gregory M. Barton
University of California, Berkeley

Katherine A. Fitzgerald
University of Massachusetts Medical School

Lymphocyte Differentiation and Peripheral Maintenance

Nicole Baumgarth
University of California, Davis

Ross M. Kedl
University of Colorado Denver

Microbial, Parasitic, and Fungal Immunology

George S. Deepe
University of Cincinnati College of Medicine

Joanne Turner
Ohio State University

Mucosal and Regional Immunology

Timothy L. Denning
Georgia State University

Dana J. Philpott
University of Toronto

Technological Innovations in Immunology

Lawrence Stern
University of Massachusetts

Yuri Sykulev
Thomas Jefferson University

Therapeutic Approaches to Autoimmunity

Jennifer H. Anolik
University of Rochester

Olaf Stüve
University of Texas Southwestern Medical Center

Transplantation Immunology

Megan K. Levings
University of British Columbia

William J. Murphy
University of California, Davis

Tumor Immunology

Chrystal M. Paulos
Medical University of South Carolina

Weiping Zou
University of Michigan

Vaccines and Immunotherapy

Sandra Demaria
Weill Cornell Medical College

Kohtaro Fujihashi
University of Alabama at Birmingham

Veterinary and Comparative Immunology

Janice C. Telfer
University of Massachusetts Amherst

Jeffrey A. Yoder
North Carolina State University

Viral Immunology

Julia L. Hurwitz
St. Jude Children's Research Hospital

Steven M. Varga
University of Iowa

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.

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.**

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.** 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.

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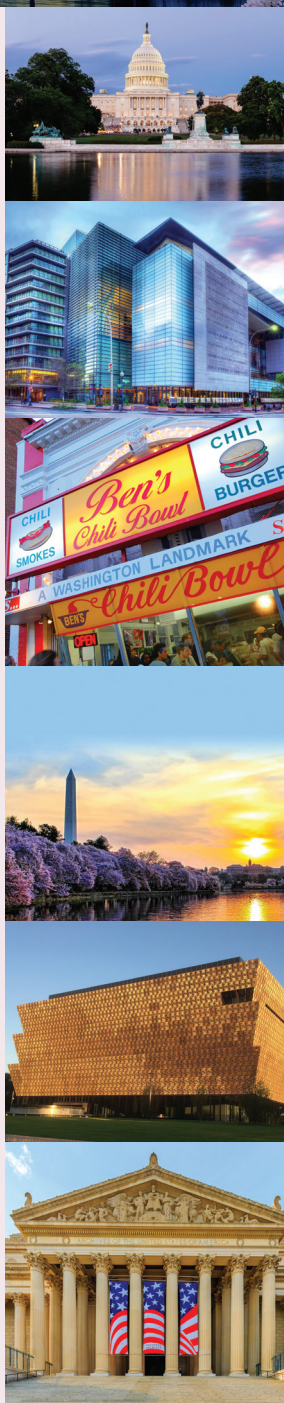

SOCIAL EVENTS

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

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MONDAY, MAY 15, 7:00 PM – 9:30 PM
NEWSEUM
555 PENNSYLVANIA AVE., NW
WASHINGTON, D.C. 20001

Located between the U.S. Capitol and the White House on Pennsylvania Avenue, the Newseum is a world-renowned interactive museum of news, journalism, and free speech. Mingle with colleagues, explore exhibits (including the front pages of 80 international newspapers printed that very day), step out onto one of two terraces for panoramic views of Pennsylvania Avenue, or dance to the tunes of a D.J. Appetizers will be served, and two drink tickets will be attached to your meeting badge. The Newseum is less than a mile from the Walter E. Washington Convention Center and most hotels in the meeting room block. Complimentary shuttle service will be provided throughout the event between the Newseum and the Walter E. Washington Convention Center.

Open to all IMMUNOLOGY 2017™ registered attendees and their paid guests. Come as you are, directly from the Center. Meeting badge required.

GUEST SOCIETIES

AAI welcomes the following Guest Societies presenting symposia in their respective areas at IMMUNOLOGY 2017™

American Association of Veterinary Immunologists (AAVI)
American Society for Reproductive Immunology (ASRI)
American Society of Gene and Cell Therapy (ASGCT)
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Canadian Society for Immunology (CSI)
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Service Appreciation Reception

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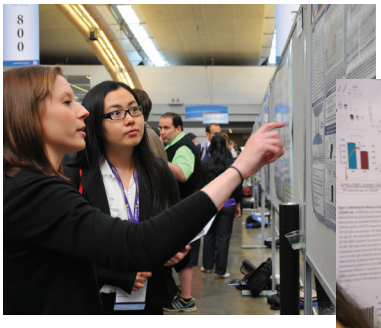

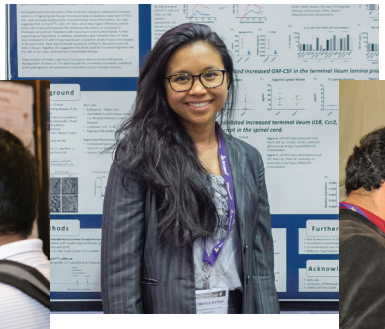

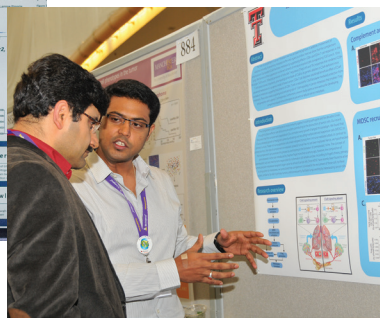

FRIDAY, MAY 12

2:30 PM – 4:30 PM

Cell Subset and Pathway Dysregulation in Human Disease I
Triggers and Tolerance in 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

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

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

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

10x Genomics

AAAS/*Science*

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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., U.S. 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 epitome-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 further help 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. 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 $CD8^+$ T cells that are stimulated with viral peptides presented in the context of Class I MHC. Early- and late-activation endpoints of peripheral blood $CD4^+$ and $CD8^+$ 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

The detection of 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

10:00 AM – 10:45 AM 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_2 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 the 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 allergies 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/hIL-3-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-throughout 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!

IMMUNOLOGY2017™

Visit AAI at BOOTH 401

Visit AAI at **Booth 401** in the Exhibit Hall to learn about exciting new AAI programs that support your professional life! During the Poster Hour each day, you'll be able to meet with AAI members and staff to help you explore new opportunities for career advancement and service.

Featured Daily Events

SATURDAY, MAY 13

2:30–3:45 PM (Poster Presentations)

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 (Poster Presentations)

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 from Virginia Shapiro, Chair, Committee on the Status of Women.

Stop by the AAI booth for additional information about these and the many other AAI programs. At all times, AAI staff will be available to highlight the many benefits of membership.

AMERICAN ASSOCIATION OF IMMUNOLOGISTS
FOUNDED 1913

AAI Submits Congressional Testimony

AAI recently submitted testimony to the House Labor, Health and Human Services, Education, and Related Agencies (Labor-HHS) Appropriations Subcommittee, recommending an appropriation of at least $35 billion for NIH for fiscal year 2018. The testimony was submitted on behalf of AAI by AAI Committee on Public Affairs Chair Beth A. Garvy, Ph.D.

Dr. Garvy's complete testimony is provided below.

Testimony of Beth A. Garvy, Ph.D., on behalf of The American Association of Immunologists (AAI), Submitted to the House Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, Regarding the Fiscal Year 2018 Budget for the National Institutes of Health (March 6, 2017)

The American Association of Immunologists (AAI), the nation's largest professional society of research scientists and physicians who study the immune system, respectfully submits this testimony regarding fiscal year (FY) 2018 appropriations for the National Institutes of Health (NIH). *AAI recommends an appropriation of at least $35 billion for NIH for FY 2018* to fund promising new and important ongoing research; to encourage the world's most talented scientists, trainees, and students to pursue biomedical research careers in the United States; and to enable NIH to continue to serve as an independent voice for, and strong leader of, the nation's biomedical research enterprise.

Why the Immune System – and Immunology Research – Matters

As the body's primary defense against viruses, bacteria, parasites, toxins, and carcinogens, the immune system can protect its host from a wide range of infectious diseases, including influenza, and from chronic illnesses, such as cancer. But the immune system can underperform, leaving the body vulnerable to disease, such as those caused by human immunodeficiency virus (HIV) and Zika virus; and it can go awry, attacking normal organs and tissues and causing autoimmune diseases including allergy, asthma, inflammatory bowel disease, lupus, multiple sclerosis, rheumatoid arthritis, and type 1 diabetes. Immunologists study how the immune system works; how it may be harnessed to help prevent, treat, or cure disease; and how it can be used to protect people and animals from infectious organisms, including antibiotic resistant bacteria, and others, such as anthrax, smallpox, and plague, that could be used as bioweapons.

Recent Discoveries Harness the Power of the Immune System to Prevent and Fight Disease

1. Using the immune system to treat cancer — Immunotherapy, which uses a patient's own immune system to fight disease, is transforming the treatment of cancer. NIH-funded basic researchers identified inhibitory receptors on immune cells that can be blocked, facilitating the immune system's ability to destroy tumor cells; clinical researchers then discovered that immunotherapy could fight cancer with much less toxicity than standard chemotherapy or radiation.[1] This research has contributed to the development of checkpoint inhibitor drugs, such as pembrolizumab (Keytruda®) and nivolumab (Opdivo®), which have recently received Food and Drug Administration (FDA) approval for the treatment of several cancer types, including melanoma, lymphoma, kidney, and head and neck cancer.[2] In October 2016, Keytruda® was approved by the FDA for the treatment of lung cancer, marking the first time that immunotherapy could be used as the initial treatment option for these patients (before standard options such as chemotherapy).[3]

In another promising approach to immunotherapy, NIH-supported clinical trials are examining the use of genetically engineered immune cells to treat many cancers, including kidney, bone, brain, and skin, as well as leukemia and lymphoma.[4] When combined with conventional approaches, these immune cells can enhance treatment results and permit the use of lower doses of conventional therapies, reducing harmful side effects and providing a treatment option for cancers that do not respond solely to conventional drugs.[5]

2. New way to prevent and treat allergies — Peanut allergies, which occur in 1-2% of people in the United States, continue to increase.[6] Death due to peanut allergy remains the number one cause of food-related anaphylaxis, and no treatment or cure exists. An NIH-funded study showed that the early intro- duction of peanut-containing foods significantly decreased the development of peanut allergy among children at high risk.[7] For individuals who already have peanut allergies, an ongoing NIH-sponsored clinical trial testing a wearable patch that delivers a small amount of peanut protein through the skin is showing great promise.

The treatment, called epicutaneous immunotherapy or EPIT, trains the immune system to tolerate peanut-containing foods and has been shown to be safe and well-tolerated.[8] These studies have revealed new insight into the prevention and treatment of peanut — and potentially other — allergies.

3. Development of vaccines and treatments for emerging infectious diseases — NIH-funded research plays a key role in the development of vaccines and treatments to combat epidemics and other major public health threats. Researchers are working urgently to develop a vaccine to protect against the Zika virus, which can hamper fetal development and cause birth defects (including microcephaly).[9] To contain this virus, which continues to spread (with over 40,000 cases reported within the U.S. and its territories as of February 2017), NIH-funded researchers have developed a promising DNA-based vaccine that is now being tested in a clinical trial.[10] Progress has also been made in developing a therapeutic strategy to protect against Ebola virus, which recently killed more than 11,300 individuals in West Africa.[11] In pre-clinical studies, NIH-funded scientists identified an antibody cocktail that was able to neutralize Ebola and protect against disease, even when administered after viral exposure.[12] Advances have also been made in efforts to protect against the Dengue virus: a vaccine candidate developed by NIH researchers has shown protection against infection and is now being tested in a multi-center Phase 3 clinical trial.[13]

NIH's Essential Role in the Biomedical Research Enterprise

As the nation's main funding agency for biomedical research, NIH supports the work of "more than 300,000 members of the research workforce" located at universities, medical schools, and other research institutions in all 50 states, the District of Columbia, and several U.S. territories.[14] More than 80% of its budget supports the work of these scientists through about 50,000 grants; about 10% of its budget supports roughly 6,000 researchers and clinicians who work at NIH facilities in Maryland, Arizona, Massachusetts, Michigan, Montana and North Carolina.[15] NIH funding strengthens the economies of the states where these researchers live and work; in 2015, it supported more than 350,000 jobs across the United States.[16]

NIH also provides invaluable scientific leadership. Through congressional testimony and frank dialogue, NIH advises our nation's elected and appointed leaders on scientific

Continued, next page

advancements, needs, and threats. This open exchange is essential to ensuring that urgent and long-term scientific needs are addressed, and that taxpayer funds directed to NIH are well-spent. In addition, as the leader of our nation's biomedical research enterprise and the steward of more than $32 billion in taxpayer dollars, NIH governs the conduct of scientific research and fosters collaborations between government and academia; between U.S.-based scientists and their international colleagues, who are invaluable to our nation's research enterprise; and between government and industry, which depends on the innovative and sometimes high-risk basic research supported by NIH to fuel their own advances in drug and medical device development.[17] These NIH leadership responsibilities, which include consultation with, and notice to, a broad and diverse stakeholder community, require skilled personnel. Therefore, AAI urges that NIH scientific and administrative personnel be exempted from any government hiring freeze.

Recent Funding Increases Have Eased, Not Eliminated, Erosion of NIH Purchasing Power

Recent NIH funding increases, including $2 billion in FY 2016 and $352 million in FY 2017 (through the 21st Century Cures Act) have helped restore some of the purchasing power that NIH lost from years of inadequate budgets that were eroded further by biomedical research inflation.[18] Although AAI is extremely grateful to Congress for these funding increases (and for the Cures Act's FY 2018 authorization of $496 million to supplement regular NIH appropriations), AAI remains concerned that NIH's purchasing power is still (to date, before approval of FY 2017 appropriations) more than 19% below what it was in FY 2003.[19] In addition to limiting ongoing and promising new research and delaying discoveries that might lead to new treatments or cures, these funding constraints have a deleterious impact in other ways, forcing some productive researchers to lay off staff, close their labs, or move overseas, where support for biomedical research continues to grow.[20] Perhaps most importantly, inadequate or uncertain funding is deterring many promising young people from pursuing careers in biomedical research, threatening the viability of the next generation of researchers, doctors, professors, and inventors. Regular, predictable, and robust funding increases for NIH, through the timely passage of annual appropriations bills, would strengthen and stabilize NIH and the biomedical research enterprise.

Conclusion

AAI greatly appreciates the subcommittee's continued strong bipartisan support for NIH and biomedical research through annual appropriations and the 21st Century Cures Act, urges ongoing frank dialogue with NIH leaders and stakeholders, and recommends an appropriation of at least $35 billion for NIH in FY 2018.

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2017 AAI Election Underway

AAI voting members—Regular, Emeritus, and Honorary members in good standing—are encouraged to cast their ballots in the 2017 AAI Election, which launched on March 13.

Voters will select the next member of the AAI Council along with new members of the AAI Awards, Finance, Nominating, Program, and Publications committees. Those elected in this spring's balloting will begin their service on July 1.

From a slate of candidates recommended by the AAI Nominating Committee and finalized by the AAI Council, 22 members are seeking election to the following 10 seats filled annually via AAI member balloting:

- **AAI Council** – One seat, contested by three candidates, for a four-year term (followed by successive, presumptive one-year terms as AAI Vice President, President, and Past President)
- **AAI Awards Committee** – One seat, contested by two candidates, for a three-year term
- **AAI Finance Committee** – One seat, contested by two candidates, for a three-year term
- **AAI Nominating Committee** – Five seats, contested by nine candidates, for one-year terms
- **AAI Program Committee** – Two seats, contested by four candidates, for three-year terms
- **AAI Publications Committee** – One seat, contested by two candidates, for a four-year term

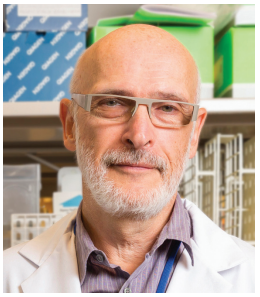
The AAI Election ballot also includes the respective candidates for AAI President and Vice President, Wayne Yokoyama and JoAnne Flynn. Yokoyama, the current AAI Vice President, was elected to Council in 2012; Flynn was elected in 2013.

To participate in the election, voting members can access the online ballot by logging in at **https://aai.org/cvweb_aai/MainLogin.shtml**.

Balloting will continue through April 28.

Alexander Rudensky, Shimon Sakaguchi Are Crafoord Prize Honorees

Alexander Y. Rudensky, Ph.D., AAI '94, and **Shimon Sakaguchi, M.D., Ph.D., AAI '90,** are co-recipients of the 2017 Crafoord Prize in Polyarthritis, presented by the Royal Swedish Academy of Sciences and the Crafoord Foundation. The honor recognizes their fundamental discoveries relating to regulatory T cells (Tregs), which launched a new field of research and novel approaches to therapies for counteracting harmful immune reactions in arthritis and other autoimmune diseases. The Crafoord Prize of 6 million Swedish krona (~$670,000) is shared among the laureates. Fred Ramsdell is also a co-honoree.



Alexander Rudensky is a Howard Hughes Medical Institute (HHMI) investigator, professor, and immunology program chair at Memorial Sloan Kettering Cancer Center (MSKCC). The overarching goal of his work is to understand the molecular mechanisms governing the differentiation, plasticity, and function of CD4+ T cells and their involvement in immunity and tolerance. He is well known for his work on Tregs and the roles these cells play in immune tolerance, tumor immunity, and immunity to infections. Dr. Rudensky's group has contributed significantly to the understanding of the importance of the transcription factor forkhead box p3 (Foxp3) in establishing and maintaining immune homeostasis, as well as in the plasticity of Treg transcriptional and functional programs and the molecular mechanisms of Treg lineage stability. More recent studies have focused on epigenetic events and microRNAs that govern T cell, particularly Treg, function and the role environmental factors play in immune homeostasis.

A past AAI Distinguished Lecturer and recipient of the AAI-PharMingen Investigator Award, Rudensky is a past member of the AAI Awards Committee and has been a major symposium chair and speaker on multiple occasions at the AAI annual meeting. His additional career appointments and honors include service on numerous review panels on behalf of NIH and other national and international institutions; editorial board service on behalf of multiple scientific journals; election to the National Academy of Sciences, National Academy of Medicine, and American Academy of Arts and Sciences; William B. Coley Award for Distinguished Research in Basic and Tumor Immunology; NIH MERIT Award; Sandler Senior Investigator Award; Searle Scholar Award; and Julius Stone Award.

A biochemistry graduate of the Second Moscow State Medical Institute, Rudensky received his Ph.D. in immunology from the Gabrichevsky Institute for Epidemiology and Microbiology, Moscow. He undertook postdoctoral training in the Charles Janeway lab at Yale School of Medicine, where he subsequently served as an associate research scientist. He later held successive appointments as assistant, associate, and full professor at the University of Washington and served as an adjunct professor at the A. N. Belozersky Institute of Physico-Chemical Biology, Moscow State University, Russia. Rudensky was named an HHMI assistant investigator in 1993, has been a full investigator since 1998, and was appointed an MSKCC member in 2008. His additional appointments include serving as a Tri-institutional Professor at MSKCC, the Rockefeller University, and Cornell University and a professor at Gerstner Sloan Kettering Graduate School of Biomedical Sciences and at Weill Cornell Graduate School of Medical Sciences.

Shimon Sakaguchi is a distinguished professor in the Department of Experimental Pathology at Osaka University, Japan, where he serves as vice-director of the Immunology Frontier Research Center. He is credited with the discovery of Tregs and much of the subsequent return to popularity of suppressor cells in immunological research. His lab has shown that these naturally occurring $CD4^+CD25^+$ Tregs are actively engaged in controlling a variety of physiological and pathological immune responses, including autoimmunity, allergy, transplantation tolerance, and tumorimmunity. Dr. Sakaguchi's work addresses the molecular and cellular basis of Treg development and function, particularly the involvement of the transcription factor Foxp3, and seeks ways to exploit these cells' activity to control immune

responses in clinical settings. In addition, his group has developed a mouse model of spontaneous autoimmune arthritis that results from changes in thymic selection, which they hope will facilitate an understanding of how genetic, environmental, and immunological factors act together to induce the development of T cell-mediated autoimmune disease in humans.

Sakaguchi is a past associate editor for *The Journal of Immunology* and has served as a major symposium speaker on multiple occasions at the AAI annual meeting. Elected a foreign member of the National Academy of Sciences (United States), he has held editorial board appointments on behalf of numerous scientific journals and received numerous career awards, including the Canada Gairdner International Award, Keio Medical Science Prize, William B. Coley Award for Basic Immunology and Tumor Immunology, Medal with Purple Ribbon from the Emperor (Japan), Japan Academy Award, Asahi Prize, Takamine Memorial Sankyo Award, and Takeda Medical Award.

Sakaguchi received his M.D. from Kyoto University, Japan, and trained as a pathology resident at Kyoto University Medical School (KUMS); visiting investigator at the Laboratory of Experimental Pathology, Aichi Cancer Center Research Institute (Nagoya); and senior research fellow at KUMS' Institute for Immunology. He subsequently obtained his Ph.D. from Kyoto University, focusing on experimental autoimmune disease research. He completed postdoctoral fellowships in immunology/infectious diseases and in biophysics at Johns Hopkins University and served as a visiting scientist in immunology and rheumatology at Stanford University. He was appointed assistant professor in the Immunology Department at the Scripps Research Institute in 1989.

In 1992, Sakaguchi returned to Japan as a Japan Science and Technology Agency investigator at RIKEN Institute (Tsukuba) and later headed the Immunopathology Department at Tokyo Metropolitan Institute of Gerontology. From 1999 to 2011, he served as a professor and Experimental Pathology Department chair at Kyoto University's Institute for Frontier Medical Sciences; from 2007 to 2011, he served as the institute's director. He has held his current Osaka University appointment since 2011.

James Allison is Inaugural Sjöberg Prize Co-honoree

Photo: The University of Texas MD Anderson Cancer Center

James P. Allison, Ph.D., AAI '78, has been named co-recipient, along with Salk Institute biologist Tony Hunter, of the inaugural Sjöberg Prize, for groundbreaking studies of cellular processes that have led to the development of new and effective cancer drugs. The honor, which confers a $1 million prize shared by the laureates, is presented by the Royal Swedish Academy of Sciences and is funded by the Sjöberg Foundation in recognition of cancer research that, in the case of the 2017 recipients, has opened up entirely new ways of treating cancer.

Dr. Allison is a professor and the Vivian L. Smith Distinguished Chair in Immunology at the University of Texas MD Anderson Cancer Center in Houston. He has contributed seminal work elucidating mechanisms of T cell biology and regulation throughout his career, including the molecular immunology of the T cell antigen receptor complex, co-stimulatory receptors, and other molecules involved in T cell activation. In particular, his lab has focused on defining signaling events that lead to differentiation of naïve T cells and those that determine whether antigen receptor engagement will lead to functional activation or inactivation of T cells. An important part of this work, enhancing T cell responses by blocking the inhibitory receptor CTLA-4, has been applied to the development of new strategies for the treatment of autoimmune diseases and for immunotherapy of cancer; in particular, an antibody derived by Allison led to development of the drug known as ipilimumab, which blocks CTLA-4 and has had unprecedented results in the treatment of metastatic melanoma. Allison's work has stimulated discovery of additional immune checkpoints and development of experimental drugs to block them, and the resulting clinical trials are demonstrating effectiveness against a variety of other cancers.

Allison is a past AAI president (2001–2002) who served on the AAI Council from 1996 to 2003. He was the 2011 recipient of the AAI Lifetime Achievement Award and received the AAI-Dana Foundation Award in Human Immunology Research in 2008. A past AAI Distinguished Lecturer, Allison has been a major symposium speaker and chair on multiple occasions at the AAI annual meeting, where he has also served as an abstract programming chair. He is a past associate and

Continued, next page

James Allison is Inaugural Sjöberg Prize Co-honoree *(Continued)*

section editor for *The Journal of Immunology* and has served as an AAI Advanced Course in Immunology faculty member.

A member of the National Academy of Sciences (NAS) and Institute of Medicine (now National Academy of Medicine), Allison has served on numerous review panels on behalf of NIH, NAS, and other institutions. He is the director of the Cancer Research Institute Scientific Advisory Council, a past member of the National Cancer Institute Board of Scientific Counselors, and has held editorial appointments on behalf of numerous scientific journals. His many career honors include the Lasker-DeBakey Clinical Medical Research Award, Breakthrough Prize in Life Sciences, Canada Gairdner International Award, ASCO Science of Oncology Award, Lloyd J. Old Award in Cancer Immunology, Novartis Prize for Clinical Immunology, *The Economist*'s Innovations Award for Bioscience, William B. Coley Award for Distinguished Research in Basic and Tumor Biology, AAMC Award for Distinguished Research in the Biomedical Sciences, Pezcoller Foundation-AACR International Award for Cancer Research, and NIH MERIT Award.

A native of Alice, Texas, Allison earned his bachelor's degree in microbiology and doctorate in biological sciences from the University of Texas at Austin. After completing a postdoctoral fellowship in molecular immunology at Scripps Clinic and Research Foundation, Allison joined the faculty of the MD Anderson Science Park–Research Division in Smithville, Texas. In 1985, he was appointed a professor at the University of California, Berkeley, where he directed the Cancer Research Laboratory from 1985 to 2004 and served on a number of other senior posts. From 2004 to 2012, he was a Howard Hughes Medical Institute Investigator and chair of the Immunology Program at Memorial Sloan Kettering Cancer Center and held senior scientific appointments at the Weill School of Medical Sciences of Cornell University. He returned to the University of Texas MD Anderson Cancer Center in 2012, where his current appointments include executive director of the Immunotherapy Platform, deputy director of the David H. Koch Center for Applied Research of Genitourinary Cancers, and associate director of the Center for Cancer Immunological Research.

Six Named HHMI Faculty Scholars

Recognized as early-career scientists with great potential to make unique contributions to their fields, six AAI members are among the inaugural class of U.S. scientists appointed as Howard Hughes Medical Institute (HHMI) Faculty Scholars last fall. The Faculty Scholars Program, a collaboration among HHMI, the Simons Foundation, and the Gates Foundation, addresses the significant challenges confronting early-career scientists in the form of intensifying grant support competition, unpredictable NIH research award success rates, and the increasing average age at which investigators receive a first R01-equivalent grant. Each Faculty Scholar appointment provides between $600,000 and $1.8 million in five-year grant funding for a scientist whose creative research project is marked by its potential to bring transformative innovation to priority global health problems.

The AAI members selected as inaugural HHMI Faculty Scholars are:

Ken Cadwell, Ph.D., AAI '16, *New York University School of Medicine* — Dr. Cadwell studies host-pathogen and host-microbiome interactions in inflammatory disease.

Ming Li, Ph.D., AAI '10, *Memorial Sloan-Kettering Cancer Center* — Dr. Li studies mechanisms of immune regulation and their relevance to diseases, including cancer. Currently a member of the AAI Membership Committee, Li is a past major symposium chair and speaker at the AAI annual meeting and recipient of the AAI–BD Biosciences Investigator Award.

David Masopust, Ph.D., AAI '07, *University of Minnesota–Twin Cities* — Dr. Masopust studies T cell migration, differentiation, and memory development in response to infections. A past member of the AAI Program Committee and associate editor for *The Journal of Immunology (The JI)*, Masopust has served as a major symposium speaker at the AAI annual meeting, participated as an instructor on multiple occasions at the AAI Advanced Course in Immunology, and received multiple AAI travel awards (Trainee Achievement; Junior Faculty).

Carla V. Rothlin, Ph.D., AAI '08, *Yale University* — Dr. Rothlin works to elucidate mechanisms underlying the regulation of inflammation and the homeostatic control of immune function. Rothlin is a past major symposium speaker at the AAI annual meeting.

Daniel B. Stetson, Ph.D., AAI '01, *University of Washington* — Dr. Stetson studies innate immune detection of nucleic acids in host defense and autoimmune disease.

Sing Sing Y. Way, M.D., Ph.D., AAI '07, *Cincinnati Children's Hospital Medical Center* — Dr. Way investigates methods to boost host defense and protection against infection, especially in the context of pregnancy. Way is a past associate editor for *The JI* and has served as a major symposium speaker at the AAI annual meeting.

Ten AAI Members Elected as AAAS Fellows

Ten AAI members were among the scientists elected last fall as fellows of the American Association for the Advancement of Science (AAAS), an honor recognizing AAAS members for their distinguished contributions to innovation, education, and scientific leadership. Areas of recognition include research, teaching, technology, service to professional societies, and administration in academe, industry, and government, as well as in communicating and interpreting science to the public.

The AAI members elected as 2016 AAAS fellows include:

Section on Biological Sciences

David A. Fruman, Ph.D., AAI '01, *University of California, Irvine* — The Fruman laboratory investigates signaling pathways in lymphocytes and leukemia cells, particularly focusing on the functions of PI3K and mTOR. Dr. Fruman is a past associate editor for *The Journal of Immunology (The JI)*.

AAI congratulates the six members who have been named HHMI Scholars and the ten members who have been named AAAS Fellows.

George Fu Gao, Ph.D., AAI '01, *Chinese Academy of Sciences/Chinese Center for Disease Control and Prevention* — Work in the Gao laboratory, currently centers on the biology of enveloped viruses, such as influenza, investigates entry into and release from infected cells, structure-based drug design, and interspecies transmission.

Michael S. Marks, Ph.D., AAI '90, *Children's Hospital of Philadelphia Research Institute/University of Pennsylvania Perelman School of Medicine* — The Marks laboratory seeks to understand how integral membrane protein complexes are assembled and sorted within the secretory and endocytic pathways and how these processes contribute to the biogenesis of cell organelles and immune regulation. Dr. Marks is a past associate editor for *The JI* and instructor for the AAI Introductory Course in Immunology.

James C. Paulson, Ph.D., AAI '07, *The Scripps Research Institute* — The Paulson laboratory investigates the roles of glycan-binding proteins in mediating cellular processes, such as cell–cell interactions, endocytosis, and cell signaling, which are central to immune regulation and human diseases.

Phillip A. Scott, Ph.D., AAI '84, *University of Pennsylvania School of Veterinary Medicine* — With the use of the murine model of *Leishmania* infection, research in the Scott lab is focused on understanding the development, regulation, and maintenance of CD4+ and CD8+ to design new vaccines and immunotherapies for infectious diseases. A past member of the AAI Veterinary Immunology Committee, Dr. Scott has also served as an associate and section editor for *The JI*, abstract programming chair for the AAI annual meeting, and instructor on multiple occasions at the AAI Introductory and Advanced Courses in Immunology.

Section on Medical Sciences

David E. Briles, Ph.D., AAI '77, *University of Alabama at Birmingham* — The Briles laboratory studies the interactions of host defenses and bacterial virulence factors in the pathogenesis of pneumococcal infection and applies these studies to the development of vaccines. Dr. Briles is a past section editor for *The JI* and also served as a member of the AAI Publications Committee.

Joseph Bernard Margolick, M.D., Ph.D., AAI '87, *Johns Hopkins University* — Research in the Margolick lab is focused on the mechanisms of T cell loss and preservation during HIV infection.

Liise-Anne Pirofski, M.D., AAI '00, *Albert Einstein College of Medicine* — The focus of the Pirofski laboratory is the identification of mechanisms that govern immunity to pneumonia caused by the inhaled encapsulated pathogens *Cryptococcus* and *Pneumococcus*.

David T. Scadden, M.D., AAI '98, *Harvard University/Massachusetts General Hospital* — With the use of a combination of genetics, imaging, and pharmacology, the Scadden laboratory explores regulation of hematopoietic stem cells by their microenvironment and how these cells traffic to and engraft in the bone marrow.

Lawrence Steinman, M.D., AAI '89, *Stanford University School of Medicine* — The Steinman laboratory, which is dedicated to understanding the pathogenesis of multiple sclerosis and neuromyelitis optica, explores immune tolerance and activation toward brain antigens. A past AAI President's Symposium and major symposium speaker at the AAI annual meeting, Dr. Steinman has also served as an associate editor for *The JI*.

AAI Recognizes Young Scientists at Immunology Events throughout the United States

AAI continues to enrich the career development of scientists by supporting programs that provide speaking opportunities and awards to young investigators. AAI was pleased to sponsor keynote speakers and oral and poster abstract sessions at the Upstate New York Immunology Conference, Basic Science in Transplantation Meeting, Autumn Immunology Conference, and Conference of Research Workers in Animal Diseases. AAI extends congratulations to the awardees and AAI member organizers of these successful meetings.

Upstate New York Immunology Conference (NYIC)

The 19th Annual NYIC was held in Bolton Landing, New York, at the Sagamore Resort and Conference Center on Lake George, October 24–27, 2016. The conference was organized by James R. Drake (AAI '01), Katherine C. MacNamara (AAI '11), and Dennis W. Metzger (AAI '82), with assistance from Dawn Bellville of the Albany Medical College.

Keynote speakers were Wayne M. Yokoyama (AAI '84), Howard Hughes Medical Institute, Washington University in St. Louis, who lectured on "Tissue-resident Natural Killer Cells" and Thomas J. Braciale (AAI '80), University of Virginia, who spoke on "Dendritic Cells in the Host Response to Stress or Dendritic Cells Can Do More Than Present Antigens." Both keynote speakers gave workshops as well as presentations. In the first workshop, Yokoyama highlighted current opportunities to study the immunology of human diseases. Braciale led a second informative workshop on "The Business End of Academic Research." Program and scientific review staff from the National Institutes of Health held a third workshop on grantmanship, which included a mock study section.

The NYIC gave graduate students and postdoctoral fellows the opportunity to present their research and engage in conversations that may stimulate further discussions, collaborations, and avenues for their research. In support of this effort, AAI provided 10 Young Investigator Awards for oral presentations. Recipients included Weishan Huang and Oyebola Oyesola, Cornell University; Adaobi Amobi, Colin A. Powers, Anand Sharda, and Kelly L. Singel, Roswell Park Cancer Institute; Angelica Costello and Travis Walrath, Albany Medical College; Victoria L. DeVault, University of Vermont; and Christina M. Post, University of Rochester.

AAI Secretary-Treasurer Edith M. Lord (AAI '78) and AAI Vice President Wayne M. Yokoyama pose with four AAI Young Investigator NYIC Awardees (L-R): Adaobi Amobi, Kelly L. Singel, Weishan Huang, and Oyebola Oyesola.

Six NYIC recipients of the AAI Young Investigator Award (L-R): Christina M. Post, Victoria L. DeVault, Colin A. Powers, Travis Walrath, Angelica Costello, and Anand Sharda.

Basic Science in Transplantation Meeting 2016 (BeST16)

BeST16 was held in Fort Lauderdale, Florida, November 10–12, 2016. Attracting over 140 attendees, BeST16 covered timely and relevant topics in the area of transplantation immunology and biology, including innate and adaptive mechanisms of allorecognition, novel mechanisms of immune regulation, and the influence of infection and the microbiome. The meeting was supported by the American Society of Transplantation and European Society of Transplantation and was organized, in part, by Maria-Luisa Alegre (AAI '97), University of Chicago, and Mandy L. Ford (AAI '06), Emory University. Vijay Kuchroo (AAI '94), Brigham and Women's Hospital, Harvard Medical School, presented a keynote lecture, entitled "T Cell Costimulatory and Coinhibitory Signals." AAI sponsored 10 Young Investigator Awards at BeST16. Recipients included Geoffrey Camirand, Hehua Dai (AAI '11), Qing Ding, Anna Roessing, and Riccardo Schweizer, University of Pittsburgh; Steven Kim and G. Michael La Muraglia II, Emory University; Barbara Kern, Innsbruck Medical University; Christine McIntosh, University of Chicago; and Jonathan Maltzman (AAI '05), Stanford University.

BeST16 award recipients are (Top, L-R): Geoffrey Camirand, Riccardo Schweizer, Barbara Kern, Christine McIntosh, Jonathan Maltzman, and Anna Roessing. (Bottom, L-R): Steven Kim, G. Michael La Muraglia II, Qing Ding, and Hehua Dai.

Autumn Immunology Conference (AIC)

Approximately 600 scientists attended the 45th Annual AIC, held November 18–21, 2016, in Chicago. Conference Chair Steven M. Varga (AAI '03) welcomed attendees on the opening night and introduced Keynote Speaker David Oshinsky. Oshinsky spoke about "Polio: A Look Back at America's Most Successful Public Health Crusade."

AAI, for the sixth year, sponsored awards in support of talented trainees. The 18 recipients of the AAI Young Investigator Award were Laura R. Elsbernd and Michael J. Lehrke, Mayo Graduate School; Scott Biering, Chanie L. Howard, Christine McIntosh, Michelle L. Miller, and Jason B. Williams, University of Chicago; Basel Abuaita and Eric Perkey, University of Michigan; Courtney McDougal, University of Wisconsin; Alan Sariol and Megan E. Stoley, University of Iowa; Dalia Haydar, University of Kentucky; Curtis J. Pritzl, University of Missouri; Ton Doan and Tania E. Velez, Northwestern University; Tijana Martinov, University of Minnesota; and Matthew D. Fountain, Wayne State University. The five AAI Undergraduate Awardees were Maya Amjadi, University of Iowa; Kensey Bergdorf, West Virginia University; Mackenzie Geels, Calvin College; Kathleen Mills, University of Chicago; and Hsuan Peng, Mayo Clinic.

AAI also continued its sponsorship of the Careers in Immunology Workshop for Undergraduates, which provides an opportunity for undergraduate students with a demonstrated interest in immunology to learn about options for research careers in the field. In this interactive session, the panelists fielded a range of questions, from the most important criteria in choosing a graduate school to whether joint M.D.–Ph.D. programs are required training for physician scientists. The workshop was followed by a meet-and-greet session for graduate program representatives to provide students with additional information about the field and answer questions about their own institutions and programs.

The AIC continued its commitment to career development through its workshop blocks and the Meet the Speakers Roundtable, which was also supported by AAI. Open to graduate students and postdoctoral fellows only, the roundtable discussions provided trainees a chance to hear about the speakers' scientific career experiences and to receive advice on a range of career issues, including grant writing strategies and careers outside of academia.

Continued, next page

AIC *(Continued)*

AAI Young Investigator AIC Awardees

AAI staff hosted a booth in the Exhibit and Poster Hall. There, Mary Litzinger (AAI '11), manager of Educational and Career Development Programs, Ellen Fox (AAI '16), science associate for *The Journal of Immunology*, and Courtney Pinard (AAI '16), Educational and Awards Program Specialist, engaged AIC attendees in discussions about the benefits and resources available through AAI. This included promotion of the AAI new open access journal, *ImmunoHorizons*, to meeting participants.

AIC Undergraduate Award recipients (L-R): Kathleen Mills, Maya Amjadi, Mackenzie Geels, Kensey Bergdorf, and Hsuan Peng

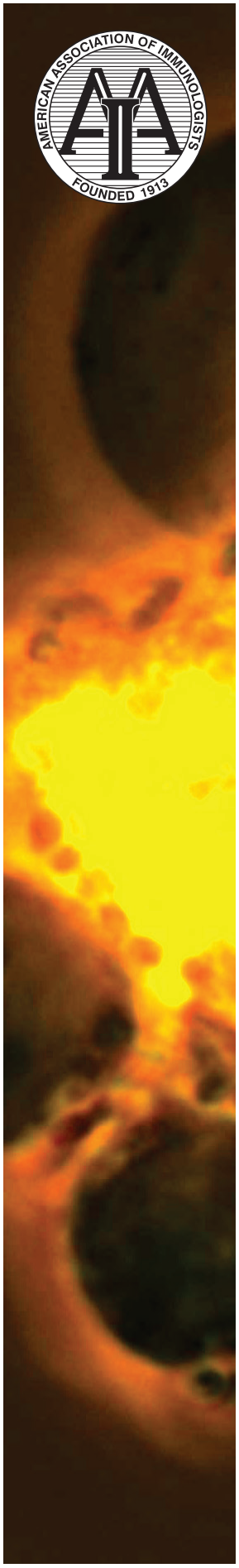
Virginia Shapiro (AAI '04) addresses career questions from young investigators at the AIC Meet the Speakers Roundtable.

Conference of Research Workers in Animal Diseases (CRWAD)

The American Association of Veterinary Immunologists (AAVI) hosted several events at the 2016 CRWAD meeting, held December 5–6, 2016, at the Marriott in downtown Chicago. Of the approximately 100 scientists gathered at the meeting, 51 spoke in the 2016 AAVI Immunology section presentations. The presenters included four invited speakers, a distinguished veterinary immunologist, graduate students, postdoctoral fellows, faculty, and research associates.

For the fifth consecutive year, AAI provided support for the AAVI Student Presentation Competition, sponsoring three oral and three poster presentation awards. AAI oral presentation awardees were Santhosh Dhakal, The Ohio State University; Meredith Frie, Michigan State University; and Fangjia Lu, Purdue University. Poster presentation winners were Lopez Constantino, Universidad Nacional Autónoma de México; Maureen Fernandes, South Dakota State University; and Sandhya Paudel, University of Kentucky.

(L-R): Renukaradhya J. Gourapura (AAI '08), AAVI graduate student presentation award committee chair, with AAVI student awardees Maureen Fernandes, Lopez Constantino, and Santhosh Dhakal



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

Don't miss the most comprehensive introduction to immunology available!

This intensive two-part course, taught by world-renowned immunologists, provides a comprehensive 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.

Faculty

Juan Carlos Zúñiga-Pflücker, *University of Toronto and Sunnybrook Research Institute*
Introduction to the Immune System

Lewis L. Lanier, *University of California, San Francisco*
Innate Immunity: Introduction to the Cells

Deborah A. Fraser, *California State University Long Beach*
Complement

Helen S. Goodridge, *Cedars-Sinai Medical Center*
Innate Immunity: Introduction to Pattern Recognition and Intracellular Signaling

Wendy L. Havran, *The Scripps Research Institute*
Introduction to Adaptive Immunity

Nilabh Shastri, *University of California, Berkeley*
Antigen Processing and Presentation

Juan Carlos Zúñiga-Pflücker, *University of Toronto and Sunnybrook Research Institute*
MHC Restriction and Thymic Selection

David Nemazee, *The Scripps Research Institute*
B Cell Development and Maturation

Shannon J. Turley, *Genentech, Inc.*
Dendritic Cells: The Bridge Between Innate and Adaptive Immunity

Michael Croft, *La Jolla Institute for Allergy and Immunology*
Effector T Cell Differentiation and Response

Shane Crotty, *La Jolla Institute for Allergy and Immunology*
B Cell Activation and Humoral Immunity

M. Carrie Miceli, *University of California, Los Angeles*
Signaling in the Immune System

Ninan Abraham, *University of British Columbia*
Cytokines

Stephen M. Hedrick, *University of California, San Diego*
Host-Pathogen Co-evolution in Human Beings: the Red Queen and the Grim Reaper

Megan K. Levings, *University of British Columbia*
T and B Cell Tolerance

Matthias G. von Herrath, *La Jolla Institute for Allergy and Immunology*
Autoimmunity

Michelle Hickey, *University of California, Los Angeles*
Transplantation

Cathryn Nagler, *University of Chicago*
Mucosal Immunology

Marion Pepper, *University of Washington*
Type 2 Immunity

Antoni Ribas, *University of California, Los Angeles*
Tumor Immunology

Robert L. Modlin, *University of California, Los Angeles David Geffen School of Medicine*
Immunity to Bacterial Pathogens

Elina Zuniga, *University of California, San Diego*
Immunity to Viruses

Martin Prlic, *Fred Hutchinson Cancer Research Center*
Immunologic Memory

Nicole Frahm, *Fred Hutchinson Cancer Research Center*
Vaccination

Donald B. Kohn, *University of California, Los Angeles*
Genetic Approaches to Immune-Mediated Diseases

Andrew C. Chan, *Genentech, Inc.*
Bench to Bedside to Bench: Current Issues in Immunology

For complete course details and registration, visit: www.aai.org/Education/Courses

For assistance, contact **(301) 634-7178** or **meetings@aai.org**. Overseas applicants are advised to apply early for visas; for details, visit **www.aai.org/Education/Courses/Visa.html**.

Financial support for underrepresented minority scientists is available through the FASEB MARC Program; for details, visit **www.faseb.org/Professional-Development-and-Diversity-Resources/Travel-Awards.aspx**.

FEATURE

DIVERSITY ARTICLE CITES AAI MINORITY AFFAIRS COMMITTEE EFFORTS

Cherié Butts, Chair, AAI Minority Affairs Committee

AAI brings together scientists from a variety of backgrounds and immunology-related areas. As such, the association serves as a conduit for innovative approaches that address complex immunological questions and drive the direction of biomedical research.

This is further emphasized by the association's efforts to nurture scientists from groups typically under-represented in the field of immunology. AAI does this through different mechanisms, including travel awards for scientists to present their research at the annual meeting; professional development activities, such as the AAI Minority Affairs Committee (MAC) Careers Roundtable and Speed Networking session; and the AAI Vanguard Lecture, which features cutting-edge research from a scientist coming from an under-represented group. These activities provide a strong foundation for AAI to foster successful careers for scientists of all backgrounds.

AAI Minority Affairs Committee (MAC) Chair Cherié Butts (center), along with MAC colleague Robert Binder (right) and AAI member Avery August (left), co-presenting 2017 AAI travel awards to students Amber Gomez (second from left) and Elizabeth Okafor

Participants at the Careers Roundtable and Speed Networking Session at the AAI annual meeting, sponsored by the AAI Minority Affairs Committee

Efforts by AAI (and other organizations) to enhance the development of scientists from under-represented groups were featured in a recent issue of *Nature Reviews Immunology*. Entitled "Prime-boost strategies to embrace diversity and inclusion in immunology,"* co-authors included AAI MAC Chair Cherié Butts, Biogen (AAI '01), Avery August, Cornell University (AAI '99), and Irelene P. Ricks, Keystone Symposia. The article highlighted the importance of diversity in immunology research. In addition, it emphasized several items, including the need to:

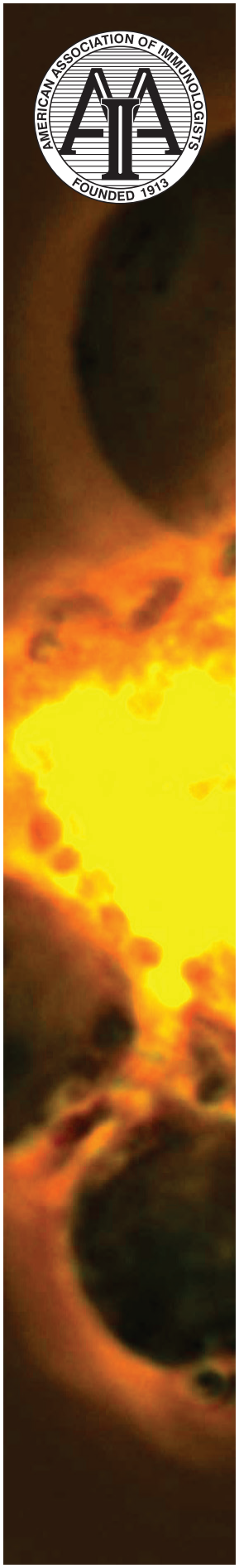
- redefine what is considered a successful scientific career
- continue activities to attract scientists from under-represented groups to immunology
- increase activities to retain scientists currently in the pipeline
- encourage more scientists to participate in decision-making

"I was delighted when Dr. Butts approached me to work on the article for *Nature Reviews Immunology*," said co-author August. "It was a great opportunity for us to brainstorm together. I could not be more pleased with the outcome and hope that some of the ideas resonate with the immunology community."

This work was also featured in a video podcast with the authors, discussing the article's development (see https://www.youtube.com/watch?v=hDXtd-OHFAg).

AAI welcomes registered attendees at IMMUNOLOGY 2017™ to participate in the Careers Roundtable and Speed Networking Session and to attend the AAI Vanguard Lecture, which features Tyler J. Curiel, University of Texas Health Science Center, San Antonio, and his presentation, *Advancing towards optimized cancer immunotherapy*. Both events are sponsored by the AAI Minority Affairs Committee. For complete information on IMMUNOLOGY 2017™, please visit www.immunology2017.org.

* *Nat. Rev. Immunol.* 2016, 16:715-716.



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 of MGH, MIT and Harvard

Don't miss the premier course in immunology for research scientists!

This intensive course is directed toward advanced trainees and scientists who wish to expand or update their understanding of the field. Leading experts 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 principles of immunology.

Faculty

Ulrich H. von Andrian, *Harvard Medical School Ragon Institute of MGH, MIT and Harvard*
Anatomy of the Immune Response

Jonathan C. Kagan, *Children's Hospital Boston Harvard Medical School*
Innate Immunity: Pattern Recognition and Anti-microbial Mechanisms

Bruce Horwitz, *Brigham & Women's Hospital Harvard Medical School*
Innate Immunity: Gene Regulation

Paul Kubes, *University of Calgary*
Innate Immunity: Cellular Mechanisms

Wayne M. Yokoyama, *Washington University School of Medicine*
NK Cells — Their Receptors and Function in Health and Disease

John P. Atkinson, *Washington University School of Medicine*
Complement System in Innate and Adaptive Immunity

Edward M. Behrens, *Children's Hospital of Philadelphia*
Dendritic Cells

Eugene M. Oltz, *Washington University School of Medicine*
The Generation and Modification of Lymphocyte Antigen Receptor Genes

Lisa A. Borghesi, *University of Pittsburgh School of Medicine*
B Cell Development

Avinash Bhandoola, *NCI, NIH*
T Cell Development

Kai W. Wucherpfennig, *Dana-Farber Cancer Institute Harvard Medical School*
MHC-restricted Antigen Presentation to T Cells

Leslie J. Berg, *University of Massachusetts Medical School*
Signaling from Antigen Receptors

David Masopust, *University of Minnesota Center for Immunology*
T Cell Memory

Joshy Jacob, *Emory University*
B Cell Memory

Arup K. Chakraborty, *Massachusetts Institute of Technology*
Computational Modeling of Immunological Processes

Brian A. Cobb, *Case Western Reserve University School of Medicine*
Glycoimmunology

Richard S. Blumberg, *Brigham & Women's Hospital Harvard Medical School*
Mucosal Immunity

Bruce D. Walker, *Ragon Institute of MGH, MIT and Harvard*
Immune Response to Pathogens

Jennifer Anolik, *University of Rochester Medical Center*
B Cell Tolerance and Autoimmunity

David A. Hafler, *Yale School of Medicine*
T Cell Tolerance and Autoimmunity

Jonathan Kipnis, *University of Virginia School of Medicine*
Neuroimmunology

Lisa H. Butterfield, *University of Pittsburgh*
Tumor Immunology

Joanne L. Viney, *JLV Biotech Consulting*
Immunotherapeutics

Gary J. Nabel, *Sanofi*
Vaccines

For complete course details and registration, visit: www.aai.org/Education/Courses

For assistance, contact **(301) 634-7178** or **meetings@aai.org**. Overseas applicants are advised to apply early for visas; for details, visit **www.aai.org/Education/Courses/Visa.html**.

Financial support for underrepresented minority scientists is available through the FASEB MARC Program; for details, visit **www.faseb.org/Professional-Development-and-Diversity-Resources/Travel-Awards.aspx**.

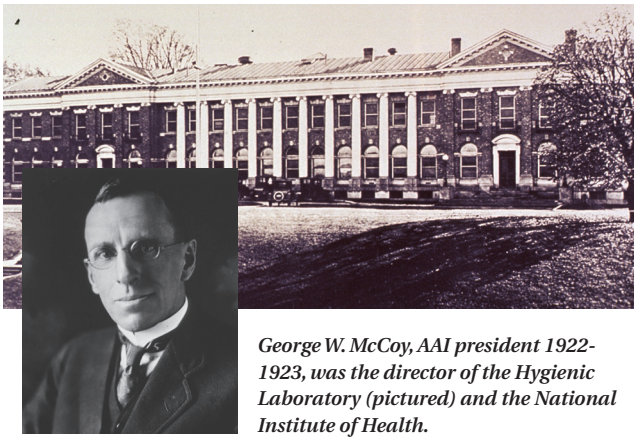
FEATURE

A LEGACY MORE THAN A CENTURY IN THE MAKING

Looking back at AAI and its earliest honorary members

In 1916, The American Association of Immunologists (AAI) welcomed its first honorary members from the Washington, DC, area, initiating a relationship between AAI and the federal biomedical research laboratories of the U.S. Army, Navy, and Public Health Service (PHS), that has endured for over a century.

The seeds of this relationship were planted one year earlier at the second annual meeting of AAI in 1915, held at the Willard Hotel, in the nation's capital. Founding member and AAI Council President A. Parker Hitchens (AAI 1913) proposed to the council a resolution extending "active membership, without the payment of dues" to the directors and assistant directors of the laboratories at the Army Medical School, the Naval Medical School, and the Hygienic Laboratory of the PHS.[1] Hitchens himself had served in a variety of capacities in the U.S. Army Medical Corps and understood the importance of the governmental funding of medical research. By offering these memberships to scientists in these laboratories, AAI could forge important connections and reinforce the importance of a professional society for the growing field. In the context of World War I (1914–1918), this overture to military medical science was also a statement of patriotism and readiness to cooperate for the nation's good.[2] Hitchens' resolution was unanimously approved.

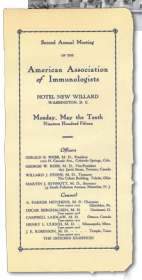


George W. McCoy, AAI president 1922-1923, was the director of the Hygienic Laboratory (pictured) and the National Institute of Health.

This declaration made clear that these special memberships were to be associated with director-level positions—not administrators—from these laboratories, suggesting that it was meant to attract working scientists into AAI. During the election of new members at the 1916 annual meeting, no names were read for these new members;[3] only when the election was confirmed by the council did their names finally appear in the official record.[4]

With the association only three years old in 1916, membership categories were still a bit fluid; no formalized membership criteria or categories existed. Just one year later, however, when the first AAI Constitution and Bylaws were enacted, honorary memberships were eliminated. Any honorary memberships prior to the new bylaws were converted to active ones; the idea of non-dues memberships was quietly abandoned.[5] Because of this, the only people to enjoy this benefit were Edward B. Vedder and Eugene R. Whitmore at the Army Medical School, Edward R. Stitt and Charles S. Butler at the Naval Medical School, and George W. McCoy and Arthur M. Stimson at the Hygienic Laboratory.

Of these former honorary members, McCoy had the most significant involvement with AAI. Just two years after becoming a member, he was elected to the AAI Council and became the ninth AAI president in 1922. During his time as director of the Hygienic Laboratory, the scope of research there grew to encompass basic science, in addition to applied research. In his tenure with the federal


Second Annual Meeting
OF THE
American Association of Immunologists
HOTEL NEW WILLARD
WASHINGTON, D. C.
Monday, May the Tenth
Nineteen Hundred Fifteen
Officers
Council

The decision at the AAI annual meeting in 1915 at the Willard Hotel in Washington, DC, initiated the relationship between AAI and federal biomedical laboratories.

government, McCoy presided over the Hygienic Laboratory becoming the National Institute of Health and remained its director until 1937. In that same year, AAI declared McCoy a special honorary member. The dues ledger for McCoy indicates that he was never charged a membership fee throughout his lifelong affiliation with AAI.

The other laboratory directors who had received honorary membership (before the 1917 bylaws) continued their research, even after leaving the posts that had provided them AAI membership. In addition to being the only honorary member to publish his work in *The Journal of Immunology*, Vedder remained in the Army in various research positions. His efforts gained wider recognition by demonstrating that beriberi was a deficiency disease, and in 1936 he first synthesized thiamine for its treatment.[6] After retiring from the Army in 1920, Whitmore taught at George Washington and Georgetown universities.[7] Stitt remained in the Navy, authored two foundational textbooks on bacteriology and tropical disease, served as President Woodrow Wilson's attending physician after his stroke in 1919, and was promoted to surgeon general of the Navy in 1921.[8] Butler spent his career in the Navy, retiring in 1939.[9] Stimson spent his entire career in the PHS (1902–1941), serving as the chief of the Division of Scientific Research from 1922–1930.[10]

The three institutions that employed these scientists no longer exist as they had in 1915. The growth of government and military research had necessitated their expansion and relocation to the Maryland suburbs surrounding Washington, DC. After the Hygienic Laboratory became the National Institute of Health under McCoy, the institute relocated to its current Bethesda campus in 1938 and gradually expanded into the National Institutes of Health (NIH) of today. The Army Medical School underwent a few name changes before settling on its identity as the Walter Reed Army Institute of Research and moved its headquarters to its current location in Silver Spring. The Naval Medical School, once located at the Old Naval Observatory in Washington, DC, moved to the new National Naval Medical Center in Bethesda in 1942. As part of the Base Realignment and Closure Commission, on May 13, 2005, the Naval Medical Center became part of the larger Walter Reed National Military Medical Center in Bethesda, across the street from NIH.

The Walter Reed Army Institute for Research traces its beginnings to the laboratories in the U.S. Army Medical School (c. 1916–23).

The scientists employed at these government research institutions have been an active and vital part of AAI since the first honorary memberships were bestowed on its early directors. Today, AAI has the honor of counting more than 220 members from their laboratories. The foresight that Hitchens displayed more than a century earlier laid the groundwork for a long and productive relationship, which has had a profound impact on the study and understanding of immunology.

Attendees at IMMUNOLOGY 2017™ will be able to view a special exhibit highlighting leading members and influential immunology institutions in the Washington, DC, metropolitan area. The History Exhibit will be located on the 2nd floor of the Walter E. Washington Convention Center.

References

1. "Minutes of Second Annual Meeting of the American Association of Immunologists," May 10, 1915, AAI Archive, Rockville, MD [hereafter, AAI Archive-Rockville].
2. For more information about the AAI and World War I, see "*The JI* in a World at War," *AAI Newsletter*, October, 2016, 38–43.
3. "Minutes of Third Annual Meeting of the American Association of Immunologists," May 11–12, 1916, AAI Archive-Rockville.
4. "Minutes of Annual Council Meeting of the American Association of Immunologists," June 10, 1916, AAI Archive-Rockville.
5. "Minutes of Annual Council Meeting of the American Association of Immunologists," March 31, 1917, AAI Archive-Rockville.
6. Robert R. Williams, "Edward Bright Vedder: A Biographical Sketch," *The Journal of Nutrition* 77, no. 1 (1962): 3–6.
7. "In Memoriam: Eugene Randolph Whitmore, 1874–1957," *American Journal of Clinical Pathology* 29, no. 3 (1958): 269.
8. "Stitt," TIME, December 8, 1924, 30.
9. "Obituary: Charles St. John Butler (1875–1944)," *American Journal of Clinical Pathology* 14, no. 12 (1944): 620.
10. Jeannette Barry, *Notable Contributions to Medical Research by Public Health Scientists: A Biobibliography to 1940* (U.S. Department of Health, Education, and Welfare: Washington, DC, 1960), 56.

GRANTS AND AWARDS

April 15

NIAID Primary Caregiver Technical Assistance Supplements

- **Prize/Award:** Grants to support postdoctoral research scientists taking care of a child or sick family member; each grant provides funds for an NIAID grantee to hire and cover salary and fringe benefits for a mid-to-senior-level technician to fill in when the caregiver needs to be away from the lab
- **Eligibility:** Principal investigators with at least two years of NIAID support remaining who seek supplemental funding to assist a postdoctoral researcher in need of primary caregiver technical support; the postdoctoral researcher must have at least one full year's experience at an NIAID-funded laboratory and be a primary caregiver for a child or ailing relative
- **Details:** https://www.niaid.nih.gov/grants-contracts/research-supplements#A4
- **Contact:** Raushanah Newman: (240) 669-2925; AITrainingHelpDesk@niaid.nih.gov

May 1

Thomas E. Starzl Prize in Surgery and Immunology

- **Prize/Award:** A crystal award, honorarium of $10,000, and travel to the University of Pittsburgh to receive the award and present the award lecture
- **Eligibility:** Outstanding national or international leaders in the field of organ transplantation who have made significant contributions to transplantation and immunology research
- **Details:** https://stiresearch-health.secure.pitt.edu/node/427
- **Contact:** (412) 383-8884; starzlprize@upmc.edu

May 23

Gustav O. Lienhard Award

- **Prize/Award:** Presented by the Institute of Medicine with support from the Robert Wood Johnson Foundation, $40,000 and the Lienhard Medal in recognition of outstanding achievement in improving health care services in the United States
- **Eligibility:** Nominees meriting recognition for innovative, creative, and/or pioneering achievement of national scope in endeavors that have appreciably improved personal health services, whether through clinical or leadership activities; points of emphasis may include nominee's unique contribution to the achievement, positive change over a sustained period through the nominee's achievement, a qualitative and quantitative impact, and/or success in overcoming barriers based on resources available
- **Details:** https://nam.edu/about-the-nam/gustav-o-lienhard-award/
- **Contact:** LienhardAward@nas.edu

June 9

ASM Award in Clinical and Diagnostic Immunology

- **Prize/Award:** Recognition of a distinguished scientist in clinical or diagnostic immunology for outstanding contributions to those fields
- **Eligibility:** Any nominee demonstrating significant contributions to the understanding of the functioning of the host immune system in human disease, clinical approaches to diseases involving the immune system or development, or clinical application of immunodiagnostic procedures
- **Details:** http://www.asm.org/index.php/awards2/10-awards-a-grants/awards/52-abbott-laboratories-award-in-clinical-and-diagnostic-immunology
- **Contact:** (202) 737-3600; academy@asmusa.org

June 15

AAI Travel for Techniques Awards

- **Prize/Award:** Up to $1,500 in reimbursable expenses to support travel to another laboratory to learn a particular technique relevant to the applicant's research but inaccessible at local institutions
- **Eligibility:** Qualifying AAI regular and associate members in good standing seeking to expand their skills to benefit their research
- **Details:** www.aai.org/awards
- **Contact:** AAI: (301) 634-7178; awards@aai.org

June (Date TBD; applications open May 15)

Ferring Research Institute (FRI) Innovation Grants

- **Prize/Award:** Annual, non-renewable grants in amounts ranging from $50,000 to $100,000 in support of exploratory/feasibility studies, discovery/validation studies, and pre- and post-doctoral fellowships for research in one of FRI's areas of interest: gastroenterology and hepatology, reproductive health, endocrinology, and urology
- **Eligibility:** Scientists and trainees proposing studies that advance basic and preclinical research into novel drug targets addressable with peptides and/or proteins
- **Details:** http://ferring-research.com/ferring-grants/overview/
- **Contact:** (858) 657-1400; info@ferring-research.com

EDITOR-IN-CHIEF

The Journal of Immunology

The American Association of Immunologists
seeks applicants for the position of
Editor-in-Chief for ***The Journal of Immunology***

The Journal of Immunology (The JI) is a scholarly, peer-reviewed journal owned and published by The American Association of Immunologists (AAI) – a non-profit, professional association representing almost 8,000 scientists world-wide dedicated to the field of immunology. First published in 1916, *The JI* is published twice monthly in print and online.

The Editor-in-Chief (EIC) is responsible for maintaining *The JI* as a definitive resource within the research community. To achieve this goal, the EIC must ensure 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.

Applications are invited from active AAI members in good standing who have an accomplished scientific career, appropriate editorial experience, strong leadership qualities, and vision for the future of *The JI*.

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. 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

MEETINGS AND EVENTS

Mark Your Calendar for These Important Dates!

2017

April 7–10, 2017
30th Annual Canadian Society of Immunology Spring Meeting
The Banff Centre
Banff, Alberta, Canada
https://www.csi-sci.ca/scientificmeeting.aspx

May 12–16, 2017
IMMUNOLOGY 2017™
AAI Annual Meeting
Walter E. Washington Convention Center
Washington, DC
http://www.IMMUNOLOGY2017.org

June 17–18, 2017
Southeastern Immunology Symposium
Vanderbilt University
Nashville, TN
https://vanderbilt.irisregistration.com/Home/Site?code=SIS

July 11–16, 2017
AAI Introductory Course in Immunology
UCLA Luskin Conference Center
Los Angeles, CA
http://www.aai.org/Education/Courses

July 23–28, 2017
AAI Advanced Course in Immunology
Seaport World Trade Center
Boston, MA
http://www.aai.org/Education/Courses

August 10–11, 2017
FASEB MARC Program Postdoctoral Preparation Institute
Gaylord National Resort & Convention Center
National Harbor, MD
http://twdprograms.org/

September 8–12, 2017
16th European Meeting on Complement in Human Disease
Copenhagen, Denmark
http://emchd2017.dk/

September 11–14, 2017
European Society for Immunodeficiencies (ESID) 2017 Meeting
Edinburgh, UK
http://esid2017.kenes.com/

October 6–8, 2017
15th International Workshop on Langerhans Cells
Memorial Sloan Kettering Cancer Center
New York, NY
www.lc2017.org/

October 23–26, 2017
20th Annual Upstate New York Immunology Conference
The Sagamore Resort and Conference Center,
Bolton Landing, NY
http://www.amc.edu/NYIC/

October 26–30, 2017
American College of Allergy, Asthma & Immunology Annual Scientific Meeting
Boston, MA
http://annualmeeting.acaai.org/

November 17–20, 2017
Autumn Immunology Conference (AIC) 2017
JW Marriott
Chicago, IL
http://www.autumnimmunology.org/

2018

March 2–5, 2018
World Allergy Organization Meeting 2018
Orlando, FL
http://www.worldallergy.org/meetings

May 4–8, 2018
IMMUNOLOGY 2018™
AAI Annual Meeting
Austin, TX
http://www.aai.org/Meetings/Future_Meeting.html

June 17–21, 2018
ISDCI 2018: 14th International Society of Developmental and Comparative Immunology (ISDCI) Congress
Santa Fe, NM
http://www.isdci.org/17257/Congress

September 12–15, 2018
European Congress of Immunology (ECI)
Istanbul, Turkey
https://www.efis.org/immunology-meetings/european-congress-of-immunology-eci/about/index.html?nav=true

September 16–20, 2018
27th International Complement Workshop
Santa Fe, New Mexico
https://www.regonline.com/ICW2018

November 16–19, 2018
Autumn Immunology Conference (AIC) 2018
Chicago Marriott Downtown, Chicago, IL
http://www.autumnimmunology.org/

2019

April 25–30, 2019
ICI2019: 17th International Congress of Immunology
Beijing, China
http://landing.iuis2019.org

May 9–13, 2019
IMMUNOLOGY 2019™
AAI Annual Meeting
San Diego, CA
http://www.aai.org/Meetings/Future_Meeting.html

2020

May 8–12, 2020
IMMUNOLOGY 2020™
AAI Annual Meeting
Honolulu, HI
http://www.aai.org/Meetings/Future_Meeting.html

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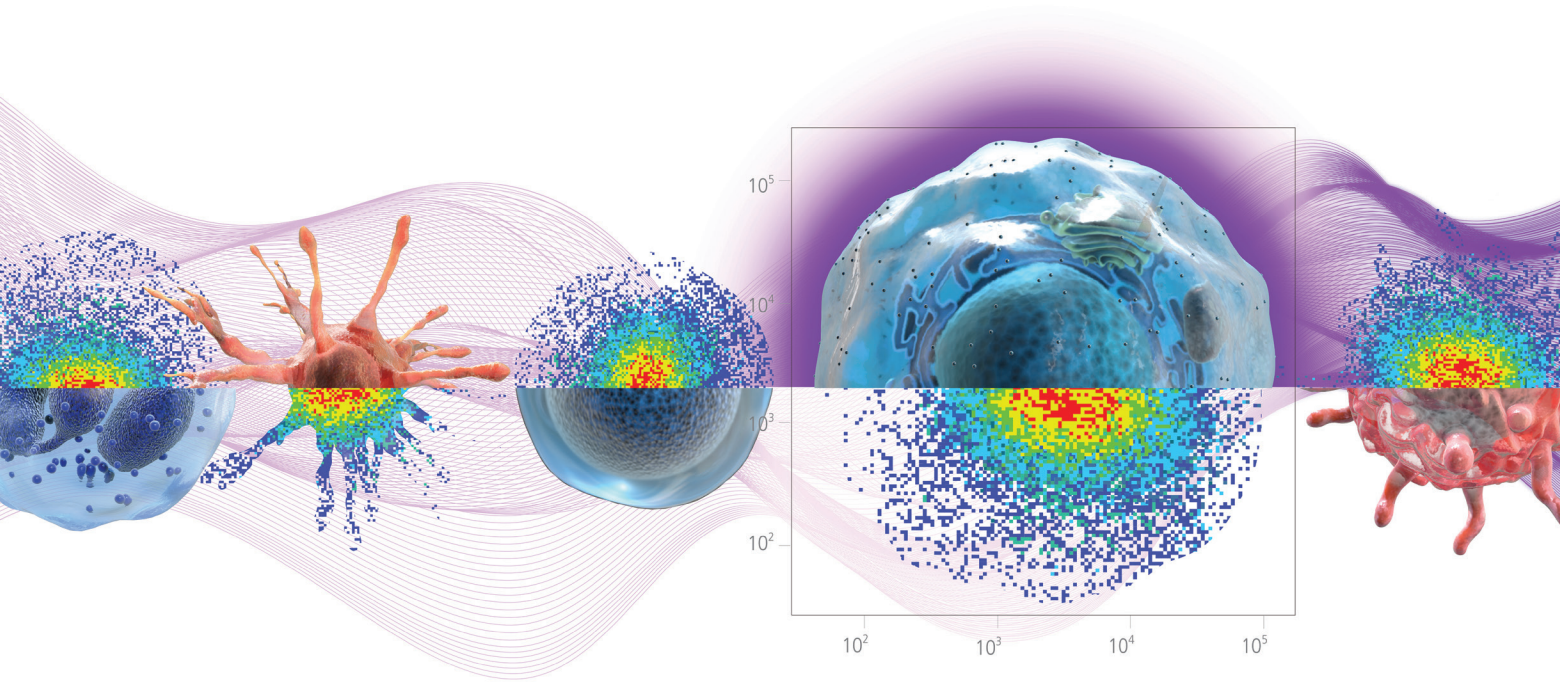

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