SPECIAL ISSUE

AAI Newsletter

The American Association of Immunologists

IMMUNOLOGY 2012™

Program Preview • 99th AAI Annual Meeting

May 4–8, 2012 | Hynes Convention Center | Boston, Massachusetts

MARCH/APRIL 2012

Issue Highlights

- AAI President's Invitation Letter
- Focus on Public Affairs
- 2012 AAI Career Awardee Profiles
- 2012 Annual Meeting Preview
- 2012 Meeting Exhibitors, Sponsors

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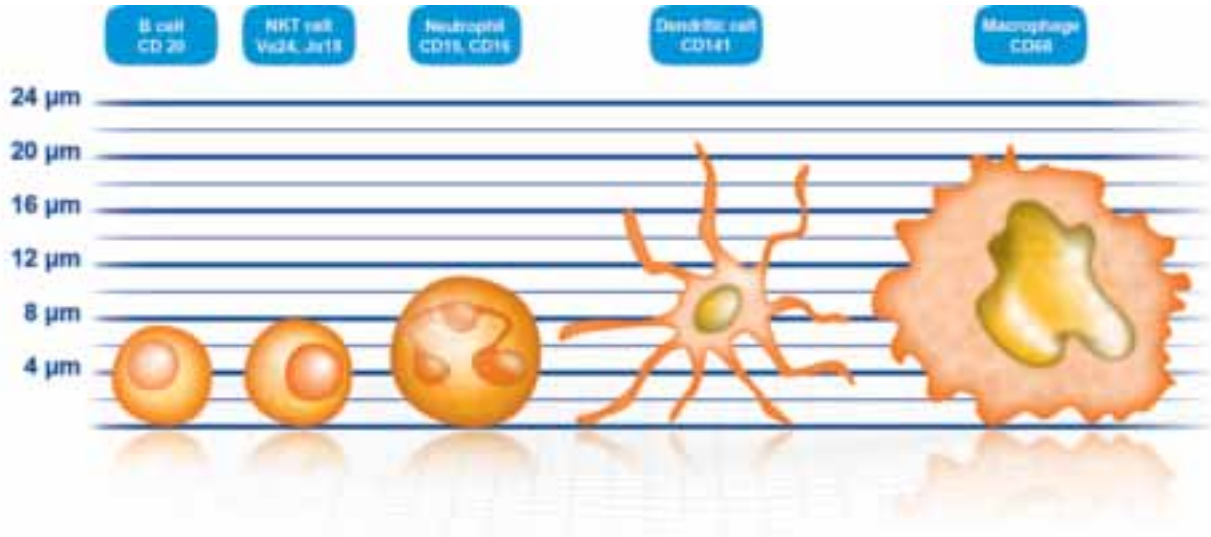

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IMMUNOLOGY 2012™

AAI President's Invitation to IMMUNOLOGY 2012™!

Dear AAI Members, Guest Society Members, and Colleagues:

Leslie J. Berg, Ph.D.
AAI President

It is my great pleasure to invite you to IMMUNOLOGY 2012™ and to the historic city of Boston, Massachusetts. For your stay in Boston in May, I urge you to put aside your concerns about the economy, the state of funding, and future career opportunities. Instead, take some time here to pause and marvel at the tremendous progress we are witnessing in our field. We are fortunate to be working at a time of great strides in immunology, so many that, even as densely packed as the meeting program is, it still cannot encompass every single important advance in the field. Still, no other venue can provide the broad exposure to the best and most exciting research we'll gain during the week in the Major Symposia, the Distinguished Lectures and Awards Lectures, the President's Symposium, Guest Society Symposia, NIH Institute-sponsored Symposia, the 69 Block Symposia, and the more than 1,700 poster presentations.

And there's even more than the scientific sessions making IMMUNOLOGY 2012™ unique. There are educational sessions that discuss the ins and outs of publishing, peer review, funding, and career advancement, as well as sessions focusing on the public policy issues and political developments impacting our field. We'll also have sessions to explore issues relevant to specific disciplines such as veterinary immunology and clinical immunology. There will be sessions to highlight the challenges of specific career paths—whether in academia or beyond—and the art of maintaining a work-life balance addressed by inspirational scientists. And then there are the phenomenal social events made possible through the generosity of our sponsors.

But, just as important, remember that this meeting brings you together with over 3,000 of your colleagues—individuals from across the United States, as well as all the far reaches of the globe. So spend some time finding your friends or talking with your colleagues. Look for that person whose papers you've read and always wanted to meet. Find that person you've been meaning to talk to about a potential collaboration. Stake out that interesting poster, and take advantage of the daily poster-presentation hour to meet with the presenting authors and discuss their intriguing findings.

Then, after business, there is pleasure! Boston is a beautiful, walkable city, and we are lucky that our meeting is situated in the heart of the Back Bay. No matter whether your interests are music, arts, sports, or history, you will find it worthwhile to spend some time exploring the city. Just walk right outside the door!

This is also my opportunity to thank everyone involved in planning and implementing this colossal meeting. We are fortunate to have the insight and wisdom of the AAI Program Chair Kris Hogquist, who has done a magnificent job fulfilling her responsibility for the Scientific Program. And, in turn, she is fortunate to have the dedicated and efficient AAI staff behind her to organize the myriad details necessary for a meeting of this scale. My own personal thanks go to AAI Executive Director Michele Hogan, who is the backbone of the association. Not only does she manage all of AAI's numerous activities, including overseeing the annual meeting and *The Journal of Immunology*, but she also "manages" the president as well!

See you in Boston!

Leslie Berg, Ph.D., *AAI President*

Focus on Public Affairs

President Obama Releases Budget for FY 2013

President Obama unveiled his budget for FY 2013 on February 13. The president's budget includes $30.7 billion for NIH, the same amount received by NIH in FY 2012.

Though the president's budget "flat funds" NIH, it would allow NIH to move forward with its plan to fund an estimated 672 more competing Research Project Grants (RPGs) in FY 2013, an increase of 7.7 percent. This increase would be achieved by reducing the number of non-competing RPGs by one percent from the previous year level (by terminating grants as they expire and issuing shorter grants), eliminating inflationary increases for competing and non-competing awards, and negotiating the budgets of competing RPGs to avoid growth in the average award size. In addition, applications from researchers who have more than $1.5 million in NIH funding would be subject to additional scrutiny and review by the Advisory Council of the NIH Institute or Center to which they submitted their application. The budget also provides a two percent increase in stipends awarded under the Ruth L. Kirschstein National Research Service Awards (NRSA) training program, and increases the budget of the recently established National Center for Advancing Translational Sciences (NCATS) by $64 million (11 percent), for a total budget of $639 million.

Although the president has proposed a flat budget, the projected rate of biomedical research inflation (2.8 percent for 2013) means that NIH's purchasing power would decrease to approximately 2001 levels, an insufficient amount. Nevertheless, maintaining even flat funding in this fiscal environment is difficult since the Budget Control Act of 2011 (the debt ceiling agreement) caps FY 2013 nonsecurity discretionary spending at $361 billion (just $2 billion more than last year).

The president's budget is a blueprint of his priorities for the coming year and does not need to be approved by the House or Senate or be enacted into law. Instead, Congress develops and approves its own budget resolution, which may (or may not) be based on the president's budget resolution, and which guides the allocation of federal funds by the House and Senate appropriations committees. At press time, however, no budget resolution had been introduced in either the House or the Senate.

Acting CSR Director to Speak on NIH Peer Review at IMMUNOLOGY 2012™

The AAI Committee on Public Affairs will host a special session entitled *NIH Peer Review: Understanding the New System* at IMMUNOLOGY 2012™ in Boston. The session will be held on Saturday, May 5, 2012, from 11:30 a.m.–1:00 p.m., in Room 309 of the Hynes Convention Center.

The overhaul of the NIH peer review system, including the elimination of the A2 grant application, has pleased, puzzled, and angered both applicants and reviewers. With NIH success rates as low as they have ever been, understanding the NIH peer review process is essential to securing funding. This session will provide an overview of the current peer review system, including the role and power of both CSR and the individual institutes, and provide attendees with a robust question and answer session to address key questions and concerns.

The session will feature three guest speakers: Richard Nakamura, acting director of the NIH Center for Scientific Review (CSR), who will focus on recent changes to—and the future of—peer review at NIH; Daniel Rotrosen, director of the Division of Allergy, Immunology, and Transplantation at NIAID, who will explain the role of an NIH institute (NIAID) in the peer review process; and Elizabeth Kovacs, chair of the AAI Subcommittee on Peer Review and Grant Submission, who will describe some of the main questions and concerns of grant applicants and reviewers. The session will be chaired by Derry Roopenian, chair of the AAI Committee on Public Affairs.

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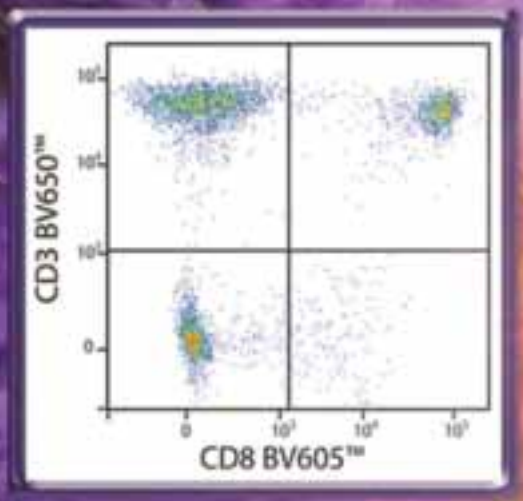

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2012 AAI Career Award Recipients

AAI proudly presents the 2012 AAI Awards for outstanding research and career achievements.

Arthur Weiss Honored with AAI Lifetime Achievement Award

Arthur Weiss, M.D., Ph.D., HHMI, University of California, San Francisco, (UCSF), has been named recipient of the 2012 *AAI Lifetime Achievement Award* in recognition of a career of extraordinary scientific accomplishment as well as outstanding leadership and service to AAI. This award is the highest honor bestowed by the AAI Council upon an AAI member.

Weiss has contributed seminal work on the signal transduction events that control T lymphocyte responses. His laboratory has elucidated mechanisms through which T cell antigen receptors initiate responses and demonstrated how deficiencies in these mechanisms can lead to diseases, including autoimmunity and leukemia.

Weiss has been an AAI member since 1981. He was elected to AAI Council in 2003 and served as AAI president from 2008 to 2009. In addition to his service on the AAI Council, Weiss has served as an associate editor for *The Journal of Immunology*, an abstract programming chair for the AAI annual meeting, and a member of the Nominating Committee. He has been a frequent speaker at the AAI annual meetings, including being selected as a Distinguished Lecturer in 1997. Weiss has served as a faculty member at the AAI summer courses and a delegate to the International Union of Immunological Societies. Weiss previously received the *AAI Junior Investigator Award* (1993) and the *AAI-Huang Foundation Meritorious Career Award* (2001) in recognition of his consistently outstanding contributions to the field of immunology.

Weiss received his Ph.D. in immunology and M.D. from the University of Chicago in 1978 and 1979, respectively. Following a postdoctoral fellowship at the Swiss Institute for Experimental Cancer Research in Lausanne, Switzerland, Weiss moved to UCSF to complete his training. In 1985, he joined the faculty of UCSF and was also made an investigator of the Howard Hughes Medical Institute the same year. He is the Ephraim P. Engleman Distinguished Professor of Rheumatology at UCSF. Weiss was elected a member of the Institute of Medicine of the National Academy of Sciences in 2004.

In addition to these honors, Weiss has received the *Lee C. Howley Senior Prize for Research in Arthritis* from the National Arthritis Foundation and the *Distinguished Investigator Award* from the American College of Rheumatology. He is an elected fellow of the American Academy of Arts and Sciences and the American Academy of Microbiology. He currently serves on the editorial boards of *Cell* and *Immunological Reviews* and has held editorial positions at *The Journal of Immunology*, *Science, The Journal of Clinical Investigation, The Journal of Experimental Medicine,* and *Immunity*, among others.

Dr. Weiss's career exemplifies the dedication to science and service honored by the *AAI Lifetime Achievement Award.*

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

AAI Excellence in Mentoring Award Bestowed upon Max Cooper

Max D. Cooper, M.D., Emory University School of Medicine, is the recipient of the 2012 *AAI Excellence in Mentoring Award.* Cooper is well known for his groundbreaking discoveries in immunology. Among his earliest findings were the identification and characterization of B and T lymphocytes in chickens, which he then utilized to classify human immunodeficiencies. He has continued to be on the leading edge of immunological research, as exemplified by his more recent discoveries of a large family of immunoglobulin-like receptor glycoproteins and a new system of antigen recognition molecules in jawless vertebrates.

Cooper is also renowned for having trained an impressive number of scientists who are now successful "second generation" investigators. His 134 trainees span the globe. Some 34 of them have professor-equivalent academic appointments, whereas many others are influential in clinical, biotechnology, and pharmaceutical settings. Cooper's first trainee, Paul W. Kincade, vice president of research at the Oklahoma Medical Research Foundation, refers to him as "the most optimistic person I have ever known, and [his optimism] is infectious." According to Kincade, Cooper "establishes well-defined relationships with his trainees," respecting but challenging their ideas, allowing an exceptional amount of academic freedom. "I cannot remember his ever saying no to an experiment. We would heatedly debate their potential merit, but I was left to decide what action to take," recalls Kincade.

Kelly M. McNagny, professor at the University of British Columbia, speaks of the long-lasting nature of his training relationship with Cooper, stating, "I still regularly consult him for advice and career moves because, despite having interacted with countless other highly successful scientists since my studies with Max, I honestly have not found a more exemplary scientific role model."

It is fitting that Cooper's remarkable record of mentorship over the past four decades be recognized with the 2012 *AAI Excellence in Mentoring Award.*

Cooper obtained his medical degree and completed his residency at Tulane University. Following an assistant professor appointment at the University of Minnesota, he

spent 40 years at the University of Alabama, Birmingham, joining the faculty in 1967 and holding the rank of professor in four departments—pediatrics, microbiology, medicine, and pathology—at his departure in 2008. He currently serves as professor of pathology and laboratory medicine at the Emory University School of Medicine, professor at the Emory Vaccine Center, a scientist at the Emory Center for AIDS Research, and a Georgia Research Alliance Eminent Scholar.

Cooper is a member of the Institute of Medicine of the National Academy of Sciences and an elected fellow of the American Academy of Arts and Sciences and the American Association for the Advancement of Science. Other prestigious awards and honors he has received in recognition of his scientific accomplishments include the *AAI Lifetime Achievement Award* (2000), the *AAI-Dana Foundation Award for Human Immunology Research* (2006), the *Sandoz Prize for Immunology*, the *American College of Physicians Science Award*, the *Avery-Landsteiner Prize*, and the *Robert Koch Award*.

A member of AAI since 1966, Cooper was elected to the AAI Council in 1983 and served as president from 1988 to 1989. Cooper has served as chair of the Nominating Committee, in an editorial capacity for *The Journal of Immunology*, and as a frequent speaker at AAI annual meetings.

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

John Atkinson Receives AAI Award for Human Immunology Research

John P. Atkinson, M.D., Washington University School of Medicine, has been selected to receive the 2012 *AAI Award for Human Immunology Research*. This award is given in recognition of Atkinson's pioneering work on complement biology and inflammation. Complement was initially appreciated only as a protease cascade in the fluid phase, a dogma which Atkinson challenged in the 1980s with his identification of membrane cofactor protein (MCP) and other membrane-bound complement-binding proteins. His subsequent research established the physiological relevance of MCP and other members of the regulators of complement activation (RCA) family in regulating complement activation and forms the foundation of our present understanding that these proteins protect our cells from autologous complement activation. Further, the findings of Atkinson's laboratory have been pivotal to the elucidation of the role of these complement receptors in human disease pathogenesis, with the identification of MCP as a receptor for numerous pathogens and the description of mutations in complement proteins in hemolytic uremic syndrome, among others. His work has also provided the foundation for new discoveries in the age of genomics, for example, the identification of the role of complement in age-related macular degeneration, a leading cause of blindness.

"As a true human immunologist, Dr. John Atkinson embodies the promise of basic immunology as a fundamental medical science," says Andrew C. Chan, senior vice president-research biology at Genentech, Inc. Chan, a former trainee in the laboratory of Atkinson, expounds, "His discoveries are being translated to human disease, not only to permit a molecular and mechanistic understanding of disease pathogenesis, but also into therapies to help patients, an extremely difficult task for human immunologists."

Atkinson earned his M.D. from Kansas University in 1969. Following a residency at Massachusetts General Hospital and work as a clinical associate and staff fellow at the Laboratory of Clinical Investigation, NIH, he moved in 1976 to the Washington University School of Medicine, where he now serves as Samuel B. Grant Professor of Medicine, acting chief of the Division of Rheumatology, and professor of molecular microbiology. He was a Howard Hughes Medical Institute investigator from 1976 to 1992.

Atkinson is a member of the Institute of Medicine of the National Academy of Sciences. He has been elected a fellow for both the American College of Physicians and American Association for the Advancement of Science.

Among his many awards are the *Lee C. Howley Senior Prize for Research in Arthritis* from the National Arthritis Foundation and the *American College of Rheumatology Distinguished Investigator* and *Master Awards*.

Since joining AAI in 1975, Atkinson has served AAI and the immunology community as an associate editor and section editor for *The Journal of Immunology*. He also has been an abstract programming chair and Major Symposium speaker at the AAI annual meeting.

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

AAI-Life Technologies Meritorious Career Award Conferred upon Peter Cresswell

Peter Cresswell, Ph.D., FRS, HHMI, Yale University School of Medicine, is being honored with the 2012 *AAI-Life Technologies Meritorious Career Award*. Cresswell has made seminal contributions to the field of immunology in the area of antigen processing and presentation, from his discovery of the role of the invariant chain in MHC Class II-restricted antigen processing to his identification of a cellular mechanism for cross-presentation by MHC Class I molecules. In addition to his work on presentation by classical MHC molecules, his findings have advanced the understanding of the assembly of CD1-lipid complexes for presentation to natural killer T (NKT) cells.

Continued next page

Cresswell's tremendous body of work, reflected in over 250 primary research articles, forms the basis for much of our present comprehension of antigen processing. "It would be impossible to find an immunology textbook in which Cresswell's discoveries do not constitute a large part of the descriptions in the chapters on antigen processing and presentation," says Richard A. Flavell, chairman of the Department of Immunology at Yale School of Medicine. "He has not only identified many of the proteins involved in these pathways but also determined the biochemical and cellular mechanisms by which such proteins participate in processing of antigens for presentation," according to Flavell.

While Cresswell's discoveries have provided a better understanding of basic immunology, they have also elucidated mechanisms of innate antiviral defense. For example, his work has demonstrated a viral evasion pathway utilized by herpes simplex virus 1 and shown antiviral activity by the interferon-inducible protein viperin.

Cresswell received his Ph.D. from London University in 1971 and continued his training as a postdoctoral fellow in the laboratory of Jack Strominger at Harvard University. In 1974, he was appointed to the faculty of Duke University, where he rose through the ranks to become full professor in 1985 and chief of the Division of Immunology in 1989. He was recruited to Yale University in 1991 and was named a Howard Hughes Medical Institute investigator. Since 2008, he has been Eugene Higgins Professor of Immunobiology at Yale.

Among his many honors are his designations as a fellow of the Royal Society, a fellow of the American Academy of Arts and Sciences, and a member of the Institute of Medicine of the National Academy of Sciences. In addition to these honors, Cresswell has received the *Rose Payne Award* from the American Society for Histocompatibility and Immunogenetics and the *Royal Society Buchanan Medal*.

A member of AAI since 1976, Cresswell has served as a section editor for *The Journal of Immunology*, has been a Distinguished Lecturer at the AAI annual meeting, and has served on the AAI Nominating Committee, Program Committee, and Awards Committee.

The AAI-Life Technologies Meritorious Career Award *is given annually for outstanding research contributions to the field of immunology.*

Shane Crotty Presented with the AAI-BD Biosciences Investigator Award

Shane Crotty, Ph.D., La Jolla Institute for Allergy and Immunology (LIAI), will receive the 2012 *AAI-BD Biosciences Investigator Award*. Crotty has vigorously pursued several lines of inquiry in the areas of immunity to vaccines and development of immunological memory. He has made seminal observations on the development of T follicular helper (Tfh) cells, identifying Bcl6 as a master regulator transcription factor and detailing the importance of dendritic cells, B cells, inducible costimulator (ICOS) receptor, and interleukin-2 in Tfh cell differentiation. "Shane continues to be a pathfinder and a recognized authority in the burgeoning group of investigators studying Tfh cells," says Amnon Altman, director of scientific affairs, La Jolla Institute for Allergy and Immunology. Throughout his career, Crotty has researched projects of basic and mechanistic immunology simultaneously with more translational studies, a dichotomy that is a unique feature of his research, according to Altman.

Crotty began his current research as a postdoctoral fellow in the lab of Rafi Ahmed, director of the Vaccine Center at Emory University. There, he demonstrated the long-lived humoral response to vaccination against smallpox virus, in the process developing the "Crotty assay," a human memory B cell assay now used by other investigators. "Shane can be very creative about experimental approaches, which is clearly one of the reasons for his success as a scientist," Ahmed says. Ahmed recalls the genesis of the Crotty assay: Upon finding that commercially available pokeweed mitogen extract lacked the desired memory B cell-stimulating activity he had detected in older but scarce PWM [pokeweed mitogen] vials at Emory, Crotty scouted for sites of pokeweed near Atlanta, harvested roots himself, and manufactured his own assay to stimulate human memory B cells to differentiate into plasma cells.

While still a postdoctoral fellow in Ahmed's lab, Crotty further identified the critical role of the adaptor protein SAP in the development of B cell memory, showing its function in the formation of Tfh cells and starting a very active line of research that has continued in his independent work as a faculty member at LIAI.

Crotty earned his Ph.D. from the University of California, San Francisco, in 2001. Following a postdoctoral fellowship at Emory University, he was appointed to a faculty position at LIAI in 2003, where he now holds the position of associate professor. Crotty earned his undergraduate degree at MIT with dual majors in biology and writing and the distinction of having his senior writing project, a biography of David Baltimore, published by the University of California Press. According to Altman, Crotty has put his writing talent to good use at LIAI, "writing about our science for the public…[initiating] broad ranging collaborations with many UCSD and LIAI colleagues, and… [co-authoring] publications with eight [other] of our faculty members." Crotty has more than 50 publications to his credit, many in the most prestigious journals, including *The Journal of Immunology, Science*, and *Annual Review of Immunology*. He co-wrote the "Immunological Memory" chapter of the newest *Fundamental Immunology*.

An AAI member since 2004, Crotty has previously been recognized for his scientific accomplishments by being appointed a permanent member of the NIH Immunity and Host Defense Study Section, being named a Pew Scholar in the Biomedical Sciences, and receiving the *Cancer Research Institute Young Investigator Award* and the 2007 *AAI Pfizer-Showell Award*.

The AAI-BD Biosciences Investigator Award *is presented annually for outstanding, early-career research contributions to the field of immunology.*

2012 AAI Distinguished Service Award Winners Announced

For their outstanding service to the AAI community and the immunology field as a whole, AAI is pleased to present Brian Cobb, William Green, and John Schreiber with the 2012 *AAI Distinguished Service Award*.

Brian A. Cobb, Ph.D.
Case Western Reserve University School of Medicine

Brian A. Cobb, AAI '06, has provided immeasurable service to AAI as director of the AAI High School Teachers Summer Research Program from 2007 to 2012. During his tenure, he solicited and reviewed applications from teachers, matched teachers with AAI member mentors for their summer research experiences, provided mentorship to teachers in their development of curricula, and chaired the educational session at the AAI annual meeting that highlights the teachers' curricula. He has also shown his commitment to educational initiatives through his past service on the AAI Education Committee (2007–2010).

Cobb received his Ph.D. from Washington University in 2001. He continued his training at Harvard Medical School as a postdoctoral fellow in the laboratory of Dennis Kaspar. In 2005, Cobb was appointed to his current position of assistant professor of pathology at Case Western Reserve University School of Medicine. He previously was honored with the *AAI Pfizer-Showell Award* (2009) and the *American Asthma Foundation Early Excellence Award*.

William R. Green, Ph.D.
Dartmouth Medical School

William R. Green, AAI '80, has provided vital leadership to AAI in his service on the AAI Committee on Public Affairs from 2004 to 2009, the last two years as chair. During his tenure as chair, he led the organization's advocacy for increased NIH funding by describing the impact of investing in biomedical research on improving individual and global health and stimulating economic activity and job creation. After NIH received an additional $10 billion through The American Recovery and Reinvestment Act (ARRA), Green advised NIH on how best to use the funds and alerted Congress to the deleterious effect on researchers and research of any post-ARRA reduction in funding. He also led AAI efforts to comment on proposed changes to the NIH peer-review system and presided over the launch of an important new program, the AAI Research Advocacy Program, which enables policy leaders from relevant patient-advocacy organizations to learn about basic immunology, to meet leading researchers, to connect with young investigators, and to learn about public policy issues of concern to AAI. Green has also served as an associate editor for *The Journal of Immunology*.

Green earned his Ph.D. in microbiology and immunology from Case Western Reserve University in 1977. Following postdoctoral fellowships at Johns Hopkins University and the Fred Hutchinson Cancer Research Center, he remained at Fred Hutchinson as a research associate and later assistant member in the Basic Immunology Program. In 1983, he joined the faculty of Dartmouth Medical School, where he served as dean from 2008 through 2010. He is currently professor and chair of the Department of Microbiology and Immunology.

John R. Schreiber, M.D., M.P.H.
Tufts University School of Medicine

John R. Schreiber, AAI '91, has provided essential service to AAI during his tenure on the AAI Committee on Public Affairs (CPA) from 2005 to 2011. As chair of the committee from 2009 to 2011, he led the committee during a period of prolific legislative, regulatory, and program activity, providing strong congressional advocacy for sustained NIH funding for biomedical research in the face of a potentially significant reduction. In addition, Schreiber led AAI communications with NIH on several important matters, including changes to the peer review system and the proposed establishment of the National Center for Advancing Translational Sciences and the Cures Acceleration Network. Under his leadership, AAI also launched two successful new efforts: the *CPA NewsBrief* e-newsletter and the AAI Public Policy Fellows Program. Prior to his tenure on the AAI Committee on Public Affairs, Schreiber served on the AAI Education Committee (1998–2004). Schreiber previously was honored with the *AAI Distinguished Service Award* (2004) for his efforts in directing and promoting the AAI High School Teachers Program.

Schreiber obtained his M.P.H. and M.D. from Tulane University in 1979 and 1980, respectively. He served on the faculties of Albany Medical College, Case Western Reserve University School of Medicine, and University of Minnesota Medical School before moving to Tufts University in 2007. He holds the positions of David and Leona Karp Professor and chairman of the Department of Pediatrics, Tufts University School of Medicine, and chief administrative officer and pediatrician–in-chief of the Floating Hospital for Children at Tufts Medical Center.

EDITOR-IN-CHIEF

The Journal of Immunology

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

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

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

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

The term of service for this position is from July 1, 2013, to June 30, 2018. The appointed EIC is expected to overlap with the incumbent EIC starting January 1, 2013, to ensure a smooth transition of responsibilities. This position is considered to be part-time. A stipend and associated expenses are provided.

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

Applications will be accepted through May 31, 2012. Please mail or e-mail them to:

Chair
AAI Publications Committee c/o AAI
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EOE

Benvenuto G. Pernis, M.D.

1923–2011

The following tribute is authored by AAI member Katherine L. Knight, AAI '68, Professor and Chair, Loyola University of Chicago, Stritch School of Medicine. The article is to appear also in the March 2012 issue of the European Journal of Immunology *(*EJI*) http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1521-4141 and appears here with the kind permission of* EJI.

Benvenuto (Ben) G. Pernis died on October 25, 2011, at the age of 88. He leaves behind an international community of clinicians and researchers greatly enriched by his research contributions, his commitment to patient care and student mentoring, and his numerous contributions to the literature. Ben earned his M.D. at the University of Milan in 1947 and subsequently accepted appointments at the University of Cagliari, Italy; the Medical University Clinic in Zurich, Switzerland; the University of Milan, Italy; and the University of Genoa, where he was both full professor and director of the University Clinic (Istituto di Medicina del Lavoro) of Genoa Medical School, Italy. Ben was recruited by Niels Jerne as one of the first members of the Basel Institute for Immunology (BII), where, as stated by Fritz Melchers (director of the BII from 1980 to 2000), "Ben became a reliable source of scientific knowledge on the dogma: one B cell-one antibody, and a spirited center of discussion on allelic exclusion and IgH-isotype expression on B cells." He remained a member of the institute from 1972 through 1976 and was voted by an overwhelming majority of the permanent members of the BII to succeed Niels Jerne as the next director, "…documenting more than anything else, how much Ben was appreciated as an immunologist and loved as a person" (Fritz Melchers). In spite of the accolades bestowed by his colleagues at the BII, Ben left Europe in 1976 and joined the faculty of Columbia University in New York City, where he remained for the rest of his research career. As remarked by Ivan Lefkovits, a colleague from the BII, "Ben played an important role in forming modern immunology research both in his home country, Italy, and on the international stage."

Ben loved immunology, and he loved to discuss it with whoever was willing to engage in lively and rigorous debate. His inherent drive to probe beneath the observable was the catalyst for his many scientific achievements. His colleague of many years at Columbia University, Leonard Chess, said, "He was a true giant in immunology who taught us by example how to pick the scientifically important and medically relevant questions that when answered provide insight into the power of the immune system to recognize an infinite universe of potential pathogens and provide effective solutions to eliminating them without harming self." In his early work, Ben demonstrated the immunologic basis of pulmonary dust diseases, notably, silicosis and asbestosis[1]; after the discovery of pathogen-associated molecular patterns (PAMPs), he returned to these studies and argued the role of both innate and adaptive immunity in these diseases.[2] As one of the early scientists to exploit the relatively new technique of immunofluorescence, he showed that individual B lymphocytes expressed immunoglobulin from either the maternal or paternal locus, but not both, demonstrating the phenomenon of allelic exclusion.[3] Then, in a classic study in which he used membrane immunofluorescence, prior to the invention of the flow cytometer by Leonard Herzenberg[4], he identified "spots" on the surface of rabbit lymphocytes, showing that B lymphocytes have endogenously synthesized membrane immunoglobulin that serves as antigen receptors.[5]

In addition to being a rigorous scientist, Ben was an excellent writer and shared his research results in nearly 300 articles. His passion for science, coupled with his naturally warm and enthusiastic personality, made him a wonderful mentor. Throughout his career, he mentored numerous students, postdoctoral fellows, and junior faculty members. His last Ph.D. student, Hong Jiang, currently associate professor at Columbia University, stated, "His mind was always so active and full of wisdom and curiosities. He liked to identify new scientific problems instead of following conventional thinking." Those who had the honor of training with him have become, by extension, a part of his scientific legacy. His trainees now pursue careers throughout the United States and Europe, and many have earned well-deserved accolades in their own right, including Linda Buck, who did post-doctoral work with Ben and later, together with Richard Axel at Columbia University, was awarded the 2004 Nobel Prize.

Ben was no stranger to honors and awards. To mention just a few, he served as an Expert for Immunology for the World Health Organization in Geneva, Switzerland, from 1962 to 1983 and was an Elected Member of the European Molecular Biology Organization (EMBO) for many years; in 1976, he was elected to the elite group of non-American citizens granted Honorary Membership of The American Association of Immunologists.

Much of Ben's success in life can be attributed to his curious and rigorous interest in the world at large…in his desire to apprehend the big picture and then to probe deeper to reveal new truths and new insights. He would then integrate these new insights into a revised way of looking at the big picture, and so the cycle of growth continued throughout his life. Similarly, I hope that this tribute has integrated facts about Ben that individually are well known by many but, when viewed together, provide a picture of Ben, not only as an excellent scientist but also as an exceptional human being.

1. Ceppellini, R., and Pernis, B. (1958). Presence of plasma globulins in the hyaline tissue in cases of silicosis. *Nature* 181, 55–56.
2. Pernis, B. (2005). Silica and the immune system. *Acta Biomed.* 76 (Suppl. 2), 38–44.
3. Pernis, B., Chiappino, M. B., Kelus, A. S., and Gell, P. G. H. (1965). Cellular localization of immunoglobulins with different allotypic specificities in rabbit lymphoid issues. *J. Exp. Med.* 122, 853–876.
4. Herzenberg, L. A., Parks, D., Sahaf, B., Perez, O., Roederer, M., and Herzenberg, L.A. (2002). The history and future of the fluorescence activated cell sorter and flow cytometry: a view from Stanford. *Clin. Chem.* 48, 1819–1827.
5. Pernis, B., Forni, L., and Amante, L. (1970). Immunoglobulin spots on the surface of rabbit lymphocytes. *J. Exp. Med.* 132, 1001–1018.

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May 4–8, 2012 • Hynes Convention Center • Boston, Massachusetts

Except where noted, sessions are in the Hynes Convention Center.

AAI PRESIDENT'S PROGRAM

AAI President's Address

FRIDAY, MAY 4, 5:00 PM, BALLROOM A–C

Leslie J. Berg, University of Massachusetts Medical School, AAI President

Signaling pathways that regulate T cell development and differentiation

Leslie J. Berg

Presentation of AAI Lifetime Achievement Award

FRIDAY, MAY 4, 5:00 PM, BALLROOM A-C

Chair:
Leslie J. Berg, University of Massachusetts Medical School, AAI President

Award Recipient:
Arthur Weiss, M.D., Ph.D., HHMI, University of California, San Francisco

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. The award will be presented prior to the start of the AAI President's Address.

Arthur Weiss

AAI Excellence in Mentoring Award Presentation

MONDAY, MAY 7, 3:30 PM, BALLROOM A–C

Chair:
Leslie J. Berg, University of Massachusetts Medical School, AAI President

Award Recipient:
Max D. Cooper, M.D., Emory University School of Medicine

The AAI Excellence in Mentoring Award recognizes exemplary career contributions to a future generation of scientists. The award will be presented prior to the start of the AAI President's Symposium.

Max Cooper

AAI President's Symposium

T Cell Signaling: From Molecules to Man

MONDAY, MAY 7, 3:30 PM, BALLROOM A–C

Chair:
Leslie J. Berg, University of Massachusetts Medical School, AAI President

Speakers:

Amy H. Andreotti, Iowa State University
Signaling through the Tec family kinases; how do these molecules work?

Lawrence E. Samelson, NCI, NIH
TCR-mediated signaling

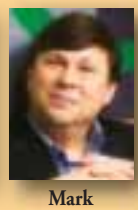
Pamela L. Schwartzberg, NHGRI, NIH
Understanding the pathogenesis of primary immunodeficiencies using model systems

Mark M. Davis, HHMI, Stanford University
The coming (second) golden age of human immunology

Amy Andreotti

Lawrence Samelson

Pamela Schwartzberg



Mark Davis

AAI DISTINGUISHED LECTURES

SATURDAY, MAY 5, 5:30 PM
BALLROOM A–C

Anne O'Garra, MRC National Institute for Medical Research

Regulation of the immune response in tuberculosis: from mouse models to human disease

SUNDAY, MAY 6, 5:30 PM
BALLROOM A–C

Vijay K. Kuchroo, Brigham and Women's Hospital, Harvard Medical School

Transcriptional regulation of Tregs and Th17 cells

MONDAY, MAY 7, 5:30 PM
BALLROOM A–C

David H. Raulet, University of California, Berkeley

Innate natural killer receptors and their ligands: regulation in cancer, infection, inflammatory disease, and steady state

T Cell Signaling, From Molecules to Man

Leslie J. Berg, Ph.D.
AAI President

Given the central role of T cells in adaptive immune responses, their mechanisms of activation have been a topic of intense investigation for many decades. Along the way, key discoveries have propelled the field forward, including the descriptions of the T cell antigen receptor signaling complex and the main biochemical changes induced by T cell activation; the identification, regulation, and visualization of intracellular T cell signaling proteins; and the experiments addressing the importance of each component of these pathways for the overall immune response in intact animals.

The most striking feature of the progress in this field has been the integration of information from nearly every component of the system. From single molecule imaging to intravital microscopy and from structural biology to knockout mice, fundamental aspects of T cell regulation have been dissected and analyzed and then reconstructed to generate our overall view of T cell activation and function. One major challenge for the future will be the application of this knowledge and technical expertise to develop a more comprehensive understanding of the human immune system.

The speakers in this symposium represent the spectrum of cutting-edge approaches to studying T cell activation and signaling, from molecules to man.

Amy Andreotti: Amy is a structural biologist who has devoted her research efforts to understanding the intramolecular mechanisms regulating tyrosine kinase activity in T cells. Much of her work has focused on the Tec family of tyrosine kinases and how the three-dimensional structure of these enzymes changes following phosphorylation, substrate binding, and subcellular relocalization to ensure proper turning on and turning off of kinase activity.

Lawrence Samelson: Larry has had a long-standing interest in TCR signaling since his early studies characterizing the TCR/CD3 complex and demonstrating the earliest biochemical events following TCR/CD3 stimulation. His work has played a central role in elucidating the membrane-proximal steps of the TCR signaling pathway, including the identification of the important adapter protein, LAT. Currently, he aims to integrate the biochemistry of T cell signaling with subcellular imaging to provide spatial and temporal resolution of the activation process.

Pamela Schwartzberg: One of the first investigators to use gene-targeting technology to probe immunological systems, Pam's work has been focused on generating mouse models of human immunodeficiency diseases. These studies have provided important tools to ascertain the individual molecular and cellular components contributing to disease pathogenesis and have led to key insights regarding the functions of Tec family tyrosine kinases and the SLAM family of receptors in lymphocytes.

Mark Davis: Since his pioneering work on the TCR genes, Mark has been at the forefront of efforts to understand how TCR binding to varying MHC/peptide ligands results in the entire panoply of T cell responses. With the use of biochemical, structural, and single cell imaging techniques, Mark has focused on understanding the fundamental aspects of T cell antigen recognition, a hallmark of the adaptive immune response. More recently, he has applied his strength in innovative technologies to develop novel approaches to investigating the human immune system.

This year's speakers represent the spectrum of cutting-edge approaches to studying T cell activation and signaling, from molecules to man.

The 99th Annual Meeting of The American Association of Immunologists features the latest in immunological discovery presented in sessions ranging from major scientific lectures by the field's leading scientists to debut abstract talks and poster presentations by its talented trainees.

Join thousands of immunologists from around the world to hear the most cutting-edge science — in Plenary Sessions, Award Lectures, and Symposia. Attend Career and Mentoring Workshops. Visit over 120 Exhibits and Exhibitor Seminars to learn about the latest in industry innovation.

IMMUNOLOGY 2012™ OPENING NIGHT WELCOME RECEPTION

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FRIDAY, MAY 4, 2012, 6:00 PM – 8:00 PM

Boylston Hallway, Hynes Convention Center

Come directly from the President's Address into the majestic glass loggia of the Hynes Convention Center to seek out old friends and make new acquaintances at the Opening Night Welcome Reception. The reception is generously supported by eBioscience to welcome you and wish you a pleasurable, productive week.

PRESIDENT'S SERVICE APPRECIATION RECEPTION

Generously sponsored by BioLegend

SATURDAY, MAY 5, 2012
7:00 PM – 9:30 PM

At this important event, AAI leadership honors the association's dedicated member volunteers—the committee members, editors, mentors, instructors, and others—who work on the membership's behalf throughout the year by giving generously of their time in support of the AAI mission. Open to 2011–2012 AAI volunteers. *Event by invitation only.*

AAI NEW MEMBER RECEPTION

FRIDAY, MAY 4, 4:00 PM – 4:45 PM

AAI wishes to welcome new Regular and Trainee members joining AAI for the first time. AAI President Leslie Berg and other AAI leaders look forward to meeting you personally. Please join us for light refreshments and casual conversation. *Event by invitation only.*

IMMUNOLOGY 2012™ GALA "CASINO NIGHT IN BACK BAY"

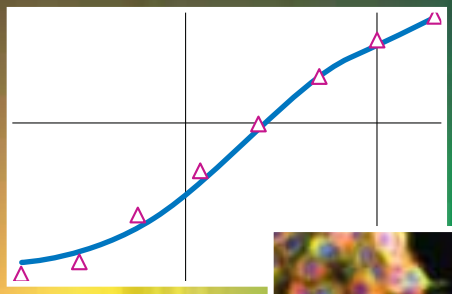
Generously sponsored by BioLegend

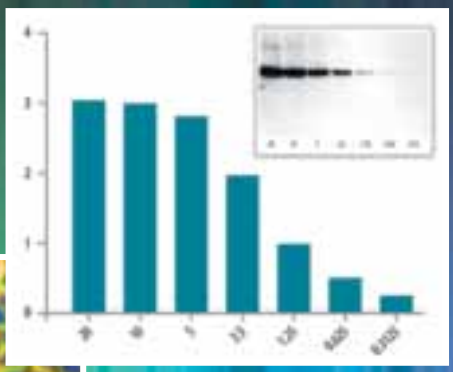
SUNDAY, MAY 6, 2012 , 7:00 PM – 10:00 PM

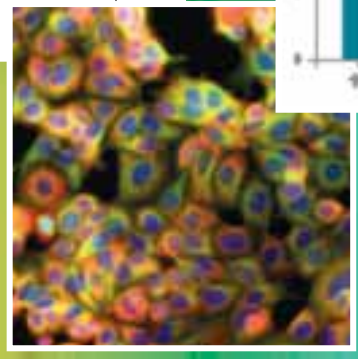
Sheraton Boston Hotel, Grand Ballroom

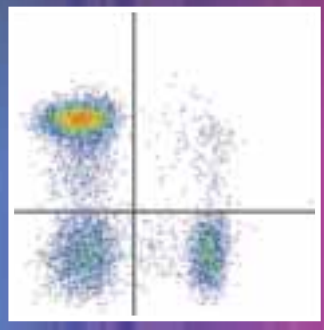
Everyone's a winner at Casino Night in the Back Bay! There, you and your most circumspect colleagues can throw caution to the wind and revel in one another's encounters with Lady Luck. It's your risk-free opportunity to "go for broke" and hone your gambling skills, moving from table to table for Black Jack, Roulette, Texas Hold 'Em, Craps, Slots, and more. When your chips are gone, continue the fun at the photo booths or on the karaoke stage performing your favorite song!

Full Spectrum Cell Analysis









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Saturday, May 5, 2012, 8:00 AM – 11:30 AM

Major Symposium A: Developing Immunological Memory to Infection

BALLROOM B

Chairs:

Susan M. Kaech, Yale University
Patrick C. Wilson, University of Chicago

Speakers:

Ulrich H. von Andrian, Harvard Medical School
NK cell memory

Susan M. Kaech, Yale University
Transcriptional programs in memory CD8 T cells

Marc K. Jenkins, Center for Immunology, University of Minnesota Medical School
Origins of $CD4^+$ memory T cells

Patrick C. Wilson, University of Chicago
Human B cell memory to influenza

Susan Moir, NIAID, NIH
B cell abnormalities in HIV infection: impact on immunologic control of viral replication

Nicole Baumgarth, University of California, Davis
Long-lasting tissue-restricted B cell memory in the respiratory tract

Major Symposium B: Sensing and Signaling in the Innate Immune Response

BALLROOM A

Chairs:

Jonathan C. Kagan, Children's Hospital Boston
Katherine A. Fitzgerald, University of Massachusetts Medical School

Speakers:

Jonathan C. Kagan, Children's Hospital Boston
Cell biological aspects of innate immunity

Katherine A. Fitzgerald, University of Massachusetts Medical School
AIM2-like receptors: newcomers to the world of inflammasomes

Koichi S. Kobayashi, Dana-Farber Cancer Institute
Regulation of MHC class I and class II pathways by NLR family proteins

Michael Gale, Jr., University of Washington
Immune signaling by RIG-I like receptors

Lynda Stuart, Massachusetts General Hospital
Phagocytosis and innate immunity

Alexander Poltorak, Tufts University
Forward genetic analysis of innate immunity in evolutionarily divergent subspecies of mice

Sunday, May 6, 2012, 8:00 AM – 11:30 AM

Major Symposium C: Innate Lymphoid Cells Back Up the Barriers

BALLROOM B

Chairs:

Richard M. Locksley, HHMI, University of California, San Francisco
Hergen Spits, Academic Medical Center, University of Amsterdam

Speakers:

Shigeo Koyasu, Keio University School of Medicine
Natural helper cells and Th2-type innate immunity

Richard M. Locksley, HHMI, University of California, San Francisco
Innate helper type-2 cells: the missing piece in allergic immunity?

Hergen Spits, Academic Medical Center, University of Amsterdam
Emerging insights in the function and development of human innate lymphoid cells

Daniel J. Cua, Merck Research Laboratories
Regulation of innate lymphoid cells

Wenjun Ouyang, Genentech, Inc.
The regulation and function of IL-22 from ILC

Troy D. Randall, University of Alabama, Birmingham
The role of IL-17 and innate lymphoid cells in the development of ectopic follicles

Major Symposium D: Differentiation and Plasticity of Cells of the Monocyte-Macrophage Lineage

BALLROOM A

Chairs:

Catherine C. "Lynn" Hedrick, La Jolla Institute for Allergy and Immunology
Alberto Mantovani, University of Milan Istituto Clinico Humanitas

Speakers:

Catherine C. "Lynn" Hedrick, La Jolla Institute for Allergy and Immunology
Nuclear receptors in monocyte and macrophage development

Thomas A. Wynn, NIAID, NIH
Macrophages in chronic inflammation and fibrosis

Judith E. Allen, University of Edinburgh
The many faces of Th2-activated macrophages

Stefanie N. Vogel, University of Maryland, Baltimore
Host macrophage responses to infection

Subhra K. Biswas, Singapore Immunology Network (SIgN)
Polarized response of monocytes and macrophages in inflammation and cancer

Alberto Mantovani, University of Milan Istituto Clinico Humanitas
Macrophage plasticity and polarization

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Monday, May 7, 2012, 8:00 AM – 11:30 AM

Major Symposium E: Building a Functional Immune System

BALLROOM B

Chairs:

Avinash Bhandoola, University of Pennsylvania Medical School
Ananda W. Goldrath, University of California, San Diego

Speakers:

Avinash Bhandoola, University of Pennsylvania Medical School
Establishing T cell identity

Stephen T. Smale, University of California, Los Angeles
Analysis of lymphocyte development by targeted mutagenesis of individual zinc fingers of Ikaros

Barbara L. Kee, University of Chicago
Transcriptional mechanisms in natural killer cell development and activation

Derek B. Sant'Angelo, The Child Health Institute, UMDNJ-RWJMS
Transcriptional control of innate T cell development

Ananda W. Goldrath, University of California, San Diego
Transcriptional control of CD8 memory formation

Daniel J. Campbell, Benaroya Research Institute
Control of regulatory T cell homeostasis and function

Major Symposium F: Recent Advances in Lung Immunology: Novel Targets for Lung Disease

BALLROOM A

Chairs:

Jay K. Kolls, University of Pittsburgh School of Medicine
David S. Wilkes, Indiana University School of Medicine

Speakers:

Jay K. Kolls, University of Pittsburgh School of Medicine
Why do we have Th17 cells in the lung?

Marsha Wills-Karp, Johns Hopkins Bloomberg School of Public Health
Mechanisms of severe asthma

Anne I. Sperling, University of Chicago
Augmentation of Th2-mediated lung inflammation

Wonder Drake, Vanderbilt University School of Medicine
IL-2 dysregulation drives sarcoidosis disease progression

Dale T. Umetsu, Children's Hospital Boston, Harvard Medical School
Innate lymphoid cells respond to viral infection in the lung

David S. Wilkes, Indiana University School of Medicine
IL-17 and pulmonary fibrogenesis

Tuesday, May 8, 2012, 8:00 AM – 11:30 AM

Major Symposium G: Mucosal Immunity and the Microbiome

BALLROOM B

Chairs:

Alexander V. Chervonsky, University of Chicago
Dana J. Philpott, University of Toronto

Speakers:

Dana J. Philpott, University of Toronto
Nod proteins in gut homeostasis and inflammation

Eric G. Pamer, Memorial Sloan-Kettering Cancer Center
Impact of antibiotics on the microbiota and mucosal immunity

Nita H. Salzman, Medical College of Wisconsin
Paneth cell defensins and the regulation of intestinal homeostasis

Richard A. Flavell, HHMI, Yale School of Medicine
Inflammasomes and homeostasis in the intestine and beyond

Tatyana Golovkina, University of Chicago
Commensal bacteria and retroviruses

Peter J. Turnbaugh, Harvard University Center for Systems Biology
A microbial view of nutrition and drug metabolism

Major Symposium H: Stromal Cells for Immune Cell Development and Function

BALLROOM A

Chairs:

Yousuke Takahama, University of Tokushima
Jennifer L. Gommerman, University of Toronto

Speakers:

Bruno Kyewski, German Cancer Research Center (DKFZ)
Generating intrathymic self-antigen diversity for central tolerance

Graham Anderson, MRC Centre for Immune Regulation, University of Birmingham
Lymphostromal interactions in thymus medulla formation

Yousuke Takahama, University of Tokushima
Thymic cortical epithelial cells for T cell repertoire formation

Shannon J. Turley, Dana-Farber Cancer Institute, Harvard Medical School
New roles for lymph node stroma in regulating adaptive immunity

Theresa T. Lu, Hospital for Special Surgery and Weill Cornell Medical College
Regulation of vascular-stromal growth and function

Jennifer L. Gommerman, University of Toronto
Lymphotoxin-dependent stromal cell niches that support immune responses

AAI Award for Human Immunology Research Presentation and Lecture

SATURDAY, MAY 5, 1:30 PM – 2:30 PM, BALLROOM A-C

Chair:
Leslie J. Berg
University of Massachusetts Medical School, AAI President

Award Recipient:
John P. Atkinson, M.D.

Washington University School of Medicine
The complement system and human disease: the consequences of too little or too much

AAI President Leslie J. Berg will introduce the awardee and present the award immediately prior to Dr. Atkinson's lecture.

AAI-BD Biosciences Investigator Award Presentation and Lecture

Generously sponsored by BD Biosciences, Inc.

SATURDAY, MAY 5, 4:00 PM – 5:00 PM, BALLROOM A-C

Chair:
Leslie J. Berg
University of Massachusetts Medical School, AAI President

Award Recipient:
Shane Crotty, Ph.D.
La Jolla Institute for Allergy and Immunology
Transcriptional regulation of follicular helper CD4 T (Tfh) cell differentiation

AAI President Leslie J. Berg and BD Biosciences Vice President of Biological Sciences Robert Balderas will introduce the awardee and present the award immediately prior to Dr. Crotty's lecture.

AAI-Life Technologies Meritorious Career Award Presentation and Lecture

Generously sponsored by Life Technologies Corporation

SUNDAY, MAY 6, 4:00 PM – 5:00 PM, BALLROOM A-C

Chair:
Leslie J. Berg
University of Massachusetts Medical School, AAI President

Award Recipient:
Peter Cresswell, Ph.D., FRS
HHMI, Yale School of Medicine
Molecular and cellular mechanisms that regulate antigen processing

AAI President Leslie J. Berg and a representative of Life Technologies Corporation will introduce the awardee and present the award immediately prior to Dr. Cresswell's lecture.

AAI BUSINESS MEETING AND AWARDS PRESENTATIONS

MONDAY, MAY 7, 11:30 AM – 1:00 PM, ROOM 309

This session will include the annual report to AAI members on AAI and *The Journal of Immunology* business affairs and will feature special 2012 AAI awards presentations and acknowledgements. Refreshments will be provided.

AAI Distinguished Service Award Recipients

Brian A. Cobb, Ph.D.
Case Western Reserve University School of Medicine
For outstanding service to AAI and the immunology community as director of the AAI High School Teachers Summer Research Program, 2007–2012

William R. Green, Ph.D.
Dartmouth Medical School
For outstanding service to AAI as member and chair of the AAI Committee on Public Affairs, 2004–2009

John R. Schreiber, M.D., M.P.H.
Tufts University School of Medicine
For outstanding service to AAI as member and chair of the AAI Committee on Public Affairs, 2005–2011

AAI annually provides travel awards and grants to recognize the promise and bolster the professional development of young investigators, trainees, and underrepresented minority scientists and trainees.

- AAI-Life Technologies Trainee Achievement Awards
- Chambers-eBioscience Memorial Award
- Lustgarten-eBioscience Memorial Award
- Pfizer-Showell Travel Award
- AAI Early Career Faculty Travel Grants
  Sponsored in part by BD Biosciences and Cell Signaling
- AAI Laboratory Travel Grants
- AAI Minority Scientist Travel Awards
  Sponsored by FASEB MARC Programs under a grant from NIGMS, NIH [FASEB MARC Program: T36-GM08059-29]
- AAI Trainee Abstract Awards
  Sponsored in part by Amnis, BD Biosciences, Genocea Biosciences, and IMGENEX

For information on all AAI Awards, visit www.aai.org/Awards

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NEW

HEK 293 cells stably co-transfected with IL-17A & FOXP3 Promoter and Renilla Luciferase Reporter Gene.

Cat. No.	Description	Species
IML-301	IL-17A	Human
IML-302	FOXP3	Human

NF-κB/SEAP RAW Reporter Cell Line

Stably transfected mouse RAW 264.7 cells with NF-κB SEAP that constitutively express TLRs 1, 2, 3, 4, 6, 8, 9 & MD2.

Cat. No.	Description	Species
IML-120	TLR/NF-κB/SEAP Transfected RAW Cells	Mouse

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Expression vector constructs for use in induction of IL-17A or FOXP3 promoter activity in LUCPorter™ Cell Lines.

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IMP-122	RORγ(t) (IL-17A Promoter Induction)
IMP-123	RUNX1 (FOXP3 Promoter Induction)

TLR/NF-κB/SEAPorter™ HEK 293 Stable Cell Lines

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Cat No.	Description	Species
IML-101	NF-κB SEAPorter™	
IML-102	TLR2/NF-κB/SEAPorter™	Human
IML-103	TLR3/NF-κB/SEAPorter™	Human
IML-104	TLR4/NF-κB/SEAPorter™	Human
IML-104MD2	TLR4/MD2/NF-κB/SEAPorter™	Human
IML-105	TLR5/NF-κB/SEAPorter™	Human
IML-107	TLR7/NF-κB/SEAPorter™	Human
IML-108	TLR8/NF-κB/SEAPorter™	Human
IML-109	TLR9/NF-κB/SEAPorter™	Human
IML-110	TLR10/NF-κB/SEAPorter™	Human
IML-111	TLR11/NF-κB/SEAPorter™	Mouse
IML-112	TLR12/NF-κB/SEAPorter™	Mouse
IML-113	TLR13/NF-κB/SEAPorter™	Mouse

TLR HEK 293 Stable Cell Lines

HEK 293 cells stably transfected with plasmids for human or mouse Toll-Like Receptors.

Cat. No.	Description	Species
IML-201	TLR1	Human
IML-202	TLR2	Human
IML-203	TLR3	Human
IML-204	TLR4	Human
IML-205	TLR5	Human
IML-206	TLR6	Human
IML-207	TLR7	Human
IML-208	TLR8	Human
IML-209	TLR9	Human
IML-210	TLR10	Human
IML-211	TLR11	Mouse
IML-212	TLR12	Mouse
IML-200	Negative Control Vector	

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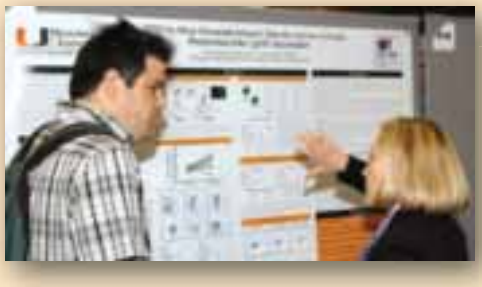
BLOCK SYMPOSIA

Selected abstracts are programmed into oral sessions called Block Symposia. Each Block Symposium is made up of approximately 8 selected abstracts. There are 69 Block Symposia programmed for this annual meeting.



POSTERS

The most interactive part of the meeting! Discuss data and research issues firsthand with authors at the Poster Sessions. Posters will be displayed Saturday through Monday in the Hynes Convention Center Auditorium and Exhibit Hall C-D from 9:30 AM to 4:30 PM.

Dedicated Daily Poster Presentation Hour from 2:30 PM to 3:30 PM! No concurrent symposia, presentations, or other sessions will be held during the poster presentations at this time.

Accepted posters may be displayed for the duration of the meeting! Authors are encouraged to leave their posters up throughout IMMUNOLOGY 2012™.

Visit www.IMMUNOLOGY2012.org for further details.

EXHIBITOR WORKSHOPS

Take advantage of the opportunity provided by the Exhibitor Workshops to explore exhibitors' latest technologies, products, and services. For a list of 2012 exhibitor workshops, see pages 47–48. Workshops are planned and conducted by exhibitors; the listing of these workshops does not constitute endorsement of any products or services by AAI.

PRODUCT SHOWCASES

Be sure to catch the presentations and demonstrations of exhibitors' new products. Sessions are scheduled in 15-minute intervals on the Exhibit Hall Stage. For a list of 2012 product showcases, see page 49.

Presentations are planned and conducted by exhibitors; the listing of these presentations does not constitute endorsement of any products or services by AAI.

AAI Clinical Immunology Committee Symposium

Vaccines: Immunological Challenges and Solutions

FRIDAY, MAY 4, 2:00 PM - 4:00 PM, ROOM 302

Chairs:
Robert L. Modlin, University of California, Los Angeles
Barry R. Bloom, Harvard School of Public Health

Speakers:
Octavio Ramilo, Nationwide Children's Hospital
Immune signatures of influenza vaccine in children

Cornelia L. Trimble, Johns Hopkins University School of Medicine
Therapeutic targets in preinvasive HPV disease

Barry R. Bloom, Harvard School of Public Health
The challenge of TB vaccines

David Baltimore, California Institute of Technology
Vectored ImmunoProphylaxis: engineering the immune system

One of the most effective approaches to combat infectious diseases worldwide is through population-based interventions such as vaccines, which immunize and protect individuals against a variety of pathogens that cause significant morbidity and mortality. This session will focus on advances by immunologists in identifying novel solutions to the challenges of developing vaccines and monitoring their efficacy in humans.

AAI Committee on Public Affairs

NIH Peer Review: Understanding the New System

SATURDAY, MAY 5, 11:30 AM – 1:00 PM, ROOM 309

Chair:
Derry C. Roopenian, The Jackson Laboratory, Chair, AAI Committee on Public Affairs

Recent changes to the NIH peer review system, including the elimination of the A2 grant application, have pleased, puzzled, and angered both applicants and reviewers. With federal budgets constrained and stakes as high as they have ever been, understanding the NIH peer review process is essential to securing funding. This session will explain the system, including the role and power of both CSR and the individual institutes, and provide attendees with the opportunity to ask questions, express concerns, and share experiences.

Speakers:
Richard K. Nakamura, Acting Director, Center for Scientific Review, NIH
Perspectives on the future of NIH peer review

Daniel Rotrosen, Director, Division of Allergy, Immunology, and Transplantation, NIAID, NIH
The role of NIAID in peer review and grant funding

Elizabeth J. Kovacs, Loyola University Chicago, Chair, AAI Subcommittee on Peer Review and Grant Submission
Grant applicants and reviewers: questions and concerns

AAI Education Committee

Academics and SBIR/STTR Grants: Seeking Opportunities

MONDAY, MAY 7, 12:30 PM – 2:30 PM, ROOM 208

Chair:
Kimberly J. Payne, Loma Linda University

The federal Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR) grant programs award approximately $2.5 billion annually for small businesses to perform innovative research. Researchers at academic institutions can benefit from collaborations with these small business firms. This session will describe SBIR/STTR funding opportunities, highlight their potential benefits to academic researchers, and explore techniques for maximizing the success of grant proposals.

Speakers:
Gregory Milman, Director, Office for Innovation and Special Programs, NIAID
Secrets of NIH small business grant applications

Jay K. Kolls, Professor, University of Pittsburgh School of Medicine
Commercializing your research: are you ready for an SBIR/STTR grant?

Lisa Kurek, Managing Partner, Biotechnology Business Consultants
Commercialization: it is never too early to start

Thomas M. Aune, Professor, Vanderbilt University Medical Center
Utilizing small business partnerships to advance applied research

Careers in Biotech: Panel Discussion and Networking Reception

MONDAY, MAY 7, 6:30 PM – 8:00 PM, ROOM 302

Chair:
Clinton B. Mathias, Western New England University

Many opportunities exist in industry for a scientist with advanced degrees. There are positions in laboratory research, program management, business development, regulatory affairs and clinical trials oversight, and medical liaison. This panel features scientists employed in a variety of positions in industry to share their career paths and highlight the skills required to succeed in these careers. Following the panel discussion, enjoy casual conversation with the speakers and other industry connections at a networking reception. Refreshments will be provided.

Speakers:
Arthur Tzianabos, Vice President and Head, Research and Early Development, Shire Human Genetic Therapies
Andy Kokaji, Senior Scientist, STEMCELL Technologies, Inc.
Chris Schwab, Senior Medical Science Liaison, Human Genome Sciences, Inc.
Olivia Schneider, Chief Scientific Officer, Shenandoah Biotechnology, Inc.

Nurturing the Quest for Science in the Next Generation

SATURDAY, MAY 5, 9:00 AM –12:00 PM, ROOM 206

Chair:
Brian A. Cobb, Case Western Reserve University School of Medicine

This workshop will feature programs and topics which strengthen science education in both high schools and undergraduate institutions. The session will include 2011–2012 participants of the AAI High School Teachers (HST) Summer Research Program, which pairs high school science teachers with established AAI member immunologists who mentor them in their laboratories in a "hands-on" summer internship. In addition, this session features a former AAI HST Program participant who received a Presidential Award for Excellence in Math and Science Teaching in 2008; the coordinator of the summer research program for teachers at National Jewish Health to address educational outreach; the director of the innovative Citizen Science Program at Bard College with the goal of improving science literacy in college freshmen; and the 2003 AAI Excellence in Mentoring Award recipient to address excellence in undergraduate science and research programs.

Speakers:
Lori Herrington, 2011–2012 AAI HST Program Participant, Chaparral High School, Temecula, California

Lyndonia Pascal, 2011–2012 AAI HST Program Participant, Palm Beach Lakes Community High School, West Palm Beach, Florida

Ann Brokaw, Former AAI HST Program Participant and 2008 Presidential Award for Excellence in Mathematics and Science Teaching Recipient, Rocky River High School, Rocky River, Ohio

Kara Lukin, Instructor and Coordinator of the Summer Research Program for High School Educators, National Jewish Health

Brooke Jude, Director, Citizen Science Program, Bard College

Judith A. Owen, Professor, Haverford College

AAI Education Committee & AAI Committee on the Status of Women

Careers in Science Lecture and Roundtable

Generously sponsored by BD Biosciences, Inc.

SUNDAY, MAY 6, 12:30 PM – 2:30 PM, SHERATON BOSTON HOTEL, REPUBLIC BALLROOM

Chair:
Bonnie N. Dittel, BloodCenter of Wisconsin, Chair, AAI Committee on the Status of Women

Keynote Speaker:
Olivera J. Finn, University of Pittsburgh School of Medicine

Make an effort! A path to a rewarding life in science

Registration Fee: $20 (Lunch included.)

This always popular session opens this year with former AAI President Olivera J. (Olja) Finn, Distinguished Professor and Chair, Department of Immunology, and Distinguished Professor, Department of Surgery, University of Pittsburgh School of Medicine; and Co-Leader, University of Pittsburgh Cancer Institute Immunology Program. Dr. Finn actively addresses career development issues internationally through organizations in the United States and her participation in the International Union of Immunological Societies (IUIS) Gender Equality and Career Development Committee. At this session, she will offer guidance for achieving distinction in one's field while balancing the demands of research, service to one's profession, and commitment to family. Roundtable discussions follow, led by experienced scientists on specific career issues and options. Attendance is limited. Registrations will be accepted on a first-come, first-served basis.

Discussion topics and table leaders:

- **Research Careers in Academia**
  Table Leaders: **Anne I. Sperling,** University of Chicago; **Vijay K. Kuchroo,** Harvard Medical School; **Dario A. A. Vignali,** St. Jude Children's Research Hospital
- **Mentoring Effectively**
  Table Leader: **Scheherazade Sadegh-Nasseri,** Johns Hopkins University Medical School
- **Networking Skills**
  Table Leader: **Monica Mann,** EMD Serono, Inc.
- **Career and Family: time management/family leave/professional couples**
  Table Leaders: **Patricia Fitzgerald-Bocarsly,** UMDNJ; **Donna L. Farber,** Columbia University Medical Center
- **Careers in Biotech and Industry: moving from academia to industry and vice versa**
  Table Leaders: **Mary E. Keir,** Genentech, Inc.; **Daniel J, Cua**, Merck Research Laboratories; Representative of BD Biosciences, Inc.
- **Careers at Governmental Agencies (FDA/NIH/USDA/CDC)**
  Table Leaders: TBA
- **Graduate Student to Postdoc: finding a postdoc, interviewing**
  Table Leaders: **Michelle A. Parent,** University of Delaware; **Terrence L. Geiger,** St. Jude Children's Hospital
- **New PI: attracting students and postdocs, preparing for tenure**
  Table Leader: **Janis K. Burkhardt,** University of Pennsylvania School of Medicine
- **Non-research Careers: focus for 2012—careers in intellectual property/patent law; technology transfer**
  Table Leaders: TBA
- **Postdoc to PI: finding a position, interviewing, negotiating, lab start-up**
  Table Leader: **Shannon J. Turley,** Dana-Farber Cancer Institute, Harvard Medical School
- **Translational Research: how to balance clinical duties and research**
  Table Leaders: TBA
- **Undergraduate Institutions: teaching, doing research**
  Table Leader: **Sharon A. Stranford,** Mt. Holyoke College

AAI Membership Committee

AAI New Member Reception

FRIDAY, MAY 4, 4:00 PM – 4:45 PM

AAI wishes to welcome new Regular and Trainee members joining AAI for the first time. AAI President Leslie Berg and other AAI leaders look forward to meeting you personally. Please join us with your invitation in hand for light refreshments and casual conversation. *Event by invitation only.*

AAI Minority Affairs Committee

Careers and Networking Roundtable

SATURDAY, MAY 5, 11:45 AM – 1:15 PM, ROOM 313

Don't miss this opportunity to meet one-on-one with accomplished, senior minority immunologists to hear how they have handled the career challenges you now face. Learn what they believe will work for you today.

Registration Fee: $20 (Lunch included.)

Discussion topics and table leaders (*invited*):

- **Grad Student: finding a mentor; taking aim at postdoc training**
  Table Leaders: **Joseph Larkin, III,** University of Florida; **Tonya J. Webb,** University of Maryland, Baltimore; **Anthony Quinn,** University of Toledo
- **Postdoc: finding a mentor; taking aim at a faculty position**
  Table Leaders: **Jose R. Conejo-Garcia,** The Wistar Institute; **Gregory B. Carey,** University of Maryland, Baltimore; **Margaret S. Bynoe,** Cornell University College of Veterinary Medicine
- **Junior Faculty: preparing for promotion and tenure**
  Table Leaders: **Adriana T. Larregina,** University of Pittsburgh School of Medicine; **Avery August,** Cornell University; **Prosper N. Boyaka,** Ohio State University
- **Academia or Industry: how to decide (or switch sides)**
  Table Leaders: **Jennifer Solomon Tan,** Miltenyi Biotec Inc.; **Jonathan A. Deane,** Genomics Institute of the Novartis Research Foundation; **Cherié L. Butts,** Biogen Idec
- **Government Agency Careers: CDC, FDA, NIH, USDA**
  Table Leaders: **Thandi M. Onami,** NIAID, NIH; **Charles E. Egwuagu,** NEI, NIH
- **Non-Research Careers: science journalism, patent law, biomedical entrepreneurship**
  Table Leaders: **John Emrich,** AAI; **Carolyn A. Favorito,** Knobbe Martens Olson & Bear, LLP

Minority Affairs Committee Guest Lecture

MONDAY, MAY 7, 1:00 PM – 2:00 PM, ROOM 310

Chair:
Prosper N. Boyaka, Ohio State University, Chair, AAI Minority Affairs Committee

Speaker:
Charles E. Egwuagu, NEI, NIH
Regulation of autoreactive lymphocytes that mediate CNS autoimmune disease

AAI Publications Committee Session

Writing and Reviewing Manuscripts: Two Sides of the Same Coin

SATURDAY, MAY 5, 12:30 PM - 2:30 PM, ROOM 310

Chairs:
Paul E. Love, NICHD, NIH
Jeremy M. Boss, Emory University

Speakers:
Pamela J. Fink, University of Washington
Reviewing manuscripts: assessing the trees without losing sight of the forest

Juan Carlos Zúñiga-Pflücker, University of Toronto
The art of writing a manuscript

Herman F. Staats, Duke University
Returned for revision: responding to reviewers' comments

Jeremy M. Boss, Emory University
It's all in the figures: preparing figures and other ethical matters

AAI Veterinary Immunology Committee & American Association of Veterinary Immunologists (AAVI) Joint Symposium

Contemporary Issues in Zoonotic Diseases

MONDAY, MAY 7, 10:15 AM – 12:15 PM, ROOM 206

Chairs:
Simon M. Barratt-Boyes, University of Pittsburgh
Paul M. Coussens, Michigan State University

Speakers:
Karen L. Elkins, Center for Biologics Evaluation and Research, FDA
Correlates of protection against intracellular pathogens: learning from Francisella tularensis *LVS*

Sabra L. Klein, Johns Hopkins Bloomberg School of Public Health
Zoonotic pathogen-host interactions: sex determines the outcome of infection

Robert A. Heinzen, Rocky Mountain Laboratories, NIAID, NIH
Subversion of macrophage function by the Q fever agent, Coxiella burnetii

Mary Pantin-Jackwood, Southeast Poultry Research Laboratory, USDA
Current situation of avian influenza with emphasis on pathobiology, epidemiology, and control

Zoonotic diseases—those that are naturally transmitted between vertebrate animals and humans—represent one of the leading causes of illness and death from infectious disease worldwide. This symposium will address contemporary issues in immunology, vaccination, and pathogenesis of zoonotic infections, ranging from avian influenza to new emerging and bioterrorism threats including Q fever, hantavirus, and *Francisella.*

The following NIH Institutes will present special symposia at IMMUNOLOGY 2012™:

National Institute of Allergy and Infectious Diseases (NIAID) Symposium

Functional Dissection of Protective Antibody Responses

SUNDAY, MAY 6, 3:30 PM – 5:30 PM, ROOM 304

Chairs:
Stacy Ferguson, NIAID, NIH
Michael P. Cancro, University of Pennsylvania School of Medicine

Speakers:
Michael P. Cancro, University of Pennsylvania School of Medicine
Where are the neutralizing clonotypes? Conducting interrogations with BLyS

Susan Zolla-Pazner, New York University Langone School of Medicine
Conserved features of variable regions: important targets of neutralizing antibodies

Shiv Pillai, Massachusetts General Hospital, Harvard Medical School
SIAE suppresses promiscuous T-B collaboration and germinal center formation

James Kobie, University of Rochester Medical Center
The cellular origins of protective antibody responses to HIV

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) Symposium

Monocyte/Macrophage Abnormalities in Autoimmune Diseases

MONDAY, MAY 7, 10:15 AM – 12:15 PM, ROOM 306

Chairs:
Robert H. Carter, NIAMS, NIH
Susana Serrate-Sztein, NIAMS, NIH

Speakers:
Richard Bucala, Yale University
MIF and the genetic basis of macrophage responsiveness

Anne Davidson, Feinstein Institute for Medical Research
Renal macrophages in lupus nephritis — friend or foe?

Vicki Rubin Kelley, Brigham and Women's Hospital
The "Big Mac" theory of lupus

Kevin D. Cooper, Case Western Reserve University
Monocytes/macrophages in psoriasis

National Institute of Environmental Health Sciences (NIEHS) Symposium

The Role of Environmental Exposures in the Development of Autoimmune Disease

MONDAY, MAY 7, 12:30 PM – 2:30 PM, ROOM 306

Chairs:
Michael Humble, NIEHS, NIH
B. Paige Lawrence, University of Rochester School of Medicine and Dentistry

Speakers:
Kathleen M. Gilbert, University of Arkansas for Medical Sciences, Arkansas Children's Hospital Research Institute
Chronic exposure to water pollutant trichloroethylene promotes autoimmune hepatitis and induces epigenetic alterations in $CD4^+$ T cells

Jean C. Pfau, Idaho State University
Silica, asbestos, and systemic autoimmune disease

David H. Sherr, Boston University School of Public Health
Environmental chemicals as probes of immune system development

Frederick W. Miller, NIEHS, NIH
An overview of environmental risk factors for autoimmune diseases: where we stand in 2012

National Institute on Aging (NIA) Symposium

The Impact of Aging on the Innate Immune System

SATURDAY, MAY 5, 3:30 PM – 5:30 PM, ROOM 306

Chair:
Rebecca A. Fuldner, NIA, NIH

Speakers:
Albert C. Shaw, Yale School of Medicine
Age-associated alterations in human TLR function

Carlos J. Orihuela, University of Texas Health Science Center at San Antonio
Cellular senescence as a source of chronic inflammation in the lungs and mechanism for enhanced susceptibility to bacterial pneumonia

Daniel R. Goldstein, Yale School of Medicine
Dysregulated inflammation, aging, and viral infections

Susan L. Swain, University of Massachusetts Medical School
Can we overcome the defects of aged $CD4^+$ naive T cells?

American Association of Pharmaceutical Scientists (AAPS) Symposium

Immunogenicity of Biotherapeutics: Risk Prevention and Mitigation

SUNDAY, MAY 6, 8:00 AM – 10:00 AM, ROOM 309

Chairs:
Arunan Kaliyaperumal, Amgen, Inc.
Bonnie Rup, Pfizer, Inc.

Speakers:
Arunan Kaliyaperumal, Amgen, Inc.
Introduction

Bonnie Rup, Pfizer, Inc.
The problem of unwanted immunogenicity in biotherapeutic treatment: causes, consequences, and opportunities

Terry Goletz, Amgen, Inc.
Predicting immunogenicity: tools and approaches for understanding the mechanisms underlying an immune response

Susan Richards, Genzyme, a Sanofi Company
Immune mitigation and tolerance induction to therapeutic proteins

American Association of Veterinary Immunologists (AAVI) & AAI Veterinary Immunology Committee Joint Symposium

Contemporary Issues in Zoonotic Diseases

MONDAY, MAY 7, 10:15 AM – 12:15 PM, ROOM 206

Chairs:
Simon M. Barratt-Boyes, University of Pittsburgh
Paul M. Coussens, Michigan State University

Speakers:
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American Society for Blood and Marrow Transplantation (ASBMT) Symposium

Immunologic Recovery after Alternative Donor Allogeneic Transplant

SATURDAY, MAY 5, 8:00 AM – 10:00 AM, ROOM 306

Chair:
Karen Ballen, Massachusetts General Hospital

Speakers:
Marcel R. M. van den Brink, Memorial Sloan-Kettering Cancer Center
Mechanisms of T cell recovery

Mary J. Laughlin, University of Virginia
Measurements of immune recovery after cord blood transplantation

Ephraim J. Fuchs, Johns Hopkins University
Measurements of immune recovery after haploidentical transplantation

Robert S. Negrin, Stanford University
Influence of laboratory measures of immune recovery on clinical outcomes

American Society of Bone and Mineral Research (ASBMR) Symposium

Osteoimmunology

SATURDAY, MAY 5, 10:15 AM – 12:15 PM, ROOM 306

Chairs:
Mark C. Horowitz, Yale School of Medicine
Joseph Lorenzo, University of Connecticut Health Center

Speakers:
Hector Leonardo Aguila, University of Connecticut Health Center
Monocyte progenitors: a crossroad between physiological and pathological inflammation

Mary Beth Humphrey, University of Oklahoma Health Science Center
Negative regulatory mechanisms of ITAM signaling in osteoclasts

Edward M. Schwarz, University of Rochester
Osteoimmunology of arthritis flare

Louis C. Gerstenfeld, Boston University School of Medicine
Multiple stages of immune cell function during fracture healing

American Society of Transplantation (AST) Symposium

Co-stimulatory and Co-inhibitory Pathways in Transplantation

MONDAY, MAY 7, 12:30 PM – 2:30 PM, ROOM 304

Chairs:
Andrew D. Wells, University of Pennsylvania
Jonathan S. Maltzman, University of Pennsylvania

Speakers:
Laurence A. Turka, Beth Israel Deaconess Medical Center, Harvard Medical School
Overview of costimulation and transplantation

Arlene H. Sharpe, Harvard Medical School
Immunomodulation by co-inhibitory receptors

Agnes M. Azimzadeh, University of Maryland School of Medicine
Selective blockade of CD28 in organ transplantation

Christian P. Larsen, Emory University Hospital
Bringing costimulatory blockade into the clinic

British Society for Immunology (BSI) Symposium

T Cell-Mediated Antiviral Immunity

SUNDAY, MAY 6, 10:15 AM – 12:15 PM, ROOM 306

Chair:
Arne N. Akbar, University College London

Speakers:
Charles R. M. Bangham, Imperial College London
How does the human leukemia virus (HTLV-1) persist in vivo?

Gavin R. Screaton, Imperial College London
Immunopathology in dengue virus infection

Tracy Hussell, Imperial College London
Immune pathology in lung viral infection: innate or adaptive?

Paul A. H. Moss, University of Birmingham
The biology and therapeutic management of the immune response to human cytomegalovirus in health and disease

Canadian Society for Immunology (CSI) Symposium

Dysfunctional B Cells: from Autoimmunity to Cancer

SATURDAY, MAY 5, 12:30 PM – 2:30 PM, ROOM 306

Chairs:
Aaron J. Marshall, University of Manitoba
Alberto Martin, University of Toronto

Speakers:
Joan E. Wither, University of Toronto
B cell abnormalities in lupus

Aaron J. Marshall, University of Manitoba
PI3-kinase pathway in B cell-associated pathologies

Julie P. Deans, University of Calgary
CD20 and related proteins in B cell regulation

Alberto Martin, University of Toronto
Antibody diversification mechanisms and their role in humoral immunity

Randy D. Gascoyne, University of British Columbia
Genetic mechanisms underlying immune privilege in lymphoid cancers

Chinese Society of Immunology (ChSI) Symposium

Translational Immunology: from Basic to Clinic

MONDAY, MAY 7, 10:15 AM – 12:15 PM, ROOM 310

Chairs:
Xuetao Cao, Chinese Academy of Medical Sciences
Olivera J. Finn, University of Pittsburgh

Speakers:
Xuetao Cao, Chinese Academy of Medical Sciences
Brief introduction to translational immunological research in China

Zhigang Tian, China University of Science and Technology, Hefei
NK cell pathobiology and immunotherapy of hepatitis and liver cancer patients

Xueguang Zhang, Suzhou University School of Medicine
Co-stimulators and co-inhibitors in cancer patients

Haiyan Liu, Suzhou University School of Life Sciences
New approaches to improve BMT

Yuzhang Wu, Third Military Medical University, Chongqing
Clinical trials of a new type of HBV therapeutic vaccine

German Society for Immunology (DGfI) Symposium

Control of Adaptive Humoral Immunity

SUNDAY, MAY 6, 12:30 PM – 2:30 PM, ROOM 306

Chairs:
Dieter Kabelitz, University of Kiel
Hans-Martin Jäck, University of Erlangen

Speakers:
Hassan Jumaa, Max-Planck Institute for Immunobiology and Epigenetics
B cell signaling and development

Jürgen Wienands, University of Göttingen
Activation signals for naive and class-switched memory B cells

Andreas Radbruch, Deutsches Rheuma-Forschungszentrum Berlin
Memory plasma cells

Hans-Martin Jäck, University of Erlangen
miRNA-dependent control of B cell differentiation

Claudia Berek, Deutsches Rheuma-Forschungszentrum Berlin
How plasma cells survive

International Society for Interferon and Cytokine Research (ISICR) Symposium

Innate Immunity and Autoimmunity

SATURDAY, MAY 5, 12:30 PM – 2:30 PM, ROOM 304

Chairs:
Ana M. Gamero, Temple University
Stefania Gallucci, Temple University

Speakers:
Siddharth Balachandran, Fox Chase Cancer Center
Distinct roles for NF-κB in antiviral innate immune responses

Ana M. Gamero, Temple University
STAT2 in the inflammatory and antiviral response

Stefania Gallucci, Temple University
Regulation of type I interferon in murine lupus

Andrew A. Welcher, Amgen, Inc.
Demonstration of biological impact of IFN-γ inhibition in SLE subjects treated with AMG 811

International Society of Neuroimmunology (ISNI) Symposium

Immunogenetics of Multiple Sclerosis

SATURDAY, MAY 5, 8:00 AM – 10:00 AM, ROOM 310

Chairs:
David A. Hafler, Yale School of Medicine
Tomas Olsson, Karolinska Institute

Speakers:
David A. Hafler, Yale School of Medicine
Genotype to phenotype

Tomas Olsson, Karolinska Institute
Gene-environment interactions in neuroinflammation

Philip L. De Jager, Harvard Medical School
The genetic architecture of multiple sclerosis

Chris Cotsapas, Yale School of Medicine
Common genetic variants of autoimmune disease

Society for Natural Immunity (SNI) Symposium

NK Cell Immunity in Viral Infections

SUNDAY, MAY 6, 12:30 PM – 2:30 PM, ROOM 306

Chairs:
Marcus Altfeld, Ragon Institute of MGH, MIT, and Harvard
Hans-Gustaf Ljunggren, Karolinska Institute

Speakers:
Silke Paust, Harvard Medical School
Natural killer cells mediate adaptive immune responses

Hans-Gustaf Ljunggren, Karolinska Institute
The human NK cell repertoire and its modulation by viral infections

Marcus Altfeld, Ragon Institute of MGH, MIT, and Harvard
NK cell responses against HIV-1

Kathleen L. Collins, University of Michigan
The antiviral factor APOBEC3G enhances recognition of HIV-infected cells by NK cells

Jobs Board

A Free Recruiting Service for Registrants and Exhibitors

Post Online and Meet Onsite

AAI is offering career services to both job seekers and employers through a Jobs Board free to meeting registrants and exhibitors at **www.immunology2012.org/Attendees/jobsboard.html**.

Job Seekers! Whatever your career stage, use this career service at **IMMUNOLOGY 2012™** 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 April 30. Watch for On-site Postings, online or on paper in the AAI Booth!)
- **Direct Access to Recruiters.** Job postings will include recruiters' e-mail addresses so that you can contact them directly.

Employers! Advertise your position on a virtual Jobs Board located on the **IMMUNOLOGY 2012™** website. By including a contact email, you will receive inquiries directly.

- **Advance Postings.** Postings will be accepted as of February 1, 2012, 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 April 30, 2012.
- **Onsite Postings.** After April 30, 2012, employers wishing to advertise a job on the **IMMUNOLOGY 2012™** website may still do so by visiting the AAI Office in the Hynes Center, Room 300, between 9:00 AM and 5:00 PM.

You may also post a paper announcement on the bulletin board in the AAI Booth in the Exhibit Hall.

Save Thousands of Dollars in Recruiting Expenses. Take advantage of this complimentary hiring opportunity at **IMMUNOLOGY 2012™**. To register for the meeting, visit **www.immunology2012.org/Attendees/registration.html**.

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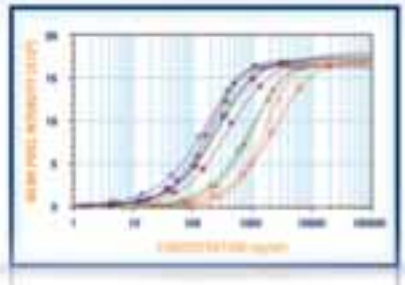

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Through workshops, roundtables, and one-on-one counseling, IMMUNOLOGY 2012™ provides critical career development programs. Career sessions and services this year include:

- Academics and SBIR/STTR Grants: Seeking Opportunities
- Careers in Biotech: Panel Discussion and Networking Reception
- Careers in Science Lecture and Networking Roundtables (2)
- How to Convert Your CV into a Resumé (followed by one-on-one counseling)
- Interviewing for a Job
- Secrets for a Successful Postdoctoral Fellowship

AAI is also offering an online and onsite Jobs Board free to meeting registrants and exhibitors.

Academics and SBIR/STTR Grants: Seeking Opportunities

MONDAY, MAY 7, 12:30 PM – 2:30 PM, ROOM 208

Chair:
Kimberly J. Payne, Loma Linda University

The federal Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR) grant programs award approximately $2.5 billion annually for small businesses to perform innovative research. Researchers at academic institutions can benefit from collaborations with these small business firms. This session will describe SBIR/STTR funding opportunities, highlight their potential benefits to academic researchers, and explore techniques for maximizing the success of grant proposals.

Speakers:
Gregory Milman, Director, Office for Innovation and Special Programs, NIAID
Secrets of NIH small business grant applications

Jay K. Kolls, Professor, University of Pittsburgh School of Medicine
Commercializing your research: are you ready for an SBIR/STTR grant?

Lisa Kurek, Managing Partner, Biotechnology Business Consultants
Commercialization: it is never too early to start

Thomas M. Aune, Professor, Vanderbilt University Medical Center
Utilizing small business partnerships to advance applied research

Careers in Biotech: Panel Discussion and Networking Reception

MONDAY, MAY 7, 6:30 PM – 8:00 PM, ROOM 304

Chair:
Clinton B. Mathias, Western New England University

Many opportunities exist in industry for a scientist with advanced degrees. There are positions in laboratory research, program management, business development, regulatory affairs and clinical trials oversight, and medical liaison. This panel features scientists employed in a variety of positions in industry to share their career paths and highlight the skills required to succeed in these careers. Following the panel discussion, enjoy casual conversation with the speakers and other industry connections at a networking reception. Refreshments will be provided.

Speakers:
Arthur Tzianabos, Vice President and Head, Research and Early Development, Shire Human Genetic Therapies

Andy Kokaji, Senior Scientist, STEMCELL Technologies, Inc.

Chris Schwab, Senior Medical Science Liaison, Human Genome Sciences, Inc.

Olivia Schneider, Chief Scientific Officer, Shenandoah Biotechnology, Inc.

Careers and Networking Roundtable

Sponsored by AAI Minority Affairs Committee

SATURDAY, MAY 5, 11:45 AM – 1:15 PM, ROOM 313

Don't miss this opportunity to meet one-on-one with accomplished, senior minority immunologists to hear how they have handled the career challenges you now face. Learn what they believe will work for you today.

Registration Fee: $20 (Lunch included.)

Table 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
- Academia or Industry: how to decide (or switch sides)
- Government Agency Careers: CDC, FDA, NIH, USDA
- Non-Research Careers: science journalism, patent law, biomedical entrepreneurship

Table leaders: see AAI Committee-Sponsored Sessions

Careers in Science Lecture and Roundtable

Sponsored by AAI Education Committee & AAI Committee on the Status of Women

Generously sponsored by BD Biosciences, Inc.

SUNDAY, MAY 6, 12:30 PM – 2:30 PM, SHERATON BOSTON HOTEL, REPUBLIC BALLROOM

Chair:
Bonnie N. Dittel, BloodCenter of Wisconsin, Chair, AAI Committee on the Status of Women

Keynote Speaker:

Olivera J. Finn, University of Pittsburgh School of Medicine
Make an effort! a path to a rewarding life in science

Registration Fee: $20 (Lunch included.)

This always popular session opens this year with former AAI President Olivera J. (Olja) Finn, Ph.D., Distinguished Professor and Chair, Department of Immunology, and Distinguished Professor, Department of Surgery, University of Pittsburgh School of Medicine; and Co-Leader, University of Pittsburgh Cancer Institute

Immunology Program. Dr. Finn actively addresses career development issues internationally through organizations in the United States and her participation in the IUIS Gender Equality and Career Development Committee. At this session, she will offer guidance for achieving distinction in one's field while balancing the demands of research, service to one's profession, and commitment to family. Roundtable discussions follow, led by experienced scientists on specific career issues and options. Attendance is limited. Registrations will be accepted on a first-come, first-served basis.

Table discussion topics/leaders: see AAI Committee-Sponsored Sessions

How to Convert Your CV into a Resumé

SATURDAY, MAY 5, 11:30 AM – 12:30 PM, ROOM 208

Instructor:

Derek Haseltine, Director, Research Career Development, University of Maryland School of Medicine

For anyone seeking a job outside of academe, 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 1:45 PM to 3:45 PM. Bring your CV!

Interviewing for a Job

SATURDAY, MAY 5, 12:45 PM – 1:45 PM, ROOM 208

Instructor:

Derek Haseltine, Director, Research Career Development, University of Maryland School of Medicine

This session will be focused 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.

Secrets for a Successful Postdoctoral Fellowship

SUNDAY, MAY 6, 11:00 AM – 12:30 PM, ROOM 208

Instructor:

Melanie Sinche, Director, Faculty of Arts and Sciences Office of Postdoctoral Affairs, Harvard University

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.

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FRIDAY, MAY 4 ■ 6:00 PM–8:00 PM

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Chambers-eBioscience Memorial Award

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Meeting Bags

Friday, May 4

2:00 PM - 4:00 PM

B and T Cell Responses to Microbes
Cytokines in Cancer, Autoimmunity, and Transplantation
Homeostatis and Aging of Lymphocytes
Inflammatory Responses and Disease
Technological Innovations in Immunology

Saturday, May 5

8:00 AM - 10:00 AM

Myeloid-derived Cells as APCs and as Regulators
Regulation of Asthmatic Inflammation
Regulators of T Cell Responses
Therapeutic Strategies for Rheumatologic Diseases

10:15 AM - 12:15 PM

Hematopoietic Stem Cells and Lineage Fate Decisions
Immunotherapy and Vaccines: Innate-Adaptive Crosstalk
Regulatory Therapies of Autoimmune Diseases
Th17 and IL-17 Family Cytokines

12:30 PM - 2:30 PM

Adaptive Responses in Viral Infections
Mechanisms of T, NK/T Lymphocyte Differentiation, and Repertoire Selection
Monocytes and Macrophages
Neutrophils and Other Myeloid Cells
Tumor-Induced Immune Suppressive Mechanisms

3:30 PM - 5:30 PM

Immune Regulation at Mucosal Surfaces
Immune Responses to Antigens
Molecular Mechanisms Regulating Macrophage Activation
T Cell Development

Sunday, May 6

8:00 AM - 10:00 AM

Effector and Memory CD8 T Cells
Mechanisms of T Cell Tolerance
Molecular and Cellular Mechanisms of Antigen Presentation in Health and Disease
Therapeutic Opportunities in Allergic Inflammation

Sunday, May 6

10:15 AM - 12:15 PM

Generation, Selection and Function of B Cells
Leukocyte Migration and Inflammation
Mechanisms for Transplant Tolerance and Rejection
Regulators of T Lymphocyte Activation

12:30 PM - 2:30 PM

Comparative and Veterinary Immunology
Immune System Regulation by Non-Lymphocyte Cell Types
Innate Immune Responses
Mediators of Allergic Inflammation

3:30 PM - 5:30 PM

B Cell Development
Cytokine Signaling and Mechanisms
Immunotherapy and Vaccines: Antitumor Immunity Regulation
Innate Mediators of Autoimmune Disease
Regulation of Mast Cell Activation

Monday, May 7

8:00 AM - 10:00 AM

Genetics and Autoimmune Disease
Immunosurveillance and Immunoediting during Cancer Progression
Innate Immune Signaling and Immune Regulation in Viral Infections
Mechanisms of Effector and Regulatory CD4 T Cells Generation and Death

10:15 AM - 12:15 PM

Leukocyte Activation and Effector Function in Innate Immunity
Lymphocyte Trafficking
Regulation of B Cell Responses and B Cells as Regulators
T cells Subsets and Metabolism in Autoimmunity
Toll-like Receptor Signaling

12:30 PM - 2:30 PM

B Lymphocyte Signaling and Transcription
Inflammatory Chemokines and Cytokines
Innate Immunity to Microbes
Tumor Immunology
Vaccines and Immunotherapy: Infectious Diseases 1

3:30 PM - 5:30 PM

Dendritic Cells and Innate Lymphocytes
Immune Responses to Mucosal Pathogens
Immunotherapy and Vaccines: Basic Studies
Novel Interventions for Autoimmune Disease

Tuesday, May 8

8:00 AM - 10:00 AM

B Cell Tolerance and Autoimmunity
Innate Immune Cells in Viral Infections
MHC I and MHC II Machinery for Antigen Processing and Presentation
Regulatory T Cells

10:15 AM - 12:15 PM

Immunoregulation of Antimicrobial Immunity
PD1 and other Inhibitor Receptors
Vaccines and Immunotherapy: Infectious Diseases 2

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IMMUNOLOGY 2012™ Gala
"Casino Night in Back Bay"

at the Sheraton Boston Hotel Grand Ballroom

SUNDAY, MAY 6 ■ 7:00 PM–10:00 PM

President's Service Appreciation Reception

SATURDAY, MAY 5 ■ 7:00 PM–9:30 PM

By invitation only

Poster Sessions

The most interactive part of the meeting! Discuss data and research issues firsthand with authors at the Poster Sessions. Posters will be displayed Saturday through Monday in the Hynes Convention Center Auditorium and Exhibit Hall C-D from 9:30 AM – 4:30 PM.

Dedicated Daily Poster Presentation Hour from 2:30 PM – 3:30 PM

SATURDAY, MAY 5

- B Lymphocyte Signaling and Transcription
- B and T Cell Responses to Microbes
- Cytokines and Chemokines in Inflammation and Immunity
- Dendritic Cells and Innate Lymphocytes
- Effector and Suppressor Cells in Tumor Immunity
- Homeostasis and Aging
- Immune Regulation by Non-Lymphoid Cells
- Immunity to Mucosal Pathogens
- Immunology Education
- Immunotherapeutic Intervention for Autoimmune Diseases
- Immunotherapy and Vaccines: Basic Studies
- Immunotherapy and Vaccines: Innate-Adaptive Crosstalk
- Inflammation and Disease
- Innate Immunity to Microbes
- Manipulation of the Immune Response as Therapy for Autoimmunity
- Regulation of Asthmatic Inflammation
- Technological Innovations in Immunology I
- Th17/IL-17 Cytokine Axis

SUNDAY, MAY 6

- Adaptive Responses in Viral Infections
- Antigen Processing and Presentation
- Antiviral Innate Immunity
- B Cell Generation, Selection, and Function
- Generation of Effector and Memory CD8 T Cells
- Hematopoiesis and Immune Cell Development
- Host Responses to Bacterial and Parasitic Challenge
- Immunotherapy and Vaccines: Infectious Diseases I
- Inflammasomes: Activation and Activity
- Mechanisms of T and NKT Lymphocyte Differentiation and Repertoire Selection
- Mechanisms of Therapeutic Approaches to Autoimmune Disorders
- Monocytes and Macrophages
- Neutrophils and Other Myeloid Cells
- Novel and Cellular Approaches to Autoimmunity
- Regulation of Immune Responses at Mucosal Surfaces
- Regulation of T Cell Activation, T Cell Subsets, and Interleukin-2
- T Cell Differentiation and Effector Functions
- T Cells in Autoimmunity
- Technological Innovations in Immunology II
- Therapeutic Opportunities in Allergic Inflammation
- Transplantation
- Tumor-induced Immune Suppressive Mechanisms

MONDAY, MAY 7

- B Cells and Autoantibodies
- Comparative and Veterinary Immunology
- Cytokine Regulation of Cancer, Autoimmunity, and Transplantation
- Effector Mechanisms of Antitumor Immunity
- Generation and Death of Effector and Regulatory CD4 T Cells
- Immunoregulation of Microbial Activity
- Immunotherapy and Vaccines: Antitumor Regulation
- Immunotherapy and Vaccines: Infectious Diseases II
- Innate Immune Cells
- Innate Immune Cells in Viral Infections
- Innate Immune Responses
- Innate Immune Signaling and Immune Regulation in Viral Infections
- Innate Immunity in Autoimmunity
- Leukocyte Activation in Innate Immunity
- Leukocyte Migration and Inflammation/ Immunity
- Mechanisms of Cytokine Regulation and Signaling
- Mediators of Allergic Inflammation
- Molecular Regulation of Lymphocyte Responses
- Regulation of Mast Cell Activation
- Regulatory Signaling Pathways
- Regulatory T Cells
- TLR Signaling

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Support in part for these awards has been generously provided by ***BD Biosciences*** *and* ***Cell Signaling Technology.***

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(Schedule as of February 22, 2012)

SATURDAY, MAY 5

Ensuring Accuracy in Multiplex Immunoassay Results

R&D Systems, Inc.

10:00 AM – 11:00 AM, EXHIBITOR WORKSHOP ROOM 1

Presenter: TBA

Multiplex immunoassays are an efficient tool for evaluating multiple biomarkers simultaneously. We will discuss factors that can negatively impact the performance of an immunoassay and how these are magnified in multiplex experiments. In addition, the presentation will cover ways to evaluate multiplex immunoassay performance, including calibration, spike recovery, dilution linearity, sensitivity, precision, specificity, and evaluation of product literature. How your results compare with the current knowledge of the biomarker will also be discussed. Having an understanding of these concepts will help you select the best multi-analyte assay and avoid inaccurate results that waste time and money, and slow your scientific progress.

Expanding Brilliance: New Brilliant Violet 605™ and 650™ Fluorophores for Multicolor Flow Cytometry

BioLegend, Inc.

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

Presenter: TBA

Multi-laser instruments allow simultaneous detection of up to 20 parameters for multiplexed multicolor assays. However, advanced flow cytometry users have been restricted by limited fluorophore availability, and the increasingly common "violet" laser (405–407 nm) is still under-exploited. Recently, we released two new fluorescent molecules, Brilliant Violet 421™ (BV421™) and Brilliant Violet 570™ (BV570™) for the violet laser. Here, we introduce additional members of this novel and highly sensitive polymeric molecule family: Brilliant Violet 605™ (BV605™) and Brilliant Violet 650™ (BV650™). These new BV molecules produced antibody conjugates with significantly increased overall brightness and signal-to-noise compared with spectrally equivalent fluorophores.

Methods and Reagents for Signal Transduction Research

Cell Signaling Technology

12:00 PM – 1:00 PM, EXHIBITOR WORKSHOP ROOM 2

Presenters: Amy Laws, Ph.D., Marketing Product Manager, and Randy Wetzel, Ph.D., Director, Cytometry, Cell Signaling Technology

Studying signal transduction requires a range of tools from biologically active cytokines to activation state-specific antibodies. Cell Signaling Technology (CST) has extensive experience in developing the highest quality antibodies for the study of cellular signaling pathways and has extended its expertise to cytokine production. The first half of this tutorial will focus on how CST can support signal transduction studies for multiple pathways, including IL-17 signaling through MAPK and other pathways. The second half will focus on activation state-specific antibodies for quantitative analysis of cellular signaling using flow cytometry, including discussions of multiplex assays and optimized protocols for intracellular staining.

SUNDAY, MAY 6

The Immune Epitope Database and Analysis Resource: Introduction and New Feature Highlights

Immune Epitope Database

10:00 AM – 11:00 AM, EXHIBITOR WORKSHOP ROOM 2

Presenters: Nima Salimi and Yohan Kim, Immune Epitope Database

The Immune Epitope Database and Analysis Resource (IEDB) is a freely available online resource supported by NIAID. The IEDB contains data related to antibody and T cell epitopes for humans, non-human primates, rodents, and other animal species. Curation of peptidic and non-peptidic epitope data relating to all infectious diseases, allergens, autoimmune diseases, and transplant/alloantigens is current and constantly updated. The IEDB contains over 13,500 references. The IEDB also hosts tools to analyze data and predict T cell and antibody epitopes. The workshop will present an introduction to the website's features and highlights of the latest IEDB release.

Applications of the FlowSight Imaging Flow Cytometer

Amnis Corporation

12:00 PM – 1:00 PM, EXHIBITOR WORKSHOP ROOM 2

Presenter: David Basiji, CEO, Amnis Corporation

The applications and benefits of the FlowSight imaging flow cytometer will be explored. The FlowSight is a 12-channel flow cytometer that images every cell and is priced for every lab. The FlowSight can be upgraded with up to four lasers, a 96-well AutoSampler, and an image analysis package, providing the flexibility and capability to meet the needs of novice and advanced cytometrists alike. Important applications of the FlowSight in multi-color flow cytometry and image analysis will also be discussed, including nuclear translocation, apoptosis, and phagocytosis. Lunch will be provided—first come, first served.

CelluSpots Arrays: Versatile Tools for the Analysis of Peptide Binders to Antibodies, Proteins, and Enzymes

Intavis Inc.

1:00 PM – 2:00 PM, EXHIBITOR WORKSHOP ROOM 2

Presenter: Daniel Maisch, Intavis Inc.

Peptide arrays are useful tools to characterize antibodies, to determine sequence specificities of enzymes, or to find interaction partners to given peptide sequences. One widely used format for such arrays is a cellulose sheet with hundreds of synthetic peptides bound to it. These SPOT-arrays have been used successfully in a broad range of applications since their invention at the beginning of the 1990s. CelluSpots represents a new method that retains the advantages of the SPOT method but allows the production of hundreds of identical copies on microscope slides for parallel screenings with low sample volumes.

MONDAY, MAY 7

Measuring Immune Function with Imaging Flow Cytometry

Amnis Corporation

12:00 PM – 1:00 PM, EXHIBITOR WORKSHOP ROOM 1

Presenter: Thaddeus George, Ph.D., Director of Biology, Amnis Corporation

This workshop will cover measurement of immune function using imaging flow cytometry. Applications include nuclear translocation in rare whole blood subsets, chemokine-induced receptor internalization, and shape change and measurement of immune synapse events. Data will be presented from the ImageStreamX, Amnis' most capable imaging flow cytometer, and the FlowSight, a new 12-channel flow cytometer that images every cell and is priced for every lab. Lunch will be provided—first come, first served.

XF Cell Mito Stress Test Reveals Bioenergetic Requirements of Immune Function

Seahorse Bioscience

1:00 PM – 2:00 PM, EXHIBITOR WORKSHOP ROOM 1

Presenter: Niccole Larsen, Ph.D., Seahorse Bioscience

Learn more about the ATP and biosynthetic demands of immune cell proliferation, differentiation, and effector function! Easily reveal the bioenergetic requirements of immune function, using the industry gold standard in measuring metabolism—the XF Extracellular Flux Analyzer and XF Cell Mito Stress Test Kit. Simultaneously measure the two energy pathways of cell metabolism, mitochondrial respiration, and glycolysis. New insights into mitochondrial dysfunction will help you achieve a greater understanding of the relationship between immunology and disease.

Advanced Technologies for Improving the Development of Monoclonal Antibodies & DNA Vaccines

BTX® Harvard Apparatus

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

Presenter: TBA

This workshop will provide attendees with valuable insight into the latest technologies that will improve results and shorten the development time associated with Phase 1, 2, & 3 monoclonal antibody production and vaccine development. Learn how BTX-patented technology can solve the many issues in this area including: producing quality hybrids, scalability, and reproducibility and creating SOPs. This workshop is intended to be informative and to encourage audience interaction. We look forward to meeting and engaging with you on this important topic.

Monetizing Your Intellectual Property: Protecting Ideas that Generate Income

Knobbe Martins Olson & Bear, LLP

12:00 PM – 1:00 PM, EXHIBITOR WORKSHOP ROOM 2

Presenters: Brenden Gingrich and Kathleen Mekjian, Knobbe Martins Olson & Bear, LLP

This program explores what types of research innovations are protectable and provides practical tips for protecting innovations while avoiding some common pitfalls that can compromise intellectual property. You will also hear strategies on how to leverage intellectual property to generate entrepreneurial opportunities, personal revenue, and support for ongoing research.

GRIP
Grant Review for Immunologists Program

Get a GRIP: An AAI program designed to help new investigators prepare their NIH grant proposals

AAI is pleased to offer a program to match new PIs with established PIs who have significant, successful grant writing careers. The Grant Review for Immunologists Program (GRIP) invites new PIs to submit an outline or NIH-style abstract to the GRIP coordinator who, with the assistance of a small volunteer subcommittee, will attempt to match the topic of the proposal with the research experience of an established PI. Matches will be made as quickly as possible to allow new PIs to meet upcoming NIH grant deadlines. Participation is open only to AAI members and is strictly voluntary. The program is not intended to supplant internal mentoring programs.

GRIP is now accepting both new PI and established PI participants. Please send your CV and a brief description of either your potential research project (new PIs) or grant reviewing experience (established PIs) to infoaai@aai.org (please write "GRIP" in the subject line).

Program details at **www.aai.org/GRIP_rd.htm**

Be sure to catch the presentations and demonstrations of exhibitors' new products. Sessions are scheduled in 15-minute intervals on the Exhibit Hall Stage.

Presentations are planned and conducted by exhibitors; the listing of these presentations does not constitute endorsement of any products or services by AAI.

SATURDAY, MAY 5

10:00 AM

BioLegend, Inc.

BioLegend provides an assortment of tools to help you with your daily research, in planning experiments, and for general knowledge. Learn about all our web tools and iPhone and iPad apps for supporting your immunology and flow cytometry research.

12:30 PM

BD Biosciences

The BD Accuri™ C6 flow cytometer and BD™ Cytometric Bead Array reagents are a powerful combination for quantification of soluble cytokines, chemokines, and growth factors involved in the immune response. This presentation will highlight the workflow for performing the assay, data collection, and analysis using FCAP Array™ v3.0.1 software.

SUNDAY, MAY 6

10:00 AM

BioLegend, Inc.

BioLegend provides an assortment of tools to help you with your daily research, in planning experiments, and for general knowledge. Learn about all our web tools and iPhone and iPad apps for supporting your immunology and flow cytometry research.

10:30 AM

Origene

Disease biomarker discovery is important for companion diagnostic development. OriGene, a gene centric biotech company, developed a series of proteomic research tools for cancer biomarker discovery. In this talk, we will present various OriGene proprietary technologies allowing serum autoantibody detection or cancer biomarker surveys from hundreds of cancer patients.

11:30 AM

BioData

Labguru is a collaborative research management web application for academic labs, which helps researchers plan experiments, track progress, share results, manage inventories, and organize related documents, protocols, and data. We will demonstrate how Labguru helps researchers: plan experiments, track research progress, annotate key results, build research context by linking relevant data, find the location of specific reagents/samples, and schedule use of shared equipment.

12:30 PM

BD Biosciences

BD Biosciences has many assays available for detection of apoptotic events by flow cytometry including plasma membrane alterations, mitochondrial changes, caspase activation, and DNA fragmentation. This presentation will highlight the use of apoptosis reagent kits from BD Biosciences on the affordable BD Accuri™ C6 personal flow cytometer.

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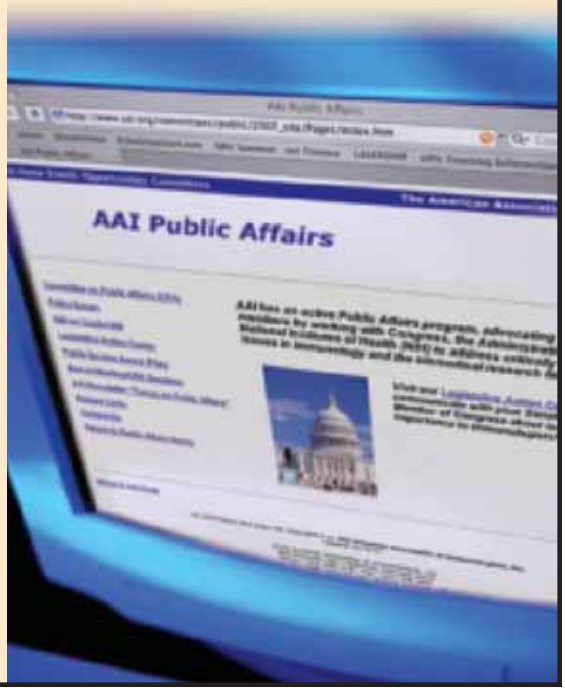


Anna Wessels Williams, M.D.

Infectious Disease Pioneer and Public Health Advocate

Women have always figured prominently in immunology and in the American Association of Immunologists (AAI). In fact, two of the 54 charter members of AAI were women. During the first 30 years of the association's existence, a total of 55 women were elected to AAI membership.[1] While women remained a minority within AAI, their numbers rose steadily until, by 1940, they comprised 44 of the society's 350 active members. Among these early women members, Anna Wessels Williams, AAI 1918, like Elise L'Esperance profiled in the January-February issue of the *AAI Newsletter*, is one of a number who stand out for their enduring contribution to immunology and to the foundation of AAI. Her legacy in the burgeoning field of immunology includes breakthroughs in the treatment of diphtheria and the diagnosis of rabies. And texts that she co-authored helped to define how generations of researchers and clinicians would conduct research, as well as assist the general public in understanding infectious diseases. We profile her below. Watch for AAI profiles of other pioneering women immunologists to appear in print and online at aai.org/about/history.[2]

Anna Wessels Williams (Photo: the Schlesinger Library, Radcliffe Institute, Harvard University)

"Her legacy in the burgeoning field of immunology includes breakthroughs in the treatment of diphtheria and the diagnosis of rabies. And texts that she co-authored helped to define how generations of researchers, clinicians, as well as the general public understood infectious diseases."

Anna Wessels Williams (1863–1954) was already a highly regarded medical and public health researcher at the laboratory of the New York City Department of Health, when she was elected to AAI membership in 1918. Born in Hackensack, New Jersey, into the family of a private-school teacher, Williams is said to have become fascinated by science when she first peered into a school microscope at age 12. After graduating from a local public high school, she enrolled in the New Jersey State Normal School and seemed destined for a career as a school teacher. For the two years following her graduation in 1883, she did, in fact, teach school.

In 1887, however, Williams's life was to change course. In that year, her sister Millie narrowly escaped death, giving birth to a stillborn child. Struck by the ineffectiveness of the medical treatment received by Millie, Williams became intensely focused on a career in medicine. She resigned from her teaching position to enroll in the Woman's Medical College of the New York Infirmary later that year.

Williams received her M.D. in 1891 from the Woman's Medical College and interned at the New York Infirmary, where she remained as an instructor in pathology and hygiene. Although the exact dates cannot be confirmed, Williams is known to have traveled to Europe to continue her medical training in Vienna, Heidelberg, Leipzig, and Dresden during the years 1892 and 1893.

In 1894, after her return to New York City, she volunteered at the recently opened diagnostic laboratory of the New York City Department of Health, where she would work for the next 39 years.[3]

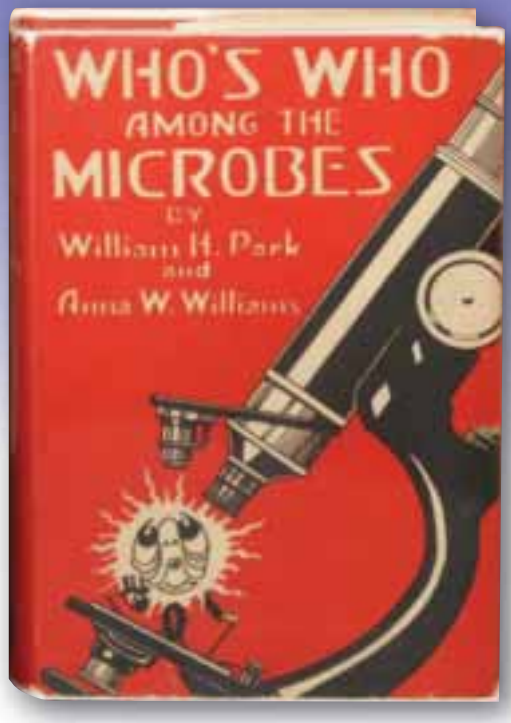
At the time she entered the laboratory, diphtheria had reached near-epidemic levels in the city and was especially high among children from poor families. In her first year at the lab, she began a collaborative research project with the director, William H. Park, AAI 1916 (AAI president, 1918), to eradicate the disease. Their objective was to create a higher-yield antitoxin than was currently available. They would seek to build upon the work of Emil von Behring, who, in 1890, had developed the first successful serum therapy to treat diphtheria.[4] Though the antitoxins that he created were successful—earning him the first Nobel Prize in Physiology or Medicine in 1901—their low yield meant that many patients were still denied access to the therapy.

While still a volunteer, Williams experienced a breakthrough in the search for a higher-yield antitioxin. Working alone in the lab, with Park away on vacation, she isolated and identified a new strain

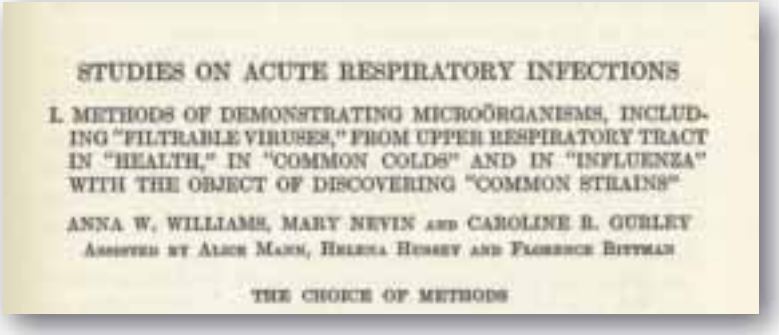
1. AAI memberships comprised just two categories in these early years—Active and Honorary. Both were elected. All members were practicing or retired researchers and clinicians. The majority of the members had either an M.D. or Ph.D. degree. The Trainee membership category was first formally offered in 1983.
2. All membership statistics are taken from election information on AAI Council reports. As no election records exist for 1919, the above statistics are inclusive for 1913–1918 and 1920–1942. AAI Archives.
3. The New York City Department of Health's laboratory was originally opened in 1892 as a temporary emergency laboratory for a cholera outbreak in the city. Laboratory operations were continued and expanded the following year, and it officially became the first municipal laboratory in the United States.
4. In 1884, Friedrich Loeffler discovered the causative organism (*Corynebacterium diphtheriae*).

from a mild case of tonsillar diphtheria. The strain, later to be named Park-Williams No. 8 (commonly called Park 8), proved crucial to the development of effective high-yield antitoxin.[5] Within just one year, the antitoxin was in mass production and public health departments were distributing it free of charge to physicians in the United States and Great Britain. Although it was Park who was given the recognition for the discovery of the Park-Williams No. 8 strain, Williams stated that she had no regrets about the presumed credit going to her mentor and collaborator, as she was "happy to have the honor of having my name thus associated with Dr. Park."[6]

In 1895, Williams was hired as a staff member of the laboratory and, in 1896, was able to take a sabbatical to carry out research on an antitoxin for scarlet fever at the Pasteur Institute. In Paris, her work on scarlet fever yielded no dramatic results, but the trip was fruitful in another area of research. Having spent some of her time at the Pasteur involved in its rabies research, she returned to New York intent upon improving rabies prevention and diagnostics. By 1898, she was able to create an effective vaccine that could be mass produced in the United States. This was a major step in the prevention of rabies, but many patients were still succumbing to the disease because of the lengthy, 10-day-or-longer diagnostic period.



Cover for the 1937 edition of* Who's Who among the Microbes *(Photo: The Reluctant Bookseller)



STUDIES ON ACUTE RESPIRATORY INFECTIONS

I. METHODS OF DEMONSTRATING MICROÖRGANISMS, INCLUDING "FILTRABLE VIRUSES," FROM UPPER RESPIRATORY TRACT IN "HEALTH," IN "COMMON COLDS" AND IN "INFLUENZA" WITH THE OBJECT OF DISCOVERING "COMMON STRAINS"

ANNA W. WILLIAMS, MARY NEVIN AND CAROLINE B. GURLEY
Assisted by Alice Mann, Helena Hussey and Florence Bittman

THE CHOICE OF METHODS

Anna Wessels Williams's first published scientific article in* The JI (*J.Immunol.* 1921. 6(1): pages 5–24); *one of a series of papers from the laboratory of the New York City Department of Health concerning the etiology and prevention of the pandemic influenza

Williams turned her attention to a search for some means of detecting the disease much earlier in its occurrence and began studying the brains of infected animals. Her work led to a rabies diagnostic breakthrough within the decade resulting from her discovery of abnormal brain cells in rabid animals. She was not, however, to be generally recognized for this important stride forward, as she was not the first to publish a journal article about the brain cell abnormalities. At the same time that she was performing her research in New York, Adelchi Negri, an Italian pathologist, was studying the same phenomenon in his lab at the University of Pavia. Although it is held that Williams was the first to recognize this distinct brain-cell structure in rabid animals, she is said to have "cautiously waited" to publish her results.[7] Meanwhile, Negri published his seminal paper in 1904 and became widely recognized for the breakthrough.[8] The abnormal cells, known as Negri bodies, bear his name.

Williams continued her rabies research, focusing on the use of brain tissue stains in diagnostics. In 1905, she developed a diagnostic test that yielded results in minutes rather than days.[9] Williams's test quickly became the standard rabies test and remained so for the next 30 years. It was not to be improved upon until the late 1930s.

In 1905, Williams was promoted to the position of first assistant director of the diagnostic laboratory. In her position, she directed research on a range of urgent public health issues, including influenza, venereal diseases, polio, and trachoma. During the First World War, with the laboratories of top American researchers focused intensely on influenza, Williams was one of a very few female scientists working to identify the pathogen

5. For a modern study of Park-Williams 8 strain see Lesley M. Russell and Randall K. Holmes, "Highly toxinogenic but avirulent Park-Williams 8 strain of *Corynebacterium diphtheriae* does not produce siderophore," *Infection and Immunity* 47, no. 2 (1985): 575–578.
6. National Institutes of Health, "Dr. Anna Wessels Williams," *Changing the Face of Medicine*, National Library of Medicine, www.nlm.nih.gov/changingthefaceofmedicine/physicians/biography_331.html (accessed 7 February 2011).
7. Elizabeth D. Schafer, "Anna Wessels Williams," *American National Biography Online*, www.anb.org (accessed 7 February 2011).
8. Adelchi Negri, "Contributo allo studio dell'eziologia della rabbia," *Bollettino della Società medico-chirurgica di Pavia* 2 (1904): 88–115.
9. Anna Wessels Williams and May Murray Lowden, "The Etiology and Diagnosis of Hydrophobia," *Journal of Infectious Diseases* 3, no. 3 (1906): 452–448.

responsible for the pandemic. The women researchers were largely limited to lab work, analyzing specimens forwarded by male scientists from military bases. Williams, however, was the exception. With Park, she was summoned to Camp Upton on Long Island in September 1918 to investigate the disease on the front lines of a new outbreak. [10]

Anna Wessels Williams (Photo: the Library of Congress)

On another front, her research on trachoma resulted in a more accurate diagnostic test and opportunity to spare the eyesight of many schoolchildren infected by the disease. As with diphtheria, her work on trachoma proved greatly beneficial for the urban poor. [11]

Outside of the laboratory, Williams lived a life far removed from the cautious calibrations and sometimes mundane routine of the laboratory. She seems to have invited risks, as she was known to love being a passenger in pre-First World War airplanes, especially with stunt fliers. And she appeared determined to replicate the excitement felt for a scientific discovery in the thrill of speeding in her car through the streets of New York City—or so the many documented speeding tickets would suggest.[12]

"Outside the laboratory, Williams lived a life far removed from the cautious calibrations and sometimes mundane routine of the laboratory. She seems to have invited risks, as she was known to love being a passenger in pre-First World War airplanes, especially with stunt fliers…."

In 1934, despite an outpouring of support and a petition campaign by scientists, clinicians, and other public health professionals, Williams was forced to step down from her position at the bench and enter retirement. At 71, she had exceeded the established mandatory retirement age of 70 for city employees.[13]

Beyond her achievements in the laboratory, Williams co-authored two books with Park that helped define the way contagious diseases were to be understood: *Pathogenic Micro-organisms Including Bacteria and Protozoa: A Practical Manual for Students, Physicians and Health Officers* (1905) and *Who's Who among the Microbes* (1929). The former was so widely referenced that it was known among researchers and clinicians alike simply as "Park and Williams."

"Although she may have never received the renown granted a male researcher for the same discoveries, Williams's research and publications informed the work of generations of scientists, male and female."

By 1939, 11 editions of the text had been published. (At last, one of her contributions to science would bear her own name.) Their second text, *Who's Who among the Microbes*, was one of the first biomedical reference books written for the general public.

Throughout her long career, Williams served in leadership roles and received numerous honors and awards. Among them were her posts as president of the Woman's Medical Association (1915) and as the first female chair of the American Public Health Association's Laboratory Section (1932). Through her position at the diagnostic laboratory, Williams made seminal discoveries that advanced the medical understanding of diphtheria and rabies and, in doing so, saved countless lives. With her election to AAI in 1918, she not only was accorded recognition by her peers, but she also lent honor to the young organization.

Although she may have never received the renown granted a male researcher for the same discoveries, Williams's research and publications informed the work of generations of scientists, male and female. And her distinction in her career inspired confidence for the growing number of female researchers and clinicians entering the field. Upon her retirement, New York City Mayor Fiorello LaGuardia accurately summed up Anna Wessels Williams's career: She was "a scientist of international repute."[14]

10. For more detail on Williams's influenza research during the First World War, see John M. Barry, *The Great Influenza: The Epic Story of the Deadliest Plague in History* (Penguin Books: New York, 2005).
11. Trachoma is an eye infection characterized by a telltale roughening of the inner surface of the eyelid, and, if left untreated, causes blindness. In turn of the century America, trachoma was designated a "dangerous and contagious disease" by the surgeon general. As such, beginning in 1905, all immigrants were screened for it upon entering the country, and those who had it were sent back to their country of origin. As it was highly communicable, trachoma was also a growing problem in the poor and immigrant communities, especially among children. Quote from Howard Markel, *When Germs Travel: Six Major Epidemics That Have Invaded America and the Fears They Have Unleashed* (Vintage: New York, 2004), 88. See also Alan M. Kraut, *Silent Travelers: Germs, Genes, and the "Immigrant Menace"* (Johns Hopkins University Press: Baltimore, 1994); Anna Wessels Williams, "A Study of Trachoma and Allied Conditions in the Public School Children of New York City," *The Journal of Infectious Diseases* 14, no. 2 (1914): 261–337.
12. Barry, 272–273.
13. *The New York Times*, "Physicians Plead for Dr. Williams," 28 March 1934; *The New York Times*, "City Acts to Oust Woman Scientist," 14 March 1934.
14. *The New York Times*, "94 Retired by City; 208 More Will Go," 24 March 1934. For additional resources see: Schafer, "Anna Wessels Williams"; National Institutes of Health, "Dr. Anna Wessels Williams"; Marilyn Bailey Ogilvie, Joy Dorothy Harvey, eds., "Anna Wessels Williams (1863–1954)," *The Biographical Dictionary of Women in Science: L-Z* (Routledge: New York, 2000), 1380–1381; *The New York Times*, "Anna W. Williams, Scientist, Is Dead," 21 November 1954; King-Thom Chung, *Women Pioneers of Medical Research: Biographies of 25 Outstanding Scientists* (McFarland & Company, Inc: Jefferson, NC, 2010), 48–51.

Veterinary Immunologists at the 92nd Annual Conference of Research Workers in Animal Diseases (CRWAD)

AAI sponsored the awards given by the American Association of Veterinary Immunologists (AAVI) at CRWAD, a December 2011 meeting in Chicago of immunologists, microbiologists and epidemiologists who work with livestock and companion animals. AAVI President Gary Splitter, AAI '80, assisted by Laurel Gershwin, AAI '84, member of the AAI Veterinary Immunology Committee, presented the AAI-sponsored trainee awards, plus the Distinguished Veterinary Immunologist Award, also supported by AAI, to Patricia Shewen. The Immunology Section at CRWAD was led by Isis Mullarky, AAI '04.

AAI Legislative Assistant Jacob Schumacher was invited to brief the AAVI Board on the AAI public affairs program and hear that board describe the most pressing issues faced by veterinary immunologists. Schumacher, along with Jennifer Woods and AAI Historian and Liaison to the AAI Veterinary Immunology Committee John Emrich, shared information about AAI with CRWAD attendees at the AAI Booth and in AAVI business and social events during the meeting.

Recipients of AAI-supported AAVI awards include Nicole Behrens, University California, Davis; Sarah Mattmiller, Michigan State University College of Veterinary Medicine; Xavier Revelo, University of Missouri; Lakshmi Sunkara, Oklahoma State University; John Schwartz, (AAI Trainee Member) University of Minnesota; and Lydia Siebert, University of Tennessee.

"AAI appreciated this opportunity to participate so actively with AAVI at the CRWAD meeting to learn more about the scientific and professional concerns of veterinary immunologists. AAI values the commitment to animal health and welfare for the positive impact it has on economies throughout the world as well as the great contributions of animal research to human health," said AAI Director of Membership Jan Massey. "I thank AAI Trainee Member Matt Kappes, a graduate student at Iowa State University, for providing insight into the needs of veterinary students and informing me of this forum," Massey said.

AAI congratulates the awardees and the AAI member organizers on their service to the broad immunology community through their volunteer leadership.

AAVI President Gary Splitter

Isis Mullarky

Jennifer Woods and John Emrich (both on left) with AAVI-AAI awardees

Jacob Schumacher with AAVI Board

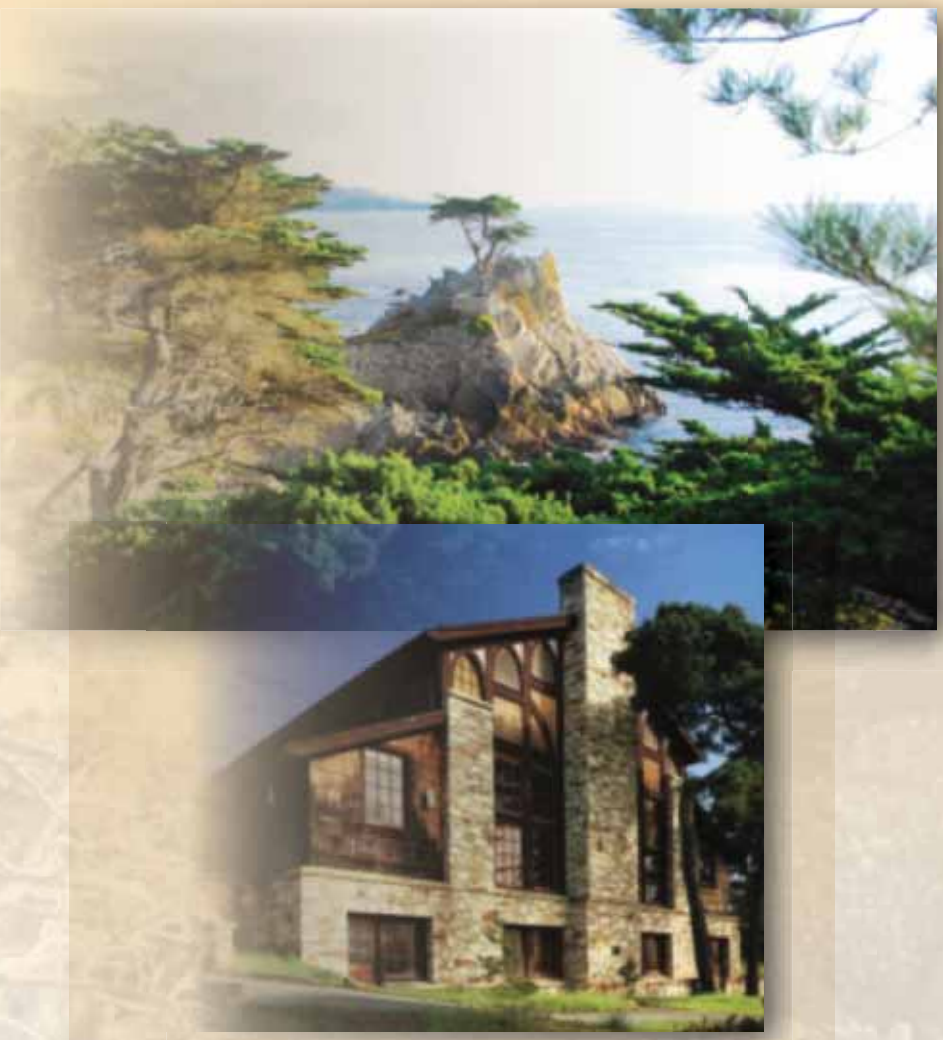
Jennifer Woods (far left) and Jacob Schumacher (far right) with AAI members Ron Schultz, Joan Lunney, and Jay Srinivas

51st Midwinter Conference of Immunologists

Over 250 scientists attended the Midwinter Conference of Immunologists (MCI), the group's 51st meeting, held January 28–31 at the Asilomar* Conference Grounds on California's Monterey Peninsula. Christel Uittenbogaart, AAI '84, is the executive director of MCI, and Ann J. Feeney, AAI '85, and Steven F. Ziegler, AAI '95, were chairs of this year's conference. AAI supported this year's meeting by sponsoring the Dan Campbell Memorial Lecture, eight poster and oral presentation awards, an oral presentation session, and a poster session.

Since its founding in 1961 by a small group of immunologists, among them the eminent scientists Dan Campbell and Ray Owen, AAI '66, Emeritus, the MCI has been held annually to provide a forum where the newest developments in immunology can be shared with colleagues and communicated to graduate students and postdoctoral fellows in a relaxed environment. One of the major objectives is to stimulate interactions among graduate students, postdoctoral fellows, and established scientists. "In addition to outstanding science, the MCI is unique for being held on an historic property literally steps away from the Asilomar dunes and beach—one of the most beautiful areas in the country. It is always a pleasure to attend," said AAI Executive Director Michele Hogan, AAI '88, an MCI Council member and attendee since 1988.

Since October 2011, AAI has participated in several regional immunology conferences, helping to support AAI members who volunteer their time and efforts to the scientific community. "AAI also wants to encourage graduate students and postdoctoral fellows beginning their careers," says AAI Manager of Educational and Career Development Programs Mary Litzinger, AAI '11, who attended MCI among other conferences for AAI. (For details on AAI support for other regional conferences, see article on AAI support of the AAVI at the CRWAD meeting, page 53, and *AAI Newsletter*, January–February 2012 issue, pages 24–26.)



In 1913, the YWCA held a contest to name their new property on the Monterey Peninsula. They received hundreds of entries. The winning name came from a Stanford University student, Helen Salisbury, who made up the word "Asilomar," derived from the Spanish words "asilo," meaning retreat or refuge, and "mar," meaning sea, hence "refuge-by-the-sea."

AAI sponsored an important training activity, new this year at the MCI: an oral presentation session offering students and postdocs an opportunity to formally present their research. Presenting abstracts were John Sedy (AAI Trainee Member), Sanford-Burnham Medical Research Institute; Luise Sternberg, The Scripps Research Institute; Burton Barnett (AAI Trainee Member), University of Pennsylvania School of Medicine; Laura Su, Stanford University; Ting Feng, Harvard Medical School; Yun Ji, National Cancer Institute; Wenxian Fu (AAI Trainee Member), Harvard Medical School; and Aisling O'Hara Hall, University of Pennsylvania School of Veterinary Medicine. From among these presenters, Laura Su was selected for the Ray Owen Young Investigator Award. Elizabeth Gray, a graduate student at

University of California, San Francisco, was also awarded a Ray Owen Young Investigator Award for her short talk during the main program.

AAI also sponsored six Ray Owen Poster Awards for outstanding trainee poster presentations. The recipients were three graduate students—Sterling Eckard, University of Washington; Lauren Higdon, University of Washington; and Robin Kageyama, La Jolla Institute for Allergy & Immunology and University of California, San Francisco—and three postdoctoral fellows—Mireia Guerau-de-Arrelano (AAI Trainee Member), Ohio State University; Isaac Mohar (AAI Trainee Member), Seattle Biomedical Research Institute; and Helen Simkins (AAI Trainee member), University of Pennsylvania.

In addition to the trainee awards, AAI sponsored the keynote address, which opens the meeting, the Dan H. Campbell Memorial Lecture, given this year by Rafi Ahmed, AAI '84.

Ray Owen Poster Award recipients Isaac Mohar, Helen Simkins, and Mireia Guerau-de-Arrelano

Ray Owen Poster Award recipients Sterling Eckhard, Lauren Higdon, and Robin Kageyama with MCI Executive Director Christel Uittenbogart and award presenter Grace Rosenquist, AAI '71, professor at University of California, Davis and former member of Ray Owen's laboratory

MCI Executive Director Christel Uittenbogaart, Dan H. Campbell Memorial Lecturer Rafi Ahmed, and AAI Executive Director Michele Hogan

MCI 2012 Chairs Steven F. Ziegler and Ann J. Feeney

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July 14–19, 2012 • The University of Pennsylvania, Philadelphia, Pennsylvania

Director: Christopher A. Hunter, Ph.D., *University of Pennsylvania School of Veterinary Medicine*
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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 14–16)** is a detailed introduction to the basic principles of immunology and is suitable for students with a general biology background. **Part II (July 17–19)** 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

Christopher A. Hunter, *University of Pennsylvania School of Veterinary Medicine*
Introduction to the Immune System

Kathleen E. Sullivan, *Children's Hospital of Philadelphia*
Innate Immunity: Introduction to the Cells

Igor E. Brodsky, *University of Pennsylvania School of Veterinary Medicine*
Innate Immunity: Introduction to Pattern Recognition and Intracellular Signaling

Judith A. Owen, *Haverford College*
Introduction to Adaptive Immunity

Michael P. Cancro, *University of Pennsylvania School of Medicine*
Clonal Selection and V(D)J Recombination (B Cell Centric)

Terri M. Laufer, *University of Pennsylvania School of Medicine*
MHC Restriction and Thymic Selection

Laurence C. Eisenlohr, *Jefferson Medical College*
Antigen Processing and Presentation

Edward M. Behrens, *Children's Hospital of Philadelphia*
Dendritic Cells: The Bridge Between Innate and Adaptive Immunity

Gary A. Koretzky, *University of Pennsylvania School of Medicine*
Signaling in the Immune System

Gudrun Philomena Fiona Debes, *University of Pennsylvania School of Veterinary Medicine*
Trafficking of Immune Cells

Michael P. Cancro, *University of Pennsylvania School of Medicine*
B Cell Homeostasis, Activation, and Memory Formation

Ronald N. Germain, *NIAID, NIH*
Dynamic Intravital Imaging of the Immune System: Replacing Cartoons with Movies of the Real Thing

Andrew J. Caton, *The Wistar Institute*
T and B Cell Tolerance

Christopher A. Hunter, *University of Pennsylvania School of Veterinary Medicine*
Cytokines

Jonathan S. Maltzman, *University of Pennsylvania School of Medicine*
Solid Organ Transplantation

Cathryn Nagler, *University of Chicago*
Mucosal Immunology

David Artis, *University of Pennsylvania School of Medicine*
Type 2 Immunity and Parasite Infections

Robert H. Vonderheide, *University of Pennsylvania School of Medicine*
Tumor Immunology

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Immunity to Bacterial Pathogens

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Immunity to Viruses

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Immunologic Memory

David B. Weiner, *University of Pennsylvania School of Medicine*
Vaccination

Vijay K. Kuchroo, *Brigham & Women's Hospital, Harvard Medical School*
Autoimmunity

Judy H. Cho, *Yale School of Medicine*
Genetic Approaches to Immune-Mediated Diseases

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

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July 29–August 3, 2012 • Seaport World Trade Center, Boston, Massachusetts

Course Director: Leslie J. Berg, Ph.D., *University of Massachusetts Medical School*

AAI Educational Programs Manager: Mary T. Litzinger, Ph.D.

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

Marc K. Jenkins, *Center for Immunology, University of Minnesota Medical School*
Anatomy of the Immune Response

Christine A. Biron, *Brown University*
Innate Immunity

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

Gregory L. Stahl, *Brigham & Women's Hospital, Harvard Medical School*
Complement and Its Role in Human Disease

Shannon J. Turley, *Dana Farber Cancer Institute, Harvard Medical School*
Dendritic Cells

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

Shiv Pillai, *Massachusetts General Hospital Cancer Center, Harvard Medical School*
B Cell Development

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T Cell Development

Ulrich H. von Andrian, *Harvard Medical School*
Lymphocyte Trafficking

Kenneth L. Rock, *University of Massachusetts Medical Center*
MHC-Restricted Antigen Presentation to T Cells

Susan M. Kaech, *Yale University School of Medicine*
Lymphocyte Memory

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Signaling from Antigen Receptors

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Tumor Immunology

Jack A. Elias, *Yale University School of Medicine*
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Raif Geha, *Children's Hospital Boston, Harvard Medical School*
Immunodeficiencies: How to Find Them

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Immunotherapeutics

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