



AAI

The American Association of Immunologists

NEWSLETTER

OCTOBER 2016

Arlene Sharpe
is the 100th
AAI President
See President's
Message and Profile,
pages 10-13



Revisiting **IMMUNOLOGY 2016™**! Highlights begin on p. 44.

IMMUNOLOGY 2017™



THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS
MAY 12 – 16 | AAI ANNUAL MEETING | WASHINGTON, DC



Call for 2017 Award Nominations

Deadline: November 3, 2016

Nominations are invited for the following AAI Career Awards. These awards honor immunologists of extraordinary scientific achievement and promise.

AAI Members! Don't miss the opportunity to nominate a worthy colleague for awards that are among the leading professional honors presented annually to immunologists!

AAI-BioLegend Herzenberg Award

Established to honor the memory of AAI member Leonard A. Herzenberg, Ph.D., this award recognizes an individual who has made exemplary research contributions to the field of B cell biology. The award recipient will receive a \$5,000 cash award, meeting registration, and travel support to the AAI annual meeting. The recipient will present his or her research in an award lecture.

AAI Excellence in Mentoring Award

This award recognizes a senior scientist who has significantly influenced the professional development and careers of a new generation. AAI honors the award recipient's contributions to the profession through outstanding mentoring. The award includes a plaque, meeting registration, and travel support to the AAI annual meeting. This award is presented at an Awards Presentation Program at the AAI annual meeting.

AAI-Steinman Award for Human Immunology Research

This award recognizes an individual who has made significant contributions to the understanding of immune processes underlying human disease pathogenesis, prevention, or therapy. The award recipient will receive a \$5,000 cash award, meeting registration, and travel support to the AAI annual meeting. The recipient will present his or her research in an award lecture.

AAI-Thermo Fisher Meritorious Career Award

This award recognizes a mid-career scientist for outstanding research contributions to the field of immunology. The award recipient will receive a \$10,000 cash award, meeting registration, and travel support to the AAI annual meeting for presentation of his or her research in an award lecture.

AAI-BD Biosciences Investigator Award

This award recognizes an early-career investigator who has made outstanding contributions to the field of immunology. The awardee will receive a \$5,000 cash prize, meeting registration, and travel support to the AAI annual meeting for presentation of his or her research in an award lecture.

For complete AAI Career Award nomination details, as well as information on applying for AAI Travel Awards and Grants, visit www.AAI.org/Awards.

The 2017 AAI Awards will be presented in conjunction with

IMMUNOLOGY 2017™

May 12–16, 2017 • Washington, DC

Questions? Contact AAI at 301-634-7178 or awards@aai.org



The American Association of Immunologists

1451 Rockville Pike, Suite 650
Rockville, MD 20852
Tel: 301-634-7178
Fax: 301-634-7887
E-mail: infoaai@aai.org
www.aai.org

Member Services

Tel: 301-634-7195
E-mail: members@aai.org

The Journal of Immunology

Tel: 301-634-7197
E-mail: infoji@aai.org
www.jimmunol.org

Council

President

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

Vice President

Wayne M. Yokoyama, M.D.

Past President

Dan R. Littman, M.D., Ph.D.

Secretary-Treasurer

Edith M. Lord, Ph.D.

Councillors

JoAnne L. Flynn, Ph.D.

Jeremy M. Boss, Ph.D.

Jenny P. Ting, Ph.D.

Gary A. Koretzky, M.D., Ph.D.

Executive Director

M. Michele Hogan, Ph.D.

www.aai.org/

About/Departments-Staff

© The American Association of Immunologists, Inc.

In This Issue...

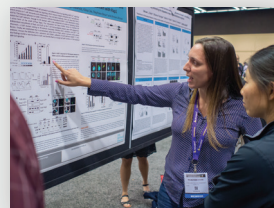
- 5 Focus on Public Affairs
- 10 AAI President's Message
 - 12 Profile: New AAI President Arlene Sharpe
 - 14 AAI Council Welcomes Gary Koretzky
 - 16 Members in the News
 - Eight Elected to National Academy of Sciences
 - Charles Serhan Awarded 2016 Ross Prize
 - Anthony Fauci Named Gairdner Award Recipient
 - Diane Mathis is FASEB Award Honoree
 - 24 In Memoriam
 - Richard R. Hardy
 - Thomas W. Jungi
 - 28 2016 AAI Careers in Immunology Fellowship Awardees
 - 32 Newest AAI Travel for Techniques Awardees
 - 32 AAI Wins Design Awards
 - 33 AAI Outreach Program Update
 - 35 Recipients of AAI Travel Awards to ICI 2016
 - 38 AAI Looks Back: *The JI* in a World at War
 - 44 IMMUNOLOGY 2016™ Photo Highlights
 - 56 2016 AAI Business Meeting Minutes
 - 59 Grant and Award Deadlines
 - 60 Meetings Calendar



10 AAI President's Message: Arlene Sharpe



38 *The JI* in a World at War



44 IMMUNOLOGY 2016™ Photo Highlights

Connect with AAI!

Have a story idea for a future issue of the *AAI Newsletter*? Send us an email! Interested in staying up with the latest on AAI? Keep in touch through our social media channels. Follow us on Twitter, "Like" us on Facebook, and keep abreast of daily developments in the world of immunology.

 @ImmunologyAAI

 @J_Immunol (*The Journal of Immunology*)

 @ImmunologyAAI

 AAINewsletter@aai.org (story ideas and comments about the *AAI Newsletter*)



The Journal of Immunology Influence Statement

Comprehensive • Authoritative • Foundational

The largest and oldest journal in the field offers unparalleled reporting of major advances in immunology research. Fully peer-reviewed by working scientists, reports are rapidly published and broadly cited.

Comprehensive

- Your “first stop” for major advances
- No triage! Every manuscript is peer-reviewed
- Fair, in-depth evaluation of each manuscript
- Submission to first decision: 29 days
- Average time to online publication: 4 weeks
- 4th most frequently used journal for NIH-supported publications⁵

Authoritative

- Cited more than any other immunology journal¹
- 5-year Impact Factor of 5.287, top 18% of immunology journals¹
- Ranked #1 for Eigenfactor² among immunology journals¹
- Google Scholar h5-index is 107, 6th in the Immunology category³
- The Scimago H-index is 311, equal third amongst 200 Immunology and Microbiology journals.⁴

Foundational

- At 9.1 years¹, the cited half-life is one of the longest in the field!
- Committed to rigorously performed research that moves the field forward
- Over 1.8 million page views and 395,000 PDF downloads per month

The Journal of Immunology (The JI) is owned and published by The American Association of Immunologists, Inc., a non-profit association founded in 1913 that is dedicated to advancing the careers of scientists and promoting the field of immunological research.



1. 2015 Journal Citation Reports
2. Eigenfactor is a “metric that uses citing journal data from the entire Journal Citation Report file to reflect the prestige and citation influence of a journal by considering scholarly literature as a network of journal-to-journal relationships”. <http://thomsonreuters.com/content/dam/openweb/documents/pdf/scholarly-scientific-research/fact-sheet/esi-jcr-brochure.pdf>, accessed 12/23/15
3. https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=med_immunology, accessed 12/21/15
4. <http://www.scimagojr.com/journalrank.php?area=2400&country=US&order=h&ord=desc>, accessed 7/11/16
5. <http://nexus.od.nih.gov/all/2016/03/02/nih-publication-impact-a-first-look/>, accessed 3/2/16

NIH Appropriations Update

House Committee Approves \$1.25 Billion Increase for NIH; Follows Earlier Senate Action

Editor's note: Congress returned from its summer recess after Labor Day, facing the urgent task of approving legislation to fund government agencies and programs before the end of fiscal year (FY) 2016 (September 30). By press time, Congress had failed to reach any budget agreement or to pass any measure to fund the government in FY 2017. Although a government shutdown is not expected, we are unable at this time to report that an agreement has been reached. The article below describes the bills that Congressional committees have already approved to fund NIH; these bills will likely serve as the starting point for negotiations between the Senate and House.

The House Appropriations Committee approved its fiscal year (FY) 2017 Labor, Health and Human Services, Education, and Related Agencies (Labor-HHS) appropriations bill, which includes a \$1.25 billion increase for NIH, on July 14. The bill, which passed by a vote of 31–19, had been approved by the House Labor-HHS Appropriations Subcommittee one week earlier. Subcommittee Chair Tom Cole (R-OK, 4th) introduced the bill without the support of the subcommittee's Ranking Member Rosa DeLauro (D-CT, 3rd) or subcommittee Democrats, who offered approximately 30 amendments (most of which were defeated on party-line votes). Although subcommittee Democrats support an increase for NIH and many other agencies funded in the bill, they oppose proposed cuts to other programs, including education and health care programs.

The House bill's \$1.25 billion funding increase for NIH would bring its total budget to approximately \$33.3 billion. Although this increase is not as robust as the one provided in the Senate bill (see "Senate Committees Approve \$2 Billion Funding for NIH for FY 2017" in the June/July *AAI Newsletter*), Cole made clear that he strongly supports providing NIH with a larger increase in a final Labor-HHS bill. Cole indicated that the subcommittee was limited by an allocation that is \$569 million below last year's level, making it difficult to provide funding increases to any of the agencies funded by the bill.



During bill consideration by the House Appropriations Committee, DeLauro offered an amendment to increase NIH funding by an additional \$750 million, which would bring the total increase to the Senate-provided level of \$2 billion. The new National Cancer Moonshot initiative would receive \$555 million of that increase, whereas the remaining \$195 million would be allocated proportionally to NIH institutes and centers. The amendment failed by a vote of 19–29, due to strong Republican opposition to the proposed offset.

Much of the bill's new funding for NIH is earmarked for specific types of research and programs, including a \$350 million increase for Alzheimer's disease research, a \$45 million increase for the Brain Research through Advancing Innovative Neurotechnologies® (BRAIN) Initiative, and \$300 million for the Precision Medicine Initiative. Unlike the Senate bill, the House bill contains a number of provisions that make it unpalatable to Democrats. One such provision prohibits the implementation of the Department of Labor's rule regarding overtime pay—a rule that would result in increased compensation for many postdoctoral fellows (for more information, see page 7). Another would prohibit the use of federal funds to provide Title X contraceptive services—a particular concern to those considering pregnancy as the Zika virus threat increases.

AAI Welcomes 2016–17 Public Policy Fellows

The sixth class of the AAI Public Policy Fellows Program (PPFP) began its fellowship year on May 1, 2016. The PPFP is designed to engage eligible postdoctoral fellows and junior scientists in AAI public policy and legislative activities that impact biomedical research. To date, 50 early-career scientists from 27 different states have completed the program.

AAI is pleased to welcome the following AAI members to the 2016–17 PPFP:



Mufadh Al-Kuhlani, Ph.D.
Postdoctoral Fellow
University of California, Merced



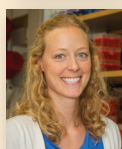
Jacquelyn Lykken, Ph.D.
Postdoctoral Research Scholar
Duke University



Eyal Amiel, Ph.D.
Assistant Professor
University of Vermont



Srinika Ranasinghe, Ph.D.
Postdoctoral Research Scientist
Ragon Institute of MGH, MIT,
and Harvard



Kristina Burrack, Ph.D.
Postdoctoral Research Fellow
University of Minnesota



Rachel Temple, Ph.D.
Postdoctoral Associate
The Geisel School of Medicine at
Dartmouth



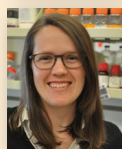
Michael Constantinides, Ph.D.
Postdoctoral Fellow
NIH, NIAID



Lavanya Visvabharathy, Ph.D.
Postdoctoral Fellow
Northwestern University
Feinberg School of Medicine



Stacey Cranert, Ph.D.
Postdoctoral Fellow
Cincinnati Children's
Hospital Medical Center



Mary Young, Ph.D.
Postdoctoral Scientist
Center for Infectious Disease Research

AAI will be soliciting applications for the 2017–18 PPFP later this year. Questions about the program should be directed to AAI Science Policy and Legislative Affairs Specialist Jake Schumacher at jschumacher@aai.org.

CPA Hosts IMMUNOLOGY 2016™ Policy Session on “Hot Topics” at NIH

On May 14, the AAI Committee on Public Affairs (CPA) hosted a session at IMMUNOLOGY 2016™ entitled “Hot Topics in NIH Funding and Research Policy.” The well-attended session, which was chaired by CPA Chair Clifford V. Harding, M.D., Ph.D., professor and chair at Case Western Reserve University, featured presentations by three speakers who explored recent and upcoming changes at

NIH, including efforts to enhance rigor and transparency in research and new funding mechanisms offered by several NIH institutes:

- Gail A. Bishop, Ph.D. (AAI '84), professor, University of Iowa: *Challenges and Concerns from an Investigator's Perspective*
- Richard J. Hodes, M.D. (AAI '75), director, National Institute on Aging (NIA): *Analysis of Research Impact and Implications for Funding Policy*



(L-R) Gail Bishop, Richard Nakamura, Richard Hodes, Clifford Harding

- Richard K. Nakamura, Ph.D., director, NIH Center for Scientific Review: *Peer Review and Grant Mechanisms at NIH: What is Changing?*

Bishop, a former AAI president and member of the CPA, discussed the ways in which investigators funded by NIH are confused and frustrated by new and ongoing policies. Hodes and Nakamura addressed many of these policies in their presentations, highlighting ways in which NIH is trying to alleviate investigators' confusion by providing access to more training and resources and by participating in events at scientific meetings and conferences. Hodes addressed the \$350 million funding increase that NIA received for research on Alzheimer's disease in FY 2016 and stressed the relevance of immunology and inflammation to Alzheimer's. Nakamura encouraged junior scientists who have not yet had the opportunity to serve on a study section to participate in the Early Career Reviewer program, noting that the program has a significant backlog of interested participants. Each of the speakers' PowerPoint presentations is available on the AAI website (see http://aai.org/Public_Affairs/index.html).

AAI Public Policy Fellows, AAI Leadership Gather for Five-Year Reunion

The AAI Committee on Public Affairs (CPA) hosted the five-year reunion of the AAI Public Policy Fellows Program (PPFP) at IMMUNOLOGY 2016™. All 50 fellows who have completed the program, as well as the 10



Clifford Harding welcoming PPFP reunion attendees

newest Fellows who started the program on May 1, 2016, (see "AAI Welcomes 2016–17 Public Policy Fellows" on page 6) were invited to attend. The event gave the Fellows an opportunity to see some of their former PPFP colleagues, meet others who have participated in the program, and chat with current and former members of the AAI Council and CPA. The largely informal event featured brief remarks by CPA Chair Clifford Harding.

New Federal Overtime Rule Significantly Raises Postdoc Compensation

Efforts Afoot in Congress to Prevent Rule Implementation

NIH recently issued a Notice to inform the biomedical research community of its projected stipend levels for FY 2017 for recipients of National Research Service Awards (NRSAs). This action was taken to comply with a final rule issued by the U.S. Department of Labor (DOL) regarding overtime pay that will result in increased compensation for postdoctoral fellows and trainees. The new rule "will entitle most salaried white collar workers earning less than ... \$47,476 a year ... to overtime pay." Under the current rule, only those earning \$23,660 or less, an amount set in 2004, are entitled to overtime pay. The new rule was issued in response to a March 2014 memorandum from President Obama directing DOL to modernize its overtime regulations.

The projected FY 2017 NRSA stipend level for year 0 postdoctoral trainees and fellows is \$47,484, \$8 above the new salary threshold set by DOL and \$3,792 above the current year 0 stipend level. NIH also plans to increase all of its other NRSA stipends, including those that were already above the \$47,476 salary threshold. The NIH Notice makes clear that these stipend levels are "subject to the availability of FY 2017 appropriations" and implementation of the overtime rule.

In conjunction with the release of the overtime rule, NIH Director Francis Collins, M.D., Ph.D., and U.S. Secretary of Labor Thomas Perez co-authored a blog post for *The Huffington Post* entitled "Fair Pay for Postdocs: Why We Support New Federal Overtime Rules." In the post, Collins and Perez write that they "are fully supportive of the increased salary for postdocs." Collins and Perez acknowledge that there is "considerable concern ... about how this change will affect the United States' ability to carry out leading edge research in an efficient, cost-effective manner ...," but state that they "are confident the transition can be made in a way that does not harm – and actually serves to enrich – the research enterprise."

Other public and private sector institutions that employ postdocs across the country will have to decide how they wish to comply with the new rule. According to the Collins and Perez blog post, the average annual pay for postdocs is about \$45,000/year, about \$2,500 below the new threshold. It is anticipated that most institutions will choose to increase postdoc stipends/salaries to meet the new threshold rather than tracking postdoc hours and providing overtime pay.

The overtime rule, which also provides for an updated salary threshold every three years, is scheduled to go into effect on December 1. However, Congressional Republicans who oppose the new rule have included language in the House Labor-HHS appropriations bill to prevent its implementation; an effort by committee Democrats to remove this language has thus far been unsuccessful (see “NIH Appropriations Update” on page 5).

NSABB Issues Recommendations on Gain-of-Function Research

The National Science Advisory Board on Biosecurity (NSABB) recently released a set of recommendations, entitled “Recommendations for the Evaluation and Oversight of Proposed Gain-of-Function [GOF] Research.” In this context, NSABB defines GOF research as “scientific research that increases the ability of ... infectious agents ... to cause disease by enhancing its pathogenicity or by increasing its transmissibility among mammals by respiratory droplets.”

In October 2014, the White House Office of Science and Technology Policy implemented a “pause” on certain types of GOF research (i.e., experiments with influenza, SARS, and MERS viruses) and announced a plan to examine the risks and benefits associated with these types of research. Since then, NSABB has worked to determine appropriate regulations to govern this research. Among other things, NIH (on behalf of NSABB) commissioned two studies: one to examine the risks and benefits of GOF research and one to analyze the ethical implications of such research. In January, the NSABB released to the public the draft recommendations, as well as the risk–benefit and ethical analyses. It also held several meetings, the last of which took place in March 2016.

AAI submitted comments to NSABB in advance of its March meeting (to view the AAI comments, see www.aai.org > Public Affairs > Letters and Comments). In its comments, AAI expressed general support for the draft recommendations but noted that “the steps for implementation of these recommendations” had not been

“clearly laid out...” and urged “that these recommendations be implemented very cautiously to avoid potential burdens.” AAI also noted that “it may, in many cases, be more appropriate to apply current Dual Use Research of Concern (DURC) polices to these studies.”

The NSABB report includes seven key findings and seven recommendations. One of the central findings is that “[o]nly a small subset of GOF research—GOF research of concern (GOFROC)—entails risks that are potentially significant enough to warrant additional oversight.” GOFROC is defined by NSABB as “research that could generate a pathogen that is: 1) highly transmissible and likely capable of wide and uncontrollable spread in human populations; and 2) highly virulent and likely to cause significant morbidity and/or mortality in humans.” If research is determined to be GOFROC, it must satisfy certain criteria outlined by NSABB to be considered for funding. Eligible research proposals involving GOFROC would be subject to “additional, multidisciplinary review.”

The NSABB recommendations will guide the development of a final U.S. government (USG) policy governing GOFROC. Once the final USG policy goes into effect, the pause on certain types of GOF research will come to an end.

NIH Issues Final Policy on the Use of a Single IRB for Multi-site Studies

NIH issued a new policy in late June that streamlines the Institutional Review Board (IRB) process by “establish[ing] the expectation that a single IRB (sIRB) of record will be used in the ethical review of non-exempt human subjects research protocols funded by the NIH that are carried out at more than one site in the United States.” The sIRB policy will go into effect on May 25, 2017.

A blog post, co-authored by NIH Deputy Director for Extramural Research Michael Lauer, M.D., and NIH Associate Director for Science Policy Carrie Wolinetz, Ph.D., notes that “this move to a single IRB model also presents a unique opportunity to harmonize the standards and agreements used in clinical research,” the type of standardization that AAI has recommended previously (to view the AAI comments, see www.aai.org > Public Affairs > Letters and Comments).

Questions about the new sIRB can be directed to the following email address: SingleIRBpolicy@mail.nih.gov.



Important Dates for Two AAI Awards Programs

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

AAI Careers in Immunology Fellowships

KEY DATES	APPLICATIONS OPEN	APPLICATIONS CLOSE
	JANUARY 15	MARCH 15

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

Consideration is based on the merit of the PI's proposed project, potential of the trainee, and quality of the training environment.

Direct inquiries to fellowships@aai.org.

AAI Travel for Techniques Award Program

AWARDS CYCLE	APPLICATIONS OPEN	APPLICATIONS CLOSE
WINTER	DECEMBER 15	FEBRUARY 15
SPRING	APRIL 15	JUNE 15
FALL	AUGUST 15	OCTOBER 15

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

Direct inquiries to awards@aai.org.

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



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

AAI '96

AAI President, 2016–2017

*George Fabyan Professor of
Comparative Pathology*

*Department of Microbiology and
Immunobiology*

Harvard Medical School

Immunology is having a greater and greater impact on our lives. Basic science discoveries in immunology are translating to new therapies. One example is how effective cancer immunotherapies are emerging from the understanding of immunoregulatory pathways exploited by tumors to evade immune eradication. In addition, it has become clear that immune responses are key to the development of human ailments not traditionally viewed as immunologic in nature, including cardiovascular, metabolic, and Alzheimer's diseases. Immunology is at the forefront of medicine in understanding and treating diseases. At this extraordinary time in the field of immunology, it is my great honor and privilege to serve as the president of AAI.

I cannot imagine a more exciting time to be an immunologist—we have incredible new tools to explore the immune response and opportunities to understand fascinating areas in immunology. These are leading to discoveries holding the potential for a far-reaching impact on human health. We are only beginning to appreciate how the microbiota can shape immune responses and the therapeutic potential of this knowledge. Chronic inflammatory diseases are on the rise. Inflammatory bowel disease has increased six-fold in the past 30 years, and allergies have doubled in the past 15 years. Autoimmune diseases, such as multiple sclerosis, are now being seen in teenagers. We urgently need to know the reasons for these increases. The discovery of the clever strategies that microbes and tumors use to outwit the immune system has revealed new immunoregulatory mechanisms. Such insights provide the capacity to respond to new infectious threats and develop effective cancer immunotherapies. In addition, genomic, proteomic, and metabolic technologies provide tools for defining the regulatory circuitry of the immune system, and these molecular maps can identify therapeutic targets for drug development. The pharmaceutical industry is now eager to help develop our immunologic discoveries into therapeutic reality.

But despite this incredible scientific promise, research funding remains insufficient: we have many more good ideas—and talented investigators—than the funding to support them. Although there was a much needed \$2 billion increase in the 2016 NIH budget (and, at press time, the possibility of a similar increase in fiscal year 2017), much of this funding has been designated for research on specific diseases and special projects.

We are so fortunate to have the AAI as our advocate and partner in these challenging times.

AAI is our voice on Capitol Hill. The AAI Committee on Public Affairs together with AAI Director of Public Policy and Government Affairs Lauren Gross and her dedicated staff tirelessly advocate on our behalf to congressional legislators and their staffs to explain the importance of basic science research in immunology and the need for sustained funding. I think that we need to do more to communicate the importance of fundamental discovery research to the lay public, our legislators, and the administrative leaders in our academic institutions. There is now great emphasis on translational research, but we need to explain that it is basic discovery science that identifies the pathways and targets for clinical translation. We are the start of the pipeline. The recent advances in cancer immunotherapy provide a prime example of how investment in basic science research can lead to new therapies. Fundamental studies on T cell activation and tolerance led to the discovery and characterization of the CTLA-4 and PD-1 pathways that are now the foundational building blocks for cancer immunotherapy.

If you are planning to be in Washington, D.C., AAI can help you visit your congressional representatives. Lauren will organize your visit, accompany you, and advise you on ways to effectively advocate for research. I urge you to take advantage of this special opportunity.

I am incredibly proud of how AAI has responded to the urgent need for more funding by developing innovative programs that provide travel grants, fellowships, and career awards to AAI members and other deserving members of our research community. Over the past five years, AAI has increased award funding from ~\$500,000 in 2011 to more than \$2.1 million in 2015. These awards have supported more than 1,000 scientists! This impressive response illustrates the perceptive leadership of AAI by our executive director, Michele Hogan, her dedicated associates, and my predecessors on the AAI Council. These programs support education and career development at every career stage, including support for postdoctoral trainee salaries, travel to learn techniques, and travel to the AAI annual meeting.

AAI is our partner in training and mentoring the next generation of immunologists, who are the future of our field. I take great pride in the wide range of AAI educational and mentoring activities. AAI offers introductory and advanced immunology courses for trainees and scientists who want to expand their knowledge of immunology. At each annual meeting, AAI committees hold career-development sessions, including networking and career roundtables, a Careers in Biotech panel, and practical job search sessions on honing CV development and interviewing skills. In addition, the AAI Education Committee presents career-development sessions on writing NIH grant applications, while the Publications Committee offers sessions on scientific publishing, with guidance on responding to reviewers and adhering to ethical standards.

Mentoring is important, not only for our trainees but also for our junior faculty. And AAI has created resources for new principal investigators (PIs), including the Grant Review for Immunologists Program (GRIP), which matches new investigators with established PIs for guidance in preparing grant proposals as they begin their independent research careers in immunology, and the Career Advisory Board (CAB), matching new PIs with more senior PIs for advice on specific career issues. AAI also provides opportunities for high school teachers and undergraduate science faculty to enhance their abilities to convey the excitement of immunology to their students.

AAI will continue to respond to the interests and needs of its membership in developing activities that will advance their careers.

During my five years on the AAI Council, AAI has celebrated many milestones. In 2013, we celebrated the 100th anniversary of AAI. This year, we are celebrating the 100th year of our AAI journal, *The Journal of Immunology*, which continues to be the most highly cited journal in the field, covering the entire breadth of immunology

research. In addition, this year, we are celebrating 20 years of leadership by our amazing executive director, Michele Hogan. AAI has flourished under her leadership. Michele's dedication, creativity, and hard work are truly inspirational.

As my year as the 100th president of AAI unfolds, I am inspired by the tremendous potential for discoveries in immunology to improve human health. My priorities will be to

further highlight the importance of basic science research in immunology, enhance educational opportunities, and promote the training and mentoring of the next generation of scientists.

AAI is a remarkable organization. It continues to expand its efforts to create new opportunities that advance the science of immunology and promote the scientists who make these life-changing discoveries. I urge you to join me in supporting the work of AAI and to encourage your colleagues and trainees to become members. For their careers, for immunology as a whole, it's one of the best steps they can take. Know that I welcome your ideas, comments, and participation. I look forward to working with you during the coming year.

“As my year as the 100th president of AAI unfolds, I am inspired by the tremendous potential for discoveries in immunology to improve human health. [Among my] priorities will be to further highlight the importance of basic science research...”



Our 100th President

In her term as AAI president, Dr. Arlene H. Sharpe focuses on AAI initiatives to secure sustained support for basic science research and AAI programs to cultivate careers of the next generation of immunologists.

Arlene H. Sharpe, M.D., Ph.D., AAI '96, came of age in an era when scientific curiosity abounded. Whether it was Jonas Salk discovering the polio vaccine in 1952 or the launch of Sputnik in 1957, these intellectual wonders compelled a school-aged Sharpe to “learn what scientists do, perform experiments, and solve problems,” said Sharpe. “I had amazing teachers growing up. I was very lucky that they encouraged me ... I knew that when I went to college science was something I wanted to pursue.”

Which is exactly what she did.

Today, Sharpe, the Harvard Medical School George Fabyan Professor of Comparative Pathology, Microbiology and Immunobiology, is one of the brightest names in the field of immunology. The Sharpe lab's groundbreaking work investigating T cell costimulatory and coinhibitory pathways and their roles in shaping the immune response have helped to define the roles of B7-1 and B7-2, CTLA-4, ICOS, and PD-1 and PD-1 ligands, and some of her work on PD-1 has been translated into cancer therapies that hold great promise. “It's really thrilling to do basic science research that is intellectually exciting, and to see your discoveries have a potential to help people,” said Sharpe. “For me as a scientist it doesn't get better than that.”

Yet, the sum of science is more than discovery, and Sharpe's work in immunology has extended well beyond the lab. An active member of AAI since 1996, Sharpe was elected to the AAI Council in 2011. Now, in her service as president of the association, she cites her two primary objectives as fostering support for basic science research and enhancing the means for mentoring and educating the next generation of scientists.

“One of the biggest challenges for the field has been the lack of adequate, sustained funding,” said Sharpe. “[Levels of funding] have been insufficient for a very long time. You can't do the type of research we do in just one year. What we need is more stable funding.”

Sharpe lauds the work of AAI at the national level to educate policy makers about the importance of sustained funding for basic research. As a member of the AAI Council, she has made numerous visits to members of Congress to reinforce the importance of basic research. As AAI president, Sharpe encourages all AAI members to



avail themselves of the expertise of the AAI Public Affairs team and become involved, as well. The Public Affairs department managed by Lauren Gross, J.D., helps to connect members with their legislators, allowing them to engage the representatives and senators directly who have a substantive impact on basic science funding. According to Sharpe, the Public Affairs team helps with the connection and also with the messaging,

emphasizing not only the importance of basic research to cures but also to the economic health of their regions. “We don't do enough to explain what basic science—discovery research—is like,” said Sharpe. “It shouldn't only be when a legislator has a loved one [with an illness], that he or she begins to understand what science and research are all about.”

As a scientist who credits her own career trajectory to those who have mentored her, Sharpe has committed herself to help guide young scientists whose career paths intersect her own. Sharpe's first experience with a mentor happened the summer after her sophomore year at Radcliffe College. The work she did in an actual lab—doing real science on penicillin and its binding properties with proteins and bacteria—under the tutelage of her first mentor, Jack Strominger, M.D. (AAI '78, recipient of the AAI Excellence in Mentoring award in 2010), the Higgins Professor of Biochemistry in the Department of Stem Cell and Regenerative Biology at Harvard University, was a “life-changing experience” that also resulted in her undergraduate thesis.

As she advanced in her education, other mentors entered her life and helped to guide her in her career decisions, said Sharpe. The value of each one of these gifted scientists and educators never escaped the young researcher, and as a mentor today to a younger generation, she is very much focused on paying it forward. In addition to mentoring her students and fellows, “I've also set up mentoring groups for junior faculty in immunology,” explained Sharpe. “Our junior faculty is our most precious resource, and we need to mentor them well.”

A junior faculty member who can attest to this commitment is Dr. Isaac Chiu, an active member of AAI since 2014. Chiu has worked with Sharpe, first as a graduate student in 2002, and presently as a junior faculty member at Harvard Medical School in the Department of Microbiology and Immunobiology. “I cannot speak more highly of her,” said Chiu. “As a mentor, she listens—she cares a lot about the success of her new trainees.”

According to Chiu, one of Sharpe's strengths as a mentor is her level of experience, gained as she blazed trails in immunology research. "As she advises a new faculty member, she can speak from experience to suggest areas to focus on and pitfalls to avoid, and that's really important."

Mary Keir, senior scientist at Genentech, Inc., and AAI member since 2008, worked in the Sharpe lab from 2001 to 2006. Back in her postdoc years, Keir recalls sharing a double microscope as they reviewed slides, trying to find interesting phenotypes that warranted further investigation. Noting that "it was a lot of fun to have a mentor who was still engaged in the details of the work," Sharpe's work practices made a lasting impression on Keir. "I still spend a lot of time reviewing slides," said the scientist. "I'm paying attention to the details and what the details might be saying about the heterogeneity of the disease, and that's something I credit her with."

This focus on mentoring is well timed for Sharpe in her role as AAI president. With an extensive backbench of member volunteers, scientists, and educators at its disposal, AAI has developed a variety of programs to help early-career scientists advance their careers in immunology. Innovative programs such as Travel for Techniques, the Career Advisory Board (CAB), and the Grant Review for Immunologists Program (GRIP), really stand out to her. "GRIP and CAB, which match young investigators with established investigators, provide members with access to senior scientists beyond their own institutions," said Sharpe. "I'd like to see more people take advantage of that access." Sharpe said she takes particular interest in opportunities through AAI to help advance the careers of minorities and women.

Headlines in the mainstream media frequently reference immunology and immunotherapy. From news and information about immunotherapy treatments for cancer to the threat of the Zika virus, stories now regularly appear that link the body's immune system to a broad range of ailments and cures. Sharpe, who has had her own research into PD-1 translated into treatment, said the attention is exciting but that there's a cautionary tale as well, especially when one sees headlines of odds-defying cancer cures.

"That there were benefits with [PD-1] was wonderful. Now we're trying to understand why some people benefit and some don't," said Sharpe. "It's very important not to overpromise and hype science. It's important to showcase advances but in a balanced way. People didn't think the immune system played a role in cancer, and now we see that harnessing the power of the immune system can make an incredible difference. But we're at an early stage."

With this focus on immunology, AAI has even more of a role to play. U.S. Vice President Joseph Biden's recently announced "Cancer Moonshot" has placed a prominent public face on cancer immunology, and it will be important to help define how this focus on research plays out, according to Sharpe. Although it speaks to the "great excitement about cancer immunotherapy,"

Sharpe wants to see this excitement translated to basic science research as well as translational work.

"We actually have a number of AAI members on the panel, including several of our former presidents, including Jim Allison (president, 2001-2002) and Laurie Glimcher (president, 2003-2004)," said Sharpe, "so I think that AAI can participate in this conversation...and can really effectively advocate for basic science."

It's promising to be an exciting year for immunology, and as the 100th president of AAI in its 103-year history, Arlene Sharpe is looking forward to her tenure. "It's a thrilling time to be an immunologist," said Sharpe. With increased attention from the general public and new and exciting research being generated, discussed, and debated, Sharpe is confident that AAI can continue to play a leading role in supporting basic science research and mentoring the next generation of scientists.

Behind the Science of Dr. Arlene H. Sharpe

Sharpe's laboratory investigates T cell costimulatory and coinhibitory pathways and their immunoregulatory roles in controlling the balance between T cell activation and tolerance. Her lab has been at the forefront of this field for over two decades, beginning with the cloning of B7-2 and the definition of the inhibitory functions of CTLA-4. The laboratory uses genetic approaches to determine the obligatory functions of T cell costimulatory pathways in mice, focusing on the roles of these pathways in regulating the balance between pathogenic and protective immune responses, and also analyzes the functions of these pathways in human tissues. Studies of how coinhibitory receptor functions impact regulatory, effector, and memory T cells are helping Sharpe's laboratory define unique and synergistic functions of costimulatory and coinhibitory molecules during infection and during the induction and maintenance of tolerance. The lab is also working to define the functions of the newly discovered T follicular regulatory cell (Tfr) subset in controlling B cell responses. Expanding on this work, Sharpe and her group examine how manipulation of T cell second signals may provide a means either to enhance immune responses (to promote antiviral or tumor immunity) or terminate immune responses (to control autoimmune diseases or achieve tolerance in organ transplantation). Sharpe is also involved in studies aimed at translating fundamental understanding of T cell costimulation into new therapies for cancer, in particular work to understand how coinhibitory receptors regulate antitumor immunity.

AAI Council Welcomes Gary Koretzky



Gary A. Koretzky

The AAI Council welcomed **Gary A. Koretzky, M.D., Ph.D. (AAI '92)**, as its newest member following the AAI election earlier this year. His four-year term as Councillor started July 1. Koretzky has served AAI in a variety of capacities, most recently as a member and chair (2015–2016) of the AAI Nominating Committee.

“For more than three decades I have been affiliated with AAI, first as a student member

and then as a regular member,” wrote Koretzky in his 2016 candidate statement. “I have been continually impressed by how our association has fostered the careers of immunologists at all stages and supported the science of immunology.”

Koretzky serves as dean of the Weill Cornell Graduate School of Medical Sciences and vice dean for research at Weill Cornell Medicine, where he also holds appointments as professor of medicine and Frank H.T. Rhodes Distinguished Professor of Cardiovascular Biology and Genetics.

Koretzky’s research has focused on T cell antigen receptor (TCR) signaling events that occur after receptor engagement. His work has identified regulators of signal transduction that work downstream of TCR ligation, and he has characterized several adaptor molecules that play a role in integrating signaling pathways stemming from TCR engagement. He is also studying the roles of these adapter molecules in other hematopoietic cells.

In recognition of his standing as a scientist, Koretzky was tapped as an AAI President’s Symposium speaker for IMMUNOLOGY 2009™ and has served as a major symposium chair and speaker on multiple occasions at the AAI annual meeting. Koretzky received the AAI-PharMingen Investigator Award in 2000. In addition to his leadership on the AAI Nominating Committee, Koretzky’s extensive service to AAI has included service as an abstract programming chair and membership on the AAI Awards Committee, AAI Clinical Immunology Committee, and AAI Program Committee. He has also served as an associate and section editor for *The Journal of Immunology* and as a frequent faculty member for the AAI Introductory and Advanced Courses in Immunology.

“I would focus my efforts on issues central to the future of biomedical research in general and to immunology in particular,” wrote Koretzky, pledging “to work with colleagues in AAI and other FASEB (Federation of American Societies for Experimental Biology) societies to advocate for research funding from the federal government as well as from private partners.”

Koretzky would also like to generate public awareness of the many discoveries being made by AAI members.

For more than a decade, Koretzky served as editor-in-chief of *Immunological Reviews*. He has served as an ad hoc reviewer for over 30 journals and held editorial board appointments with *Nature Reviews Immunology*, *Signal Transduction*, *Arthritis Research*, *JCI*, *Tissue Antigens*, *International Journal of Molecular Medicine*, and *Journal of Experimental Medicine*. He has also served as a consultant to industry, including Vitae Pharmaceuticals, Rigel Inc., Melkor Discovery, Pfizer (formerly Wyeth) Research, Keryx Biopharmaceuticals, and BASF Biosciences/Abbot Laboratories.

A graduate of Cornell University, Koretzky received his M.D. and Ph.D. from the University of Pennsylvania (Penn). He completed a residency in internal medicine and a fellowship in rheumatology at the University of California, San Francisco, where he undertook additional postdoctoral research in microbiology and immunology. In 1991, he was appointed an assistant professor at the University of Iowa Carver College of Medicine, where he went on to hold associate and then full professor appointments. His additional Iowa appointments included service as a member and then director of the Interdisciplinary Graduate Program in Immunology, director of the Medical Scientist Training Program, program leader at the Iowa Cancer Center, and executive committee member at the Iowa Center on Aging. Koretzky returned to the Penn School of Medicine in 1999 as a professor of pathology and laboratory medicine and director of the Signal Transduction Program at the Abramson Family Cancer Research Institute, where he also served as executive committee chair. During his tenure at Penn, he held appointments as the Francis C. Wood Professor of Medicine; vice chair for research, chief scientific officer, and rheumatology division chief in the Department of Medicine; associate director of the combined M.D.–Ph.D. program; executive committee member for the graduate programs in immunology and in cellular and molecular biology; and co-leader of the immunology program at Penn’s Abramson Cancer Center.

2016 AAI Council Candidate's Statement: Gary Koretzky

It is a great honor to stand for election to the AAI Council. For more than three decades I have been affiliated with the AAI, first as a student member and then as a regular member. I have been continually impressed by how our association has fostered the careers of immunologists at all stages and supported the science of immunology as the field has produced dramatic research advances. I have had the privilege of participating in a number of different AAI committees and activities during my career and have thoroughly enjoyed working with my colleagues and the constituencies of each in support of AAI programs. I am eager to continue to “give back” to our association and, if elected, would work hard to continue to advance immunology on the national scene.

If elected to Council, I would focus my efforts on issues central to the future of biomedical research in general and to immunology in particular. Throughout my career, I have been dedicated to working with trainees and junior faculty as they learn how to navigate the complex world of academic research. I have endeavored to keep this focus over the years while serving as director of several NIH-supported training programs, holding responsibility for institutional research programs, directing courses for medical and graduate students, and serving, as I do currently, as Vice Dean for Research of the Medical College and Dean of the Graduate School at Weill Cornell. Additionally, mentoring students, postdocs, and junior faculty has been a passion of mine in my activities outside of my home institution. For example, when I served as a councillor and then president of the American Society for Clinical Investigation, I initiated programs to assist trainees with their travel to annual meetings. Whenever I have served as chair of a national/international scientific meeting, I have always prioritized creating opportunities for junior investigators to attend, present their work, and network with more senior colleagues. Over the years, I have enjoyed lecturing and mentoring opportunities, including teaching at the AAI Introductory Course in Immunology for 10 years. It has been gratifying to receive teaching awards from the University of Iowa and the University of Pennsylvania, as well as a faculty mentoring award from the University of Pennsylvania.

“[M]any of the biggest medical challenges we face today will be addressed by immunologists as we continue to learn about the fundamentals of human immunology and ways the power of the immune system can be controlled and harnessed for therapeutic advantage.”

As a member of the AAI Council, I would work with my colleagues to expand ongoing career development programs and consider new ways to engage our trainees in the association.

A second important focus would be to work with colleagues in the AAI and other FASEB societies to advocate for research funding from the federal government as well as from private partners. In my current position at Weill Cornell, I have gained a great deal of experience in working with foundations, biotech companies, and larger pharmaceutical companies to develop alliances and partnerships to provide additional resources for investigators' research. These relationships must be transparent, built on trust, and developed so that they benefit each entity. I think one important service the AAI Council could provide to the immunology community would be to develop “best practices” for building these types of relationships so that individual institutions do not have to “reinvent the wheel” when opportunities emerge.

A third focus of mine would be to enhance public awareness of the amazing discoveries being made by members of the AAI. I remember well when, as a graduate student, the conventional wisdom was that the immune system would be the magic bullet to cure cancer and that the means to do this was just around the corner. More than three decades later, this prediction is becoming a reality, largely through discoveries made by AAI members. Beyond cancer, many of the biggest medical challenges we face today will be addressed by immunologists as we continue to learn about the fundamentals of human immunology and ways the power of the immune system can be controlled and harnessed for therapeutic advantage. Making the public more aware of discoveries made by members of the AAI will put immunology in the spotlight as policy and funding decisions are made. Additionally, making immunology more accessible to students in middle and high school will ensure the pipeline of future immunologists so essential to our field. If elected to the Council, I would be eager to work with AAI colleagues to develop new tools to enhance the public's appreciation of the field of immunology through education and outreach.

Members in the News

Eight Elected to National Academy of Sciences

AAI members Arup Chakraborty, Ronald Germain, Antonio Lanzavecchia, Kenneth Murphy, Hidde Ploegh, Gabriel Rabinovich, Herbert Virgin, and Ian Wilson are 2016 electees to the National Academy of Sciences (NAS) in recognition of their distinguished and continuing achievements in original research. Election to NAS is considered one of the highest honors bestowed in the United States on scientists who pursue original research. The eight AAI honorees are profiled below, in alphabetical order.



Arup K. Chakraborty

Arup K. Chakraborty, Ph.D., AAI '07

Robert T. Haslam Professor of Chemical Engineering, Chemistry, Biological Engineering, and Physics; Director, Institute for Medical Engineering and Science, Massachusetts Institute of Technology

Arup K. Chakraborty has developed an interdisciplinary research program that uses

theoretical and computational methods to better understand how adaptive immunity is regulated, particularly how T cells develop and orchestrate adaptive immune responses. His work includes using computational approaches to make mechanistic predictions and then applying these findings to improve novel therapies, such as vaccines that target mutable infectious agents, like HIV.

A member of the AAI Program Committee, Dr. Chakraborty has served as a President's Symposium speaker and major symposium speaker at the AAI annual meeting and as a teacher at the AAI Advanced Course in Immunology.

His additional career honors include the NIH Director's Pioneer Award; E. O. Lawrence Memorial Award for Life Sciences, U.S. Department of Energy; Allan P. Colburn Award, American Institute of Chemical Engineers; Professional Progress Award, American Institute of Chemical Engineers; Camille Dreyfus Teacher-Scholar Award, Camille and Henry Dreyfus Foundation; Research Professorship, Miller Institute for Basic Science, University of California Berkeley (UC Berkeley); and National Young Investigator Award, National Science Foundation. Chakraborty is an elected member/fellow of the National Academy of Engineering, American Academy of Arts and Sciences, and American Association for the Advancement of Science. A member of the U.S. Defense Science Board, Chakraborty has held editorial board appointments with journals, including *eLife*, *Biophysical Journal*, *Chemical Physics*, *Annual Reviews of Physical Chemistry*, and

Advances in Chemical Engineering. He has served on multiple NIH study sections and review panels; on advisory panels on behalf of Systems Biology of T-cell Activation in Health and Disease (SYBILA, a European consortium on systems immunology), the Camille and Henry Dreyfus Foundation, and Evaxion; and on visiting committees at multiple U.S. universities, as well as the Hong Kong University of Science and Technology.

After obtaining his Ph.D. in chemical engineering at the University of Delaware, Chakraborty completed postdoctoral studies at the University of Minnesota. In 1988, he joined the faculty of UC Berkeley, where he went on to hold appointments as professor of chemistry, professor of biophysics, Warren and Katherine Schlinger Distinguished Professor, and chair of the Department of Chemical Engineering. Chakraborty also served as head of theoretical and computational biology at the Lawrence Berkeley National Laboratory before joining the Massachusetts Institute of Technology (MIT) faculty in September 2005. In addition to being the founding director of MIT's Institute for Medical Engineering and Science, Chakraborty is a founding Steering Committee member of the Ragon Institute of MGH, MIT, and Harvard and an associate member of the Broad Institute of MIT and Harvard.



Ronald N. Germain

Ronald N. Germain, M.D., Ph.D., AAI '78

Chief, Laboratory of Systems Biology and Distinguished Investigator, National Institutes of Health

Ronald N. Germain has developed a dynamic research program that examines T cell activation and differentiation. Dr. Germain has made many seminal contributions to the field of T cell biology, particularly how T cell receptors

bind to ligands and how receptor selectivity contributes to discrimination between self and non-self. Germain's pioneering multiphoton microscopy methods have also been critical to understanding the dynamics of T cell receptor interactions with ligands presented by the major histocompatibility complex; he has applied his microscopy techniques to other areas of immunology.

Dr. Germain was the 2015 AAI-Thermo Fisher Meritorious Career Award recipient and lecturer and has spoken at the AAI annual meeting on numerous occasions, including as a Distinguished Lecturer, President's Symposium speaker, and major symposium speaker. He is a past associate editor and deputy editor for *The Journal of Immunology* and has served as a member of the AAI Membership, Education, and Nominating Committees and as a faculty member for the AAI Introductory Course in Immunology.

An elected member of the Institute of Medicine (now National Academy of Medicine) and fellow of the American Association for the Advancement of Science, Germain has attained numerous

NIH distinctions, including the NIH Director's Merit Award, National Institute of Allergy and Infectious Diseases (NIAID) Merit Award, designation as an NIH Distinguished Investigator, and Outstanding Mentor Award, NIAID. He received the Meritorious Presidential Rank Award from the U.S. government, held appointments on numerous national and international review panels, including the Howard Hughes Medical Institute (HHMI) Scientific Review Board and the HHMI-NIH Research Scholars Program Advisory Committee, and served on a multitude of NIH advisory and planning panels. In addition, his editorial appointments have included service on behalf of the *Journal of Experimental Medicine*, *Immunity*, *Molecular Systems Biology*, *International Immunology*, *Interdisciplinary Reviews: Systems Biology and Medicine*, *Journal of Clinical Investigation*, *Current Biology*, *Journal of Biology (now BMC Biology)*, *Scandinavian Journal of Immunology*, *BioMedCentral Immunology*, and *Immunity*.

His additional career appointments and honors include: Landsteiner Medal, Austrian Society of Allergology and Immunology; associate member, European Molecular Biology Organization; honorary member, Scandinavian Society for Immunology; Ishizaka Lecturer, La Jolla Institute for Allergy and Immunology; Akesson Memorial Lecturer, Cincinnati Children's Hospital; Ralph Wedgwood Lecturer, World Immunology Conference, New York; Mary Lou Clements-Mann Memorial Lecturer in Vaccine Sciences, National Foundation for Infectious Diseases; Mayberry Lecturer, Northwestern University School of Medicine; Sidney Leskowitz Memorial Lecturer, Tufts University Medical School; Shraga Segal Memorial Lecturer, Ben-Gurion University, Israel; Blumenthal Lecturer, University of Minnesota; Australasian Society for Immunology Visiting Lecturer; R.G.E. Murray Lecturer, University of Western Ontario; Ernst Schering Foundation Lecturer; Benacerraf Lecturer, Dana-Farber Cancer Center, Harvard Medical School; and Institute for Scientific Information Highly Cited Researcher.

A holder of bachelor's (summa cum laude) and master's degrees from Brown University, Germain received his M.D. and Ph.D. degrees from Harvard University, the latter for research in the Baruj Benacerraf laboratory. After serving as an instructor at Harvard Medical School (HMS) and pathology intern at Peter Bent Brigham Hospital, in 1977, Germain was appointed an assistant professor of pathology at HMS, where he attained the rank of associate professor in 1980. Having served as a guest investigator in the Laboratory of Molecular Genetics at the Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, he joined NIH in 1982 as a senior investigator in the Laboratory of Immunology at NIAID. He went on to attain appointments as chief of the lab's Lymphocyte Biology Section, deputy chief of the Laboratory of Immunology, and director of the Program in Systems Immunology and Infectious Disease Modeling. He has served since 2011 as chief of the Laboratory of Systems Biology, where he remains the head

of the Lymphocyte Biology Section, and has served since 2015 as acting chief of the Laboratory of Immunology. He co-founded the Immunology Interest Group and Systems Biology Interest Group at NIH and serves as associate director for Systems Biology and Technology at the Trans-NIH Center for Human Immunology, Autoimmunity, and Inflammation.



Antonio Lanzavecchia

Antonio Lanzavecchia, M.D., AAI (Hon.) '00
(elected an NAS foreign associate)

Director, Immune Regulation, Institute for Research in Biomedicine, Università della Svizzera Italiana, Bellinzona, Switzerland

Antonio Lanzavecchia has made significant contributions to many areas of human immunology, especially antigen processing and

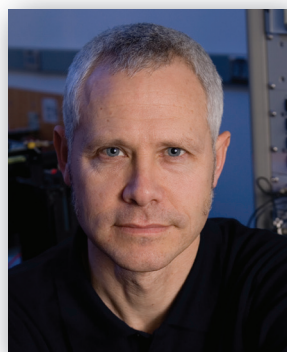
presentation, and immunological memory. Lanzavecchia's work on memory led him to develop methods for isolating human monoclonal antibodies from memory B cells and plasma cells. He applied this groundbreaking work to the development of antibodies for prophylaxis and treatment of infectious disease, and he has used antibodies derived by this method to identify potential vaccine candidates.

Elected by the AAI Council to honorary membership in 2000, Dr. Lanzavecchia has served as Distinguished Lecturer and major symposium speaker at the AAI annual meeting. He is a member or fellow of the European Molecular Biology Organization (EMBO), Royal College of Physicians, Swiss Academy of Medical Sciences (honorary member), Swiss Society for Allergology and Immunology (honorary member), Henry Kunkel Society, and Italian Society for Immunology. He has held journal editorial appointments with the *European Journal of Immunology*, *Journal of Experimental Medicine*, and *Immunological Reviews*.

Lanzavecchia's career honors include the EMBO Gold Medal; Cloëtta Prize, Cloëtta Foundation, Switzerland; Jack Pepys Lecture, British Society for Immunology; Henry G. Kunkel Lecture, Johns Hopkins University; Guru at the Annual NIH Immunology Interest Group Meeting; Arthur Levin Memorial Lecture, Kings College London School of Medicine; NIH Wednesday Afternoon Lecture; Grabar Lecture, French Society for Immunology; Heremans Lecture, University of Brussels, Belgium; Wellcome Visiting Professorship, St. Jude Children's Research Hospital; and Art Stern Memorial Lecture, Wistar Institute. He is president of the Fondazione Regionale per la Ricerca Biomedica, Lombardy, Italy, and scientific founder of the Swiss antibody therapeutics company, Humabs BioMed, where he remains a scientific advisor.

Members in the News *(continued)*

A graduate of Collegio Borromeo, Italy, Lanzavecchia received his M.D. (with honors) from the University of Pavia, where he specialized in pediatrics and infectious diseases. In 1981, he was named an assistant professor at the University of Genoa, attaining the rank of associate professor in 1987, and from 1990 to 1999, served as a member of the Basel Institute for Immunology. Lanzavecchia was the founding director of the Institute for Research in Biomedicine, which he has led since January 2000. He has held appointments as professor of immunology at the University of Genoa and University of Siena, and since 2009, has served as a professor of human immunology at the Swiss Federal Institute of Technology in Zurich.



Kenneth M. Murphy

Kenneth M. Murphy, M.D., Ph.D., AAI '95
Investigator, Howard Hughes Medical Institute, and Eugene Opie Centennial Professor of Pathology and Immunology, Washington University School of Medicine

Kenneth M. Murphy has focused his research on understanding how different immune cell subsets develop and differentiate and are able to generate appropriate immune

responses against diverse types of pathogens. Dr. Murphy's early work focused on the development of different T cell subsets and particularly, how unique signaling pathways and transcriptional circuits drive differentiation in response to pathogens. More recently, he has worked on defining how different dendritic cell subsets develop and how this impacts lymphocyte effector function.

Murphy was the 2016 AAI-Thermo Fisher Meritorious Career Award recipient and lecturer in recognition of his outstanding research contributions to immune cell lineage commitment, particularly T cells, macrophages, and dendritic cells. He has spoken at the AAI annual meeting on numerous occasions, including as an AAI Distinguished Lecturer and major symposium speaker. He has also served as a member of the AAI Program and Nominating Committees and as an abstract programming chair for the AAI meeting.

Murphy's additional career honors include the William B. Coley Award for Distinguished Research in Basic Immunology from the Cancer Research Institute, the David Israel Macht Memorial Prize from Johns Hopkins University School of Medicine, the Juvenile Diabetes Foundation Career Development Award, and a Distinguished Investigator Award from the Washington University School of Medicine. He has served as a reviewer, member, and chair of multiple NIH study sections, received numerous national and international

lectureship honors, and has been the lead author since 2005 of *Janeway's Immunobiology* (Garland Science). His current and past journal editorial appointments include service on behalf of *Immunity*, *International Immunology*, *European Journal of Immunology*, and *European Journal of Immunology*. He also serves as a scientific advisor to the La Jolla Institute for Allergy and Immunology.

A chemistry graduate (summa cum laude) of Rice University, Murphy received his M.D. and Ph.D. degrees from Johns Hopkins University School of Medicine. He completed his residency and postdoctoral training at Washington University School of Medicine, where he was appointed an assistant professor in 1989. He attained the rank of associate professor and was named a Howard Hughes Medical Institute (HHMI) associate investigator in 1997. He has been a full professor since 1999 and full HHMI investigator since 2003. Murphy has held his Eugene Opie First Centennial Professor of Pathology and Immunology appointment since 2010.



Hidde L. Ploegh

Hidde L. Ploegh, Ph.D., AAI '93

Edward Mallinckrodt Jr. Professor of Immunopathology, Harvard Medical School; Professor of Biology and Member, Whitehead Institute for Biomedical Research, Massachusetts Institute of Technology

Hidde L. Ploegh's interest in host-pathogen interactions has been central to his career,

during which he has made fundamental contributions to the understanding of antigen presentation and how viruses evade the immune response. Dr. Ploegh's multidisciplinary approach integrates techniques from immunology and cell biology, as well as chemistry-based methods. His work on antigen presentation helped reveal how protein antigens are processed into peptides and how the major histocompatibility complex is assembled and displays peptide antigens on the surface of a cell. His research has also elucidated mechanisms used by viruses to elude antigen presentation. More recently, he and his colleagues have developed a technique called "sortagging," which uses engineered red blood cells as carriers of functional probes, such as therapeutic proteins.

Ploegh was the 2011 AAI-Life Technologies Meritorious Career Award recipient and lecturer. He has served as a member of the AAI Program Committee and as an Abstract Programming Chair for the AAI annual meeting and is a past deputy editor for *The Journal of Immunology*.

Ploegh's additional career honors and appointments include the NIH Pioneer Award; NIH Director's Lecture; Ellison Foundation Senior Scholar; InBev-Baillet Latour Health Prize; NIH Merit Award; senior fellow, American Asthma Foundation; fellow, American Academy of Arts and Sciences; Avery-Landsteiner Prize; elected correspondent, Royal Dutch Academy of Sciences; elected member, European Molecular Biology Organization (EMBO); Annual Prize, Dutch Society for Biochemistry; Salzman Lecture, NIH; Dan Campbell Lecture, Midwinter Immunology Conference at Asilomar; Maclyn McCarthy Memorial Lecture, Weill Cornell Medicine; Klein Lecture, New York University; Max Gruber Lecture, Groningen University; Havinga Medal, Leiden University; Richard C. Parker Memorial Lecture, Columbia University; Eijkman Lecturer, University Utrecht; David Pressman Memorial Lecture, Roswell Park Cancer Institute; Wellcome Visiting Professor, Loyola University; Philip Levine Lecture, Rockefeller University; Kroc Lecture, Medical University of South Carolina; Willison Lecture, University of Michigan; Lamb Professorship, Vanderbilt University; Ceppellini Lecture, European Federation of Immunological Societies; Van Loghem Lecture, Dutch Society for Immunology; Litchfield Lecturer in Medical Sciences, Oxford University; and Professeur Etranger au College de France.

Ploegh has served as an NIH study section member and on review and advisory panels on behalf of the Immune Disease Institute, Harvard Medical School; The Bijvoet Center, Utrecht University; Institut Pasteur; The Netherlands Cancer Institute; Amsterdam-Leiden Institute for Immunology; Whitehead Institute; Wistar Institute; S.A.B. Novartis Option Fund/Venture Fund; Novartis Vaccines; Chiron Corporation; Surface Logix; and Peptimmune Inc. His current and past editorial appointments include service on behalf of *Immunity*, *Journal of Biological Chemistry*, *Journal of Experimental Medicine*, *Annual Review of Cell and Developmental Biology*, *EMBO Journal*, *International Immunology*, *Human Immunology*, *Molecular Immunology*, *Trends in Cell Biology*, *European Journal of Biochemistry*, and *European Journal of Immunology*.

After earning bachelor's (biology and chemistry) and master's (biochemistry) degrees with honors from Rijksuniversiteit Groningen, the Netherlands, Ploegh obtained his Ph.D. at the Rijksuniversiteit Leiden. Work on his Ph.D. thesis included work in the laboratory of Jack Strominger at Harvard University, where he served as a tutor in biochemical sciences. He joined the University of Cologne, Germany, as a staff scientist in 1980 before being appointed staff scientist in 1984 at the Netherlands Cancer Institute, where he became head of the Department of Cellular Biochemistry and served as the dean of graduate studies. He subsequently held overlapping appointments as a professor of oncobiology at Free University

Amsterdam and professor of biology at the Massachusetts Institute of Technology. In 1997, he was named Mallinckrodt Professor at Harvard Medical School, where he currently directs the graduate program in immunology. He has held his appointments as Massachusetts Institute of Technology professor and Whitehead Institute member since 2005.



Gabriel A. Rabinovich

Gabriel A. Rabinovich, Ph.D., AAI '03

(elected an NAS foreign associate)

Professor of Immunology, University of Buenos Aires, Argentina; Senior Principal Investigator, Argentina's National Scientific Research and Technical Council (CONICET)

Gabriel A. Rabinovich has developed a robust interdisciplinary research program focused on studying the role of protein-carbohydrate interactions in modulating immune responses associated with cancer, immune tolerance, and chronic inflammation. By using expertise in glycobiology, tumor biology, and immunology, Dr. Rabinovich has made significant contributions to our understanding of how endogenous lectins bind to ligands and influence the immune response in different disease contexts. Rabinovich is working toward applying his findings toward developing novel therapeutic candidates for the treatment of autoimmune diseases and cancer.

Rabinovich has served as an ad hoc reviewer for *The Journal of Immunology*. He is a member of the Third World Academy of Sciences (TWAS) and the Argentinean National Academy of Science (ANC). His additional career honors include the Bunge & Born Foundation Senior Investigator Award in Experimental Medicine; Konex Foundation Platinum Prize in Medical Science; Konex Foundation Medal to the Outstanding Scientist of the Decade in Argentina; TWAS Prize in Medical Sciences; Bernardo Houssay Award in Medical Sciences (twice), Argentina Ministry of Science and Technology; Mizutani Foundation Award for Glycoscience; John Simon Guggenheim Foundation Award; Bunge & Born Prize for Young Scientists; National Academy of Medicine (Argentina) and Baron Foundation Award in Medical Sciences; and Ranwell Caputto Award in Molecular Biology, ANC.

Rabinovich has held editorial appointments with numerous scientific journals, including *Glycobiology*, *Cytokine & Growth Factor Reviews*, *Annals of the New York Academy of Sciences*, *Oncotarget*, *Journal of Immunotherapy of Cancer*, *Oncoimmunology*, *Immunology & Cell Biology*, *Cell Death & Differentiation*, and *Emerging Infectious Diseases (Centers for Disease Control and Prevention)*, and has authored reviews

Members in the News *(continued)*

in *Nature Reviews Cancer*, *Nature Reviews Immunology*, and *Annual Reviews Immunology*. He has served as a visiting professor at several international universities and been an invited speaker at more than 220 international conferences.

A biochemistry graduate of the University of Córdoba, Rabinovich undertook postgraduate training in immunology at the Weizmann Institute of Science (Rehovot, Israel) and in molecular biology and gene therapy at the Kennedy Institute of Rheumatology (London, UK). He received his doctoral degree in immunology from the University of Córdoba and completed postdoctoral training in immunogenetics at the University of Buenos Aires. Rabinovich joined the University of Buenos Aires faculty as an instructor and assistant professor of immunology in 1999 and has been a full professor since 2012, while serving as head of the university's Laboratory of Structural and Functional Glycomics. Rabinovich became a CONICET adjunct investigator in 2001 and has been a senior principal investigator since 2014. He also serves as deputy director of CONICET's Institute of Biology and Experimental Medicine, where he heads the Laboratory of Immunopathology.



Herbert W. Virgin

Herbert W. Virgin, IV, M.D., Ph.D., AAI '92

Edward Mallinckrodt Professor and Chair, Department of Pathology and Immunology, Washington University School of Medicine

Herbert W. Virgin's research examines the complex interactions between pathogen and host, particularly how viruses can elude the immune response and cause chronic infection. Dr. Virgin has used

genetic, computational, and structural methods to better define mechanisms of disease pathogenesis and viral latency and more recently, has examined the functions of autophagy proteins in innate and adaptive immunity. Virgin developed a genetic test of host complementation to identify novel mechanisms of immune evasion by viruses. With this test, he discovered the first murine norovirus and observed that herpesviruses can develop a symbiotic relationship with host organisms.

Virgin is a past major symposium speaker at the AAI annual meeting. He is an elected fellow of the American Association for the Advancement of Science and member of the American Society for Clinical Investigation. He has been a Mallinckrodt and Pfizer Scholar and a recipient of the American Cancer Society's Junior Faculty Research Award.

An honors graduate (biology) of Harvard College, Virgin obtained his M.D. and Ph.D. (immunology) from Harvard

Medical School. He served a residency in internal medicine at Brigham and Women's Hospital, a postdoctoral fellowship in microbiology and molecular genetics at Harvard, and a fellowship in infectious diseases at Washington University School of Medicine. He has been a Washington University professor since 2002.



Ian A. Wilson

Ian A. Wilson, D.Sc., FRS, FRSE, AAI '14

(elected an NAS foreign associate)

Hansen Professor of Structural Biology and Chair, Department of Integrative Structural and Computational Biology, The Scripps Research Institute

Ian A. Wilson's long-term research focus has been to understand the recognition of foreign antigens

by immune molecules through high-resolution X-ray structural studies. He has integrated biophysical and computational biology approaches with his structural work to gain fundamental insights into the binding of neutralizing antibodies to antigens from viral pathogens, including influenza and HIV-1. These structural studies have revealed key details about the nature of the immune response to these pathogens and have advanced the development of novel vaccine candidates.

Dr. Wilson is a fellow of the American Academy of Microbiology, honorary member of the Israel Chemical Society, fellow of the Royal Society of Edinburgh, and member of the American Academy of Arts and Sciences. His additional career honors include: Honorary Doctorate of Science, University of St. Andrews (Scotland); Fellow of the Royal Society of London for Improving Natural Knowledge; Boehringer Ingelheim Plenary Lecture, Laval University, Quebec; Burroughs-Wellcome Visiting Professor in the Medical Sciences, University of Missouri, Columbia; Peter Gorer Lectureship, British Society for Immunology; Who's Who in Science and Engineering, Marquis Millennium Edition; Red Hot Research Papers, Science Watch (published by the Institute for Scientific Information, Philadelphia); Newcomb Cleveland Prize for Outstanding Contribution to Science; and I.C.I. (Institute for Cultural Inquiry, Berlin) Postdoctoral Research Fellowship, Oxford University.

Wilson has served as an NIH study section member and on review and advisory panels on behalf of other organizations, including Academia Sinica, Taipei, Taiwan; SCOPe (Structural Classification of Proteins—extended); University of California San Francisco Membrane Protein Expression Center; Keystone Symposia (Board of Directors and Scientific Advisory Board); European Commission FP6 Program; AIDS Vaccine Research Working Group; Royal Society Sectional Committee 6; Burroughs

Wellcome Career Awards Advisory Committee; Joint Scientific Council, Novartis/The Scripps Research Institute (TSRI) collaboration; DGI BioTechnologies, LLC; and BioSync Committee on Synchrotron Radiation for USA. His current and past editorial board appointments include service on behalf of *Science*, *Peptide Research*, *Journal of Structural and Functional Genomics*, *Journal of Molecular Biology*, *Journal of Experimental Medicine*, and *Immunity*.

A biochemistry graduate (with first-class honors) from the University of Edinburgh, Wilson received his doctoral degree in molecular biophysics from Corpus Christi College, Oxford University. He undertook postdoctoral training at Harvard University, where he held subsequent teaching associate and research associate appointments before joining TSRI in 1982 as an assistant member of the Department of Immunology. He subsequently attained associate member and then full professor appointments and has held his department chair appointment since 2013.



Charles N. Serhan

Charles Serhan Awarded 2016 Ross Prize

Charles N. Serhan, Ph.D., AAI '01, received the 2016 Ross Prize in Molecular Medicine, awarded to biomedical scientists whose discoveries have made a significant impact in the understanding of human disease pathogenesis and/or treatment. Dr. Serhan's recognition reflects

his important discoveries in identifying bioactive mediators and cellular pathways, critical in the resolution of inflammatory diseases.

Serhan is the Simon Gelman Professor of Anaesthesia (Biochemistry and Molecular Pharmacology) at Harvard Medical School (HMS); a professor of oral medicine, infection, and immunity at the Harvard School of Dental Medicine; and director of the Center for Experimental Therapeutics and Reperfusion Injury at Brigham and Women's Hospital. His primary research has focused on understanding resolution of inflammation. He has resolved the structures and studied the mechanisms of bioactive mediators that contribute to resolution of acute inflammation, including members of the resolvin, protectin, and maresin families. Serhan has used his research findings to develop new therapeutic approaches for managing inflammation based on these molecules.

Serhan serves as an ad hoc reviewer for *The Journal of Immunology*. An elected fellow of the American Association for the Advancement of Science, he serves on the National Institute

on Alcohol Abuse and Alcoholism (NIH) Board of Scientific Counselors and has served on NIH study sections, the NIH Director's Pioneer Award Selection Committee, the Foundation for NIH, and multiple additional NIH panels. He has also served on review and advisory panels on behalf of the Arthritis Foundation; World Health Organization Consultation on Basic Research Needs in Toxic Oil Syndrome; Delaware Comprehensive Sickle Cell Research Center; 48th Miami Winter Symposium on Inflammation; Chief Scientist Office Experimental and Translational Medicine Research Committee, Scotland; European Research Council; 10th World Congress on Inflammation; Medical Research Council (U.K.); Italian Ministry for Education University and Research; Broad Medical Research Program; Italian Cystic Fibrosis Research Foundation; Crohn's and Colitis Foundation of Canada; Wellcome Trust; Morris External Research Program; Pasteur Institute; Health Research Board of Ireland; Schiff Nutrition International; Virocell, Inc. (Canada); Eicosanoid Research Foundation; Inflammation Research Foundation; Children's Hospital Boston/HMS; Resolvix Pharmaceuticals; Forest Pharmaceuticals; and William Harvey Research Institute.

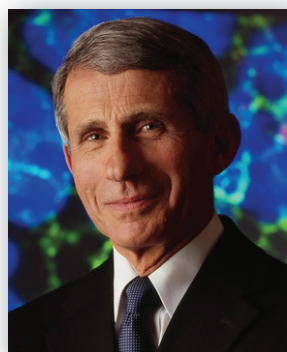
Serhan's career honors include the Marie T. Bonazinga Award, Society for Leukocyte Biology; Hench Award and Lecture, American College of Rheumatology; Oh-Dang International Prize from Korea; NIH MERIT Award; and the Sir John Vane Memorial Lecture/William Harvey Outstanding Scientist Medal. His additional career awards and appointments include the International/American Association for Dental Research William J. Gies Award; International Union of Biochemistry and Molecular Biology Medal; Thomson Reuters Highly Cited Researcher; Sterling Professorship Award in Pharmacology 2014, Virginia Commonwealth University; *Journal of Lipid Research* Lectureship Award; Laureate, Mérieux Research Grants; honorary doctorate, University College Dublin; Distinguished Lecturer, National Cancer Institute (NIH) Stars in Nutrition and Cancer Lecture Series; Hench Society (Mayo Clinic)/American College of Rheumatology Lecture; Lawrence A. Tabak Lectureship for Excellence in Oral Biology, University of Rochester; honorary fellow and honorary doctorate, Queen Mary College, University of London; Kern Award Lectureship, Kern Aspen Lipid Conference; Kopriva Lecture, Montana State University; Dart/New York University Medical Center Biotechnology Achievement Award; Kreshover Lecturer, National Institute of Dental and Craniofacial Research, NIH; Chancellor's Award in Neuroscience, Louisiana State University; Outstanding Scientist in Inflammation Research, BioDefense-2004 (Boston); MacArthur Research Service Award; National Service Citation, Arthritis Foundation; Clifford M. Clarke Science Award, Arthritis Foundation; Pew Scholar in the Biomedical Sciences; American Heart Association Established Investigator Award; and J. V. Satterfield Arthritis Investigator Award, National Arthritis Foundation.

Serhan's current and past journal editorial board and reviewer appointments include service on behalf of *Molecular Aspects of*

Members in the News (continued)

Medicine, FASEB Journal, European Journal of Inflammation, International Journal of Immunopathology and Pharmacology, Progress in Lipid Research, The Open Medicinal Chemistry Journal, Journal of Neuropathic Pain and Symptom Palliation, Inflammation, Journal of Experimental Medicine, Journal of Biological Chemistry, BMC (Biomed Central) Clinical Pathology, Journal of Pharmacology and Experimental Therapeutics, Journal of Hematotherapy & Stem Cell Research, Biochimica et Biophysica Acta, Journal of Lipid Mediators and Cell Activation, and American Journal of Physiology.

A biochemistry graduate of Stony Brook University, Serhan received his Ph.D. in experimental pathology and medical sciences from New York University School of Medicine. He was a visiting scientist and postdoctoral fellow at the Karolinska Institute and then a research fellow at Brigham and Women's Hospital and research associate at HMS before joining the HMS faculty in 1987 as an assistant professor. He has led the Center for Experimental Therapeutics and Reperfusion Injury since 1995, was appointed a full professor in 1996, and named Simon Gelman Professor in 2002. He previously served as chair of the Department of Oral Medicine, Infection, and Immunity at HMS, and his current appointments include First Endowed Distinguished Scientist at Brigham and Women's Hospital and adjunct professor, Center for Drug Discovery, Northeastern University.



Anthony S. Fauci

Anthony Fauci Named Gairdner Award Recipient

The Canada Gairdner Awards named **Anthony S. Fauci, M.D., AAI '73**, as the 2016 recipient of the Gairdner Global Health Award, in recognition of his pioneering contributions to our understanding of HIV infections and his extraordinary leadership in bringing successful treatment

to the developing world. Honoring leading scientists who have made a major impact on global health, the award confers a \$150,000 prize and presentation of a keynote lecture at the annual Consortium of Universities for Global Health meeting.

Dr. Fauci is the director of the National Institute of Allergy and Infectious Diseases (NIAID) at NIH, where he has served as chief of NIAID's Laboratory of Immunoregulation (LIR) since 1980. Fauci has made fundamental contributions to basic and clinical research on the pathogenesis and treatment of immune-mediated diseases, while helping pioneer the field of human immunoregulation. His seminal findings have helped elucidate the immunopathogenic mechanisms of HIV infection, and his research remains focused, in part, on understanding

the pathobiology of the body's immune responses to the AIDS retrovirus. He has been instrumental in developing strategies for the therapy and immune reconstitution of AIDS patients and continues to lead the pursuit of a vaccine to prevent HIV infection. As an advisor to the White House and Department of Health and Human Services on global AIDS issues, Fauci was one of the principal architects of the President's Emergency Plan for AIDS Relief, which has been responsible for saving millions of lives throughout the developing world. More recently, Fauci has led the federal government's effort to develop programs and infrastructure to support biodefense research, while overseeing initiatives to bolster medical and public health preparedness and expand research capacity related to pandemic influenza and other emerging infectious diseases.

Fauci was the AAI Lifetime Achievement Award honoree in 2005 and in 2000, received the AAI Public Service Award for extraordinary leadership in advocating for biomedical research and advancing immunology. He is past member of the AAI Program Committee and AAI Clinical Immunology Committee, served as an associate editor and reviewer for *The Journal of Immunology*, and is a past major symposium speaker and frequent scientific and policy session speaker at the AAI annual meeting.

A member of the National Academy of Sciences, Institute of Medicine (now, National Academy of Medicine), and American Academy of Arts and Sciences, Fauci has received numerous career honors, including the Presidential Medal of Freedom; National Medal of Science; Mary Woodard Lasker Award for Public Service; Lifetime Achievement Award for Scientific Contributions and Public Service, Institute of Human Virology; AID for AIDS My Hero Award; Heroes in the Struggle Award, Black AIDS Institute; Prince Mahidol Award in Medicine; Robert Koch Gold Medal; Pro Bono Humanum Award, Galien Foundation; C. Everett Koop HIV/AIDS Public Health Leadership Award; Dr. Paul Janssen Award for Biomedical Research, Johnson & Johnson; Global Health Leadership Award, Accordia Global Health Foundation; George M. Kober Medal, Association of American Physicians; and Albany Medical Center Prize in Medicine and Biomedical Research, and awards from many academic institutions, including the Harvard School of Public Health, Yale School of Public Health, University of California-San Francisco, and Villanova University.

He has received more than 40 honorary doctoral degrees from universities in the United States and abroad and is the author, co-author, or editor of more than 1,280 scientific publications, including several highly regarded textbooks. He is a member of the American Academy of Arts and Sciences, American Philosophical Society, American College of Physicians, American Society for Clinical Investigation, Association of American Physicians, Infectious Diseases Society of America, and American Academy of Allergy, Asthma & Immunology. He serves on the editorial boards of many scientific journals and as an editor of *Harrison's Principles of Internal Medicine*.

A native of Brooklyn, New York, Fauci received his A.B. from the College of the Holy Cross and M.D. from Cornell University. He completed his internship and residency at New York Hospital/Cornell Medical Center. Fauci first joined NIAID in 1968 as a clinical associate, before becoming LIR chief in 1980. He was appointed NIAID director in 1984, overseeing a \$320 million budget that has since climbed to \$4.6 billion (fiscal year 2016). It encompasses basic and applied research to prevent, diagnose, and treat established infectious and immune-mediated illnesses, including AIDS, respiratory infections, diarrheal diseases, tuberculosis, malaria, autoimmune disorders, asthma, and allergies, as well as more recent diseases, such as Ebola and Zika.



Diane J. Mathis

Diane Mathis is FASEB Award Honoree

Diane J. Mathis, Ph.D., AAI '99, has been selected to receive the FASEB Excellence in Science Award for 2017. In recognition of women whose outstanding career achievements in biological science have contributed significantly to further our understanding of a particular

discipline by excellence in research, the award confers an unrestricted research grant of \$10,000. She will deliver her Excellence in Science Award lecture at IMMUNOLOGY 2017™ in Washington, D.C.

Dr. Mathis is a professor in the Department of Microbiology and Immunobiology at Harvard Medical School (HMS), where she holds the Morton Grove-Rasmussen Chair of Immunohematology. Her scientific research is internationally recognized for its contributions to understanding the molecular mechanisms of immunological tolerance, pathogenic processes in autoimmune and inflammatory diseases, and mechanisms of immune regulation. Mathis has spent her career studying T cell differentiation, particularly how the immune system develops a T cell repertoire that can distinguish foreign antigens from self-antigens. Her research interests include characterizing the immune mechanisms associated with type 1 diabetes, studying the role of the AIRE transcriptional regulator in immune tolerance, and gaining insight into interactions between the gut microbiome and the immune system.

An AAI Distinguished Lecturer in 1999, Mathis has served as a member of the AAI Awards Committee and AAI Program Committee. She has participated on multiple occasions as a major symposium speaker and chair at the AAI annual meeting and served as an AAI Introductory Immunology Course instructor.

Mathis is a member of the National Academy of Sciences, American Academy of Arts & Sciences, and Academia Europea. Her additional career honors include the following: Naomi Berrie Center Prize for Outstanding Achievement in Diabetes Research; A. Clifford Barger Award for Excellence in Mentoring, HMS; Fondation Athena Research Prize; Fomancon Prize in Research, Fondation pour la Recherche Médicale; Bernard Halpern Prize in Immunology, Academie Francaise; Ligue Nationale Française Contre le Cancer Research Prize; Leukemia Society of America postdoctoral fellowship; and Damon Runyon Walter Winchell Cancer Fund postdoctoral fellowship.

Mathis has served on the editorial boards of 21 scientific journals, currently including the *Journal of Experimental Medicine*, *Immunity*, *Modern Rheumatology*, *Molecular Medicine*, *Nature Communications*, *Cell Metabolism*, and *eLife*. She has participated as an NIH study section member and chair and served on scientific review/advisory panels on behalf of the Pasteur Institute, Max Planck Institute for Immunology, Riken Institute for Allergy and Immunology, Walter and Eliza Hall Institute, the Jackson Laboratory, Howard Hughes Medical Institute, Lasker Award, Pew Scholars Award, Warren Alpert Foundation Prize, Novartis Award in Immunology, Amgen, IFM Therapeutics, Pfizer, Cellzome, Catabasis, Genentech, Fidelity Biosciences, Entelos, and Phenomix. She has given dozens of guest and keynote lectures at institutions throughout the United States and internationally, including the NIH Director's Lecture Series; Harvey Lecture, Rockefeller University; and Janeway Lecture, Yale School of Medicine, and at meetings of the Australasian Society for Immunology, Canadian Society for Immunology, the 5th International Congress of Immunology, ThymUS, Midwinter Conference of Immunologists, and Institut de France, among many others.

A biology graduate (with highest honors) of Wake Forest University, Mathis holds master's and doctoral degrees in biology from the University of Rochester. She undertook postdoctoral fellowships in molecular biology at the Institut de Génétique et de Biologie Moléculaire et Cellulaire (IGBMC; Strasbourg, France) and in immunology, in the Hugh McDevitt lab, at Stanford University. Returning to IGBMC, Mathis served as an INSERM (French Institute of Health and Medical Research) researcher and then research director from 1983 to 1999. In 1999, she was appointed a professor of medicine at HMS; she was named a professor of pathology in 2009 and has held her current Department of Microbiology and Immunobiology and Grove-Rasmussen Chair appointments since 2010. She serves on HMS's Committee on Immunology and the faculties of the Harvard Stem Cell Institute and the Broad Institute of MIT and Harvard; her past appointments include service on behalf of the Joslin Diabetes Center, Brigham and Women's Hospital, and Tempero Pharmaceuticals (as co-founder and scientific advisory board member).

Richard R. Hardy, Ph.D., AAI '96

March 5, 1952 – May 29, 2016



Richard R. Hardy

AAI extends condolences to the family, friends, and colleagues of prominent B cell biologist and molecular immunologist Randy R. Hardy, Ph.D., a Fox Chase Cancer Center professor and researcher who died on May 29. For the past 29 years, Hardy served as a research scientist in blood cell development and function at Fox Chase's Institute for Cancer Research. Among his survivors is his wife, Kyoko Hayakawa, M.D., Ph.D., AAI '96, who was his Fox Chase colleague and long-time collaborator.

The following tribute was authored by Hardy colleagues David M. Allman, Ph.D., University of Pennsylvania; Melvin J. Bosma, Ph.D., Fox Chase Cancer Center; Kerry S. Campbell, Ph.D., AAI '92, Fox Chase Cancer Center; Timothy L. Manser, Ph.D., AAI '88, Thomas Jefferson University; and David L. Wiest, Ph.D., AAI '02, Fox Chase Cancer Center. AAI gratefully acknowledges the submission.

We are saddened by the sudden passing in May of Dr. Richard (Randy) Hardy due to complications of a recent illness. Randy was a renowned and highly respected B cell biologist, passionate scientist, and trusted colleague. His early training in chemistry at Illinois Institute of Technology and Ph.D. work at the California Institute of Technology provided him with a solid scientific foundation that he began applying to the field of immunology as a postdoctoral fellow with Len and Lee Herzenberg at Stanford University.

With a natural affinity for technology, Randy excelled in the Herzenberg lab, where he began characterizing surface markers on immune cells by applying the pioneering technique of fluorescence-activated cell sorting (FACS) in the early 1980s. Indeed, while at Stanford, Randy was the first to generate and publish two- and three-color flow cytometry data. While at Stanford, Randy also met Kyoko Hayakawa, who became his lifelong research partner and wife. They subsequently worked in Dr. Tadamitsu Kishimoto's laboratory at Osaka University in Japan, where Randy also became fluent at methods to isolate phycoerythrin from porphyra and where he perfected methods to conjugate phycoerythrin and related fluorochromes to antibodies, thus melding his background in chemistry with his interest in immune subsets. Soon afterward, Randy and Kyoko would use his phycoerythrin preparation to develop the first approach for characterizing antigen-specific memory B cells. This occurred just before their move to Fox Chase Cancer Center (FCCC) in Philadelphia in 1987, where they established their integrated research labs.

The arrival of Randy and Kyoko at FCCC cemented an outstanding team of B cell biologists at the Fox Chase campus that included Martin Weigert, Mark Shlomchik, and Mel Bosma.

This highly collaborative group provided a strong, intellectual core that drew a steady stream of visits from leading immunologists in the late 1980s and early 1990s. While concentrating his research on the B cell subset (he and Kyoko discovered CD5+ B-1 B cells at Stanford), Randy also began systematically defining the various stages of mouse B lymphocyte development in the bone marrow, leading to the characterization of the now well-known "Hardy fractions."

From nearby Princeton, Tim Manser regularly visited Randy at the time to get his "fix" of B cell biology. Tim found Randy's sage advice particularly insightful, as both had been trained in molecular biology and chemistry before

embarking on careers in immunology. Their mutually beneficial interactions included bouncing ideas back and forth and discussing the significance of their own data and recent publications in the B cell field. When Tim moved to a closer location at Thomas Jefferson University (TJU) in Philadelphia, Randy and several of his FCCC colleagues were appointed as adjunct faculty members in the Microbiology and Immunology Department at TJU. This eventually led to the acquisition of an NIH-funded T32 Training Program in Developmental Immunology, jointly hosted by both institutions. Randy played a key role in supporting the T32, which catalyzed extensive interactions among the preceptors at TJU and FCCC. Every few months for many years, the two groups would get together to hear presentations from trainees and preceptors and to just "chew the immunological fat," with Randy routinely at the center of discussions.

Randy Hardy was a wonderful colleague at Fox Chase, where he played a strong, intellectual role and fostered a number of productive collaborations. His impressive expertise with FACS naturally led to his early appointment as director of the FCCC Cell Sorting Core Facility to support the needs of the local research community. His deep understanding of the technology enabled him not only to procure state-of-the-art, custom-made equipment but also to optimize and align lasers constantly, beta test and share the latest data analysis programs, and develop a sophisticated laboratory information management system for long-term data storage. Indeed, during the late 1990s, Randy personally modified the FACStar Plus cell sorter at FCCC so that it could analyze five (rather than the then-customary four) colors. All users of the facility were the beneficiaries of his incredible skill, as he generously and without hesitation advised, trained, or assisted anyone who asked about their flow cytometry experiments. Randy later directed the FCCC DNA Sequencing Facility, which he also kept equipped with the latest cutting-edge technology and reliable service, and he proficiently served as leader of the immunology program at FCCC for many years.

Randy maintained a passion for discovery throughout his long career. He continually produced seminal findings, each of which portended an exciting new chapter in his scientific career—a career that had already had a tremendous impact on our understanding of B cell development. Together with Kyoko, he had succeeded not only in identifying B-1 B cells but also through the years, proceeded to unravel the mysteries of their generation, discovering that their development was only possible in the context of the fetal hematopoietic program, that their generation depended on B cell receptor autoreactivity, and that these cells ultimately serve as the precursors to chronic lymphocytic leukemia. All of these findings set the stage for the next phase of his work, which focused on the molecular circuitry required to elaborate the B-1 B cell differentiation program. Shortly before his illness, he succeeded in identifying both a key transcription factor and a key signaling molecule required for the fetal development of B-1 B cells, which finally promised to enable the molecular dissection of the pathways that are particular for production of the B-1 subset of B cells.

When approaching Randy with a question or matter to discuss, one could generally find him in his office, fixated on his computer screen, analyzing multi-colored contour maps of FACS data. Actually getting to his office required negotiating an obstacle course of lab carts and equipment, perhaps deliberately set, as Randy valued his privacy—although his office door was always open. After clearing his guest chair of papers and journals, he would always engage in a lively scientific discussion with a dramatic backdrop of several colorful saltwater fish swimming in a large tank next to his desk. He was well versed in the literature, and his input was always insightful

and appreciated at weekly Immunology Journal Club meetings. In addition to his hobby of saltwater fish, he had lifelong loves of family life, music, photography and Apple products. He was constantly a step ahead in using the latest Apple device or program, which was always on display in his many captivating research presentations over the years.

As rumors of Randy's decline in health over the past year began to circulate among the scientific community in Philadelphia, most discounted them with the expectation that he surely would continue to contribute to the field for many years to come. After all, he was an outstanding and energetic middle-aged leader in the field of B cell immunobiology, who had been incredibly productive over a more than 30-year career. Concerns spread, however, as his absences became more frequent—he was no longer present to fulfill his insightful debating role at Immunology Journal Club, postponed his annual faculty research seminar, and asked for a substitute to present his classic primary B cell development lecture in the TJU Basic Immunology Course. In reflecting on his death, it is heartbreaking for us to accept that we have forever lost cherished scientific discussions with a brilliant colleague and friend whose resilience in science we mistakenly presumed would enable him to triumph over his illness. He will be sorely missed.

Along with Dr. Hayakawa, survivors of Dr. Hardy include their daughter Naomi L. Hardy; his sister Susanne Hardy Nolan (Paul); niece Marjorie D. Nolan; and nephew William B. Nolan. Memorial contributions may be sent to Fox Chase Cancer Center, Institutional Advancement Office, 333 Cottman Avenue, Philadelphia, PA 19111.



AAI Career Development Awards

Funding to Support Your Research

AAI invites applications for the Fall 2016 AAI Travel for Techniques Program cycle. The deadline for submissions is October 15, 2016.

To apply, visit www.aai.org/Careers/TfT.html.

Thomas W. Jungi, Ph.D., AAI '79

February 15, 1945 – March 23, 2016

AAI member and prominent veterinary immunologist Thomas Jungi, Ph.D., a professor at the University of Bern, Switzerland, died earlier this year. Jungi was instrumental in developing methods to culture ruminant macrophages and in phenotyping and functionally assessing these cells, and his work illuminated important differences among the cells of rodents, humans, and ruminants. Dr. Jungi also trained numerous scientists in the areas of canine and feline immunology and contributed to colleagues' studies in equine immunology.

The following tribute was co-authored by Jungi colleagues Gottfried Alber, Ph.D., AAI '97, University of Leipzig, Germany; Ernst Peterhans, Ph.D., University of Bern, Switzerland; and Dirk Werling, Ph.D., Royal Veterinary College, University of London, who are among Dr. Jungi's many grateful mentees. AAI gratefully acknowledges the submission.

On March 23, 2016, Prof. Thomas Jungi died after a long illness.

Many colleagues remember Thomas as a conscientious scientist who had a huge impact on the field of veterinary immunology through publication of fundamental work on the generation, characterization, and functional description of macrophages in animals of veterinary importance. Thomas was enthusiastic, curious, persevering, and persistent—and ever-so critical toward his own work.

Thomas was gifted with a real sense of humor, which was accompanied by a distaste for the hierarchical structures intrinsic to academia. Once, following a seminar, Thomas was asked by a young Ph.D. student about why he worked on cells derived from animals and not from mice. Thomas laughed and replied, “This is one of the best questions I ever had after a seminar.”

Thomas studied zoology at the University of Zurich (Switzerland), writing his diploma thesis on the sensory system of insects. This study led to a research stay in Tunisia, where he examined the visual orientation of the Sahara Desert ant, *Cataglyphis bicolor*—an area of inquiry far afield of the veterinary immunology research for which he would later become so prominent.

It was upon undertaking his Ph.D. studies at the Swiss Institute for Allergy and Asthma Research (SIAF; in Davos), involving studies about the chemotaxis of leukocytes, that his interest switched to immunology. After postdoc positions at the Trudeau Institute for Biomedical Research and the J. A. Baker Institute for Animal Health at Cornell University, he returned to SIAF as a senior scientist. In 1982, he was appointed group leader at the Institute of Clinical-Experimental Tumour Research at the University of Bern. In 1984, a fateful meeting with Ernst Peterhans resulted in the establishment of the Institute of Veterinary Virology at the university and Thomas'



Thomas W. Jungi

appointment as head of the Immunology Unit at the university's Faculty of Veterinary Medicine.

Thomas was very interested in developing new ways of teaching and had already worked as a biology teacher in multiple schools during his undergraduate years. His enthusiasm for teaching quickly transferred to his new work area. He designed and developed a new curriculum for (veterinary) immunology teaching in Bern, an undertaking in which he collaborated with colleagues at the University of Zurich's Faculty of Veterinary Medicine for the purposes of establishing an overarching Swiss veterinary immunology curriculum.

Thomas played a leading role in establishing lectures within his department while also organizing practical classes for students of other disciplines that illuminated the limitations and peculiarities of the murine immune system. He initiated meetings where young researchers could present their data while also honing their presentation skills in a friendly environment.

Within the Veterinary Immunology Workgroup of the German Society for Immunology, Thomas advocated the exchange of teaching material among different institutions and the pursuit of a coordinated approach to veterinary immunology teaching within the German-speaking parts of Europe.

His enthusiasm for teaching was further reflected in his development of an interactive veterinary immunology teaching compact disc, as well as in the publication of *Clinical Veterinary Immunology* (Enke Publishing Company), which combined basic immunology with descriptions of clinical cases.

Thomas' research focused on macrophages of different species, which paved the way for further investigations on host-pathogen interaction. This was especially important in the area of virology, where researchers developed the ability to assess the impact of a macrophage infection under defined conditions. The productivity of Thomas' group in this area is reflected in more than 100 publications and funding obtained from the Swiss National Science Foundation, the European Union, and other funding bodies—establishing his small group as a “five-star” group in international evaluations. His laboratory spawned many scientists now working in senior positions within academia and industry. Thomas' own work earned him a nomination for the Distinguished Veterinary Immunologist Award.

We are saddened by the long illness and untimely passing of Thomas, but he will stay alive in our memory. Thomas loved life and the company of others. He influenced the paths of so many and enriched our shared past. We will always be grateful for this.

IMMUNOLOGY 2017™



THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS
MAY 12 – 16 | AAI ANNUAL MEETING | WASHINGTON, DC



Call for 2017 Award Applications

Deadline: January 11, 2017

Applications are invited for the following AAI Travel Awards and Grants, which annually foster the promise and professional development of investigators of all career stages.

Lefrançois-BioLegend Memorial Award

Established to honor the memory of AAI member Dr. Leo Lefrançois, this award is intended to advance the career of a trainee who attends the AAI annual meeting and presents an outstanding abstract specifically in the area of mucosal immunology. The award recipient will receive a \$1,000 cash award and a certificate during an awards presentation program at the AAI annual meeting. *This award is generously supported through a grant from BioLegend and donations from friends and colleagues of Dr. Lefrançois.*

AAI Trainee Poster Awards

These awards provide up to \$300 travel reimbursement to AAI trainee members (students and postdoctoral fellows) whose first-author abstracts submitted to the AAI annual meeting are selected for poster sessions only and found to be exceptional by the AAI Abstract Programming Chairs. Selection is based on the originality and significance of the research being presented.

Pfizer-Showell Travel Award

This award recognizes the professional promise of an early career investigator (assistant professor or equivalent) by assisting the award recipient with travel to the AAI annual meeting. Selection is based on career progress and submission of an outstanding abstract selected for oral presentation in a block symposium at the meeting. The award recipient will be recognized and presented with a certificate at an awards presentation program at the AAI annual meeting. Support of up to \$1,500 will be provided for meeting registration and travel. *This award is supported through an endowment from Henry J. Showell and Pfizer, Inc.*

AAI-Thermo Fisher Trainee Achievement Awards

These awards recognize up to six promising trainees in the field of immunology. Selection is based on career promise and presentation of an outstanding first-author abstract selected for oral presentation in a block symposium. Awardees will receive a \$1,000 cash prize and reimbursement for meeting expenses.

AAI Early Career Faculty Travel Grants

These grants assist young investigators (assistant professor or equivalent) in attending the AAI annual meeting. Recipients will be reimbursed up to \$1,250 for registration and travel expenses.

Chambers-eBioscience Memorial Award

Established to honor the memory of AAI member Dr. Cynthia Chambers, this award is intended to advance the career of an early career scientist who attends the AAI annual meeting and presents an outstanding abstract specifically in the area of cancer biology. The award recipient will receive a \$1,000 cash award and a certificate during an awards presentation program at the AAI annual meeting. *This award is generously supported through a grant from eBioscience, an Affymetrix Company.*

Lustgarten-eBioscience Memorial Award

Established to honor the memory of AAI member Dr. Joseph Lustgarten, this award is intended to advance the career of a mid-career scientist who attends the AAI annual meeting and presents an outstanding abstract specifically in the area of immune regulation. The award recipient will receive up to \$1,250 travel reimbursement and a certificate during an awards presentation program at the AAI annual meeting. *This award is generously supported through a grant from eBioscience, an Affymetrix Company.*

AAI Trainee Abstract Awards

These awards provide up to \$500–750 travel reimbursement to AAI trainee members (students and postdoctoral fellows) whose first-author abstracts submitted to the AAI annual meeting are selected for presentation in block symposia.

AAI Undergraduate Faculty Travel Grants

These grants assist undergraduate faculty in attending the AAI annual meeting. Each grant will also support travel costs for an undergraduate student of the recipient's selection. A grant of up to \$1,250 is awarded to the undergraduate faculty member, and a grant of up to \$1,000 is awarded to the selected undergraduate student (registration for an undergraduate student is complimentary).

AAI Laboratory Travel Grants

These grants assist mid-career and senior investigators in attending the AAI annual meeting. Applicants must hold an appointment of associate professor, full professor, or equivalent; have limited research funding; and be a first or last author on one or more abstracts submitted to the annual meeting. Each grant will provide two travel awards of up to \$1,250 each: one to the PI or laboratory director and another to a member of his or her lab, chosen by the PI or laboratory director. Recipients will be reimbursed for registration and travel expenses.

For complete AAI Travel Award and Grant application details, visit www.AAI.org/Awards.

The 2017 AAI Awards will be presented in conjunction with

IMMUNOLOGY 2017™

May 12–16, 2017 • Washington, DC

Questions? Contact AAI at 301-634-7178 or awards@aai.org

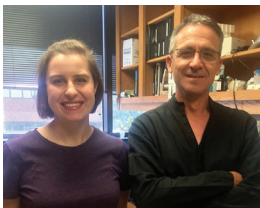


AAI Congratulates Recipients of the 2016 Careers in Immunology Fellowships

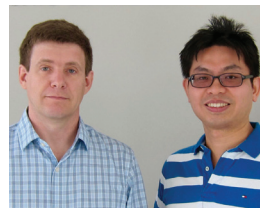
AAI congratulates 48 members who were awarded AAI Careers in Immunology Fellowships in 2016. The program, launched in 2014, is the largest AAI career awards program, providing independent research scientists with fellowships supporting one year of salary for a trainee (predoctoral or postdoctoral) in their labs.

To find out more about this program, visit www.aai.org/awards/CIIF.html.

The investigators and their trainees awarded the 2016 Careers in Immunology Fellowships are:



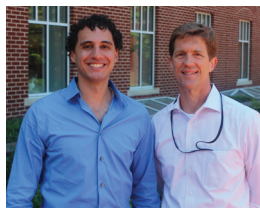
Jose Alberola-Ila, M.D., Ph.D. (AAI '08)
Associate Member
Hannah R. Barrett (AAI '16)
Graduate Student
Oklahoma Medical Research Foundation
Project: The Role of E Protein Activity in Effector Program Differentiation



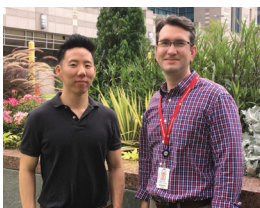
Mark P. Boldin, M.D., Ph.D. (AAI '15)
Assistant Professor
Wei-Le Wang (AAI '15)
Graduate Student
Beckman Research Institute, City of Hope
Project: The Role and Molecular Mechanism of Regulation of B Cell Maturation by MicroRNA-142



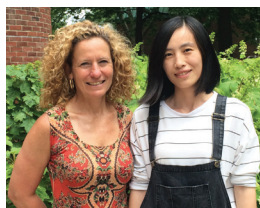
Eyal Amiel, Ph.D. (AAI '14)
Assistant Professor
Phyu M. Thwe (AAI '14)
Graduate Student
University of Vermont
Project: The Role of Glycogen Metabolism in Supporting Dendritic Cell Immune Function



Michael G. Brown, Ph.D. (AAI '02)
Professor
Awndre E. Gamache (AAI '16)
Graduate Student
University of Virginia
Project: Licensing NK Receptors for Viral Immunity



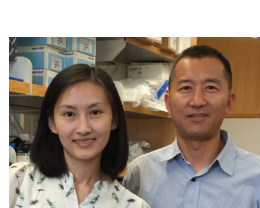
Matthew L. Bettini, Ph.D. (AAI '13)
Assistant Professor
Thomas Lee (AAI '15)
Graduate Student
Baylor College of Medicine
Project: Development of Autoreactive Thymocytes in Type 1 Diabetes



Margherita T. Cantorna, Ph.D. (AAI '95)
Distinguished Professor
Yuan Tian, Ph.D. (AAI '16)
Postdoctoral Fellow
Pennsylvania State University
Project: The Effects of Vitamin A on the Microbiota, the Metabolome, and Protection from Infection



Joseph N. Blattman, Ph.D. (AAI '13)
Assistant Professor
Louis N. Schoettle (AAI '16)
Graduate Student
Arizona State University
Project: Quantitating the Total Functional TCR Repertoire Using DNA Origami Nanostructures



Xuefang Cao, M.D., Ph.D. (AAI '13)
Associate Professor
Wei Du, M.D. (AAI '14)
Graduate Student
Roswell Park Cancer Institute
Project: Role of Granzyme B Inhibitor in Allogeneic Hematopoietic Cell Transplantation



Jose C. Crispin, M.D. (AAI '11)
Researcher

Noe Rodríguez Rodríguez (AAI '13)
Graduate Student

*Instituto Nacional de Ciencias Médicas y Nutrición
Salvador Zubirán*

Project: Dissection of the Roles of CD8 Downregulation and PD-1 Expression in the Control of Self-Reactive Double-Negative T Cells



Joseph Larkin, III, Ph.D. (AAI '08)
Associate Professor

Teresa D. Collins (AAI '16)
Graduate Student

University of Florida

Project: Amelioration of Lupus Pathology by a Suppressor of Cytokine Signaling-1 Mimetic Peptide



Maziar Divangahi, Ph.D. (AAI '12)
Assistant Professor

Isabelle Meunier, Ph.D. (AAI '16)
Postdoctoral Fellow

McGill University

Project: Harnessing the Power of Eicosanoids in the Response of Innate Lymphoid Cells to Influenza Virus Infection



Terri M. Laufer, M.D. (AAI '99)
Associate Professor of Medicine

Elisa Cruz Morales, Ph.D. (AAI '15)
Postdoctoral Fellow

University of Pennsylvania

Project: Dissecting the Intestinal Niche for Regulatory T Cells



Sarah Fields D'Orazio, Ph.D. (AAI '06)
Associate Professor

Grant S. Jones (AAI '14)
Graduate Student

University of Kentucky

Project: Dissemination of Foodborne Listeria monocytogenes from the Intestinal Mucosa to the Mesenteric Lymph Nodes



Cynthia A. Leifer, Ph.D. (AAI '07)
Associate Professor

Erika J. Gruber, D.V.M. (AAI '16)
Graduate Student

Cornell University

Project: Regulation of Macrophage Lipid Uptake by Mechanosensing



Laurent Gapin, Ph.D. (AAI '12)
Professor

Sai Harsha Krovi (AAI '16)
Graduate Student

University of Colorado Anschutz Medical Campus

Project: MHC Reactivity of Randomly Generated In Vitro TCR $\alpha\beta$ Repertoires



Shoshana Levy, Ph.D. (AAI '88)
Professor of Research

Felipe Vences-Catalan, Ph.D. (AAI '16)
Postdoctoral Fellow

Stanford University

Project: Tetraspanin CD81 as a Therapeutic Target and a Modulator of Anti-Tumor Immune Response

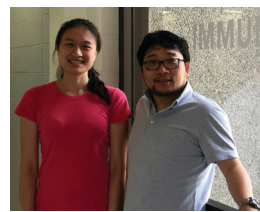


Claudio Giraud, Ph.D. (AAI '13)
Assistant Professor

Waldo A. Spessott, Ph.D. (AAI '16)
Postdoctoral Fellow

University of Pennsylvania

Project: Deciphering CTL and NK Cell Cytotoxic Defects Underlying Familial Lymphohistiocytosis Disorders

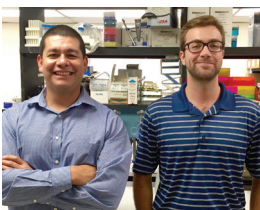


Qi-Jing Li, Ph.D. (AAI '10)
Associate Professor

Elizabeth A. Wong (AAI '15)
Graduate Student

Duke University Medical Center

Project: Conversion of Effector CD4+ T Cells to a CD8+, MHC II-Restricted Lineage



Gregorio Gomez, Ph.D. (AAI '06)
Assistant Professor

Cody C. McHale (AAI '15)
Graduate Student

University of South Carolina School of Medicine

Project: Mechanism of Mast Cell Desensitization: Role of Adenosine Receptors

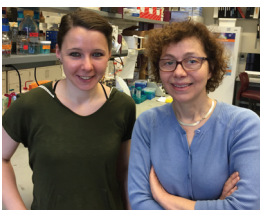


Scott M. Lieberman, M.D., Ph.D. (AAI '13)
Assistant Professor

Jennifer Y. Barr, Ph.D. (AAI '15)
Postdoctoral Fellow

University of Iowa Carver College of Medicine

Project: Role of IL-27 in Promoting Lacrimal Gland Autoimmunity in the NOD Mouse Model of Sjögren's Syndrome

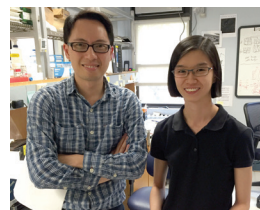


Fotini Gounari, Ph.D. (AAI '05)
Associate Professor

Jasmin Quandt, Ph.D. (AAI '16)
Postdoctoral Fellow

University of Chicago

Project: Defining the Properties of Pathogenic ROR γ + / Foxp3+ Regulatory T Cells in Colon Cancer

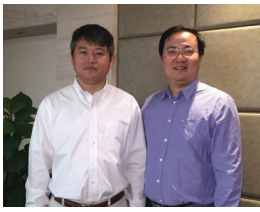


P'ng Loke, Ph.D. (AAI '14)
Associate Professor

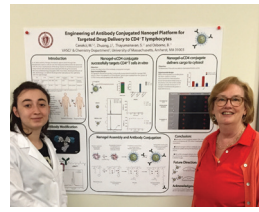
Mei San Tang, M.B.B.S. (AAI '16)
Postdoctoral Fellow

New York University School of Medicine

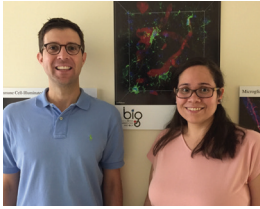
Project: A Validated Transcriptional Regulatory Network for M2 Macrophage Activation



Binfeng Lu, Ph.D. (AAI '04)
Associate Professor
Lujun Chen, Ph.D. (AAI '15)
Postdoctoral Fellow
University of Pittsburgh School of Medicine
Project: Inflaming Tumor with IL-36 as New Immune Therapy for Cancer



Barbara A. Osborne, Ph.D. (AAI '90)
Professor
Mine O. Canakci (AAI '16)
Graduate Student
University of Massachusetts
Project: Engineering of an Antibody-Conjugated Nanogel Platform for Targeted Drug Delivery to T Lymphocytes



John R. Lukens, Ph.D. (AAI '15)
Assistant Professor
Fatima Rivera-Escalera, Ph.D. (AAI '16)
Postdoctoral Fellow
University of Virginia
Project: Defining the Roles of Caspase-8 and RIPK3 in Experimental Multiple Sclerosis



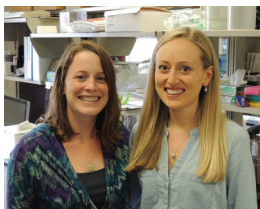
Mario Otto, M.D., Ph.D. (AAI '16)
Assistant Professor
Kyle C. Kloepping, Ph.D. (AAI '16)
Postdoctoral Fellow
University of Wisconsin
Project: A Novel Phospholipid Ether Analog to Combine Targeted Molecular Radiotherapy and Immunotherapy in Pediatric Solid Tumors



Steven K. Lundy, Ph.D. (AAI '07)
Research Assistant Professor
Sophina H. Taitano (AAI '16)
Graduate Student
University of Michigan Medical School
Project: Elimination of Allergen-Specific T Cells with FasL+ Regulatory B Cells to Ameliorate Allergic Airway Disease



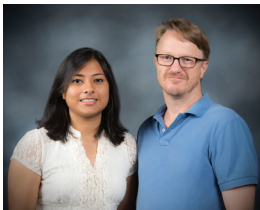
Rebecca R. Pompano, Ph.D. (AAI '14)
Assistant Professor
Ashley E. Ross, Ph.D. (AAI '16)
Postdoctoral Fellow
University of Virginia
Project: Modeling Neuroimmune Communication on a Microfluidic Chip



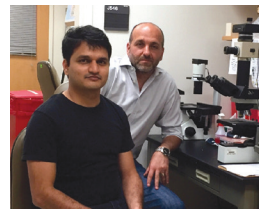
Katherine C. MacNamara, Ph.D. (AAI '11)
Assistant Professor
Julianne N. Smith, Ph.D. (AAI '16)
Postdoctoral Fellow
Albany Medical College
Project: IFN α/β and TNF Drive Hematopoietic Stem and Progenitor Cell Dysfunction in Sepsis



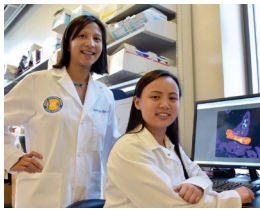
Giorgio Raimondi, Ph.D. (AAI '09)
Assistant Professor
Marcos Iglesias Lozano, D.V.M., Ph.D. (AAI '16)
Postdoctoral Fellow
Johns Hopkins University
Project: Type I IFN-Induced Cross-Competition of IL-10 Signaling: A Novel Mechanism in the Modulation of T Cell Reactivity



Thomas C. Mitchell, Ph.D. (AAI '01)
Professor
Shuvasree SenGupta (AAI '16)
Graduate Student
University of Louisville School of Medicine
Project: Context-Dependent Regulation of Neutrophil Survival by TLR4



Shahram Salek-Ardakani, Ph.D. (AAI '09)
Associate Professor
Pritesh Desai (AAI '14)
Graduate Student
University of Florida
Project: A Dual-Adjuvanted Subunit Vaccine Against Respiratory Viruses



Meera G. Nair, Ph.D. (AAI '12)
Assistant Professor
Jessica C. Jang (AAI '15)
Graduate Student
University of California, Riverside
Project: Human Resistin Exacerbates Helminth Infection and Type 1 Inflammation through TLR4, but Protects against Endotoxic Shock



Michael Schnoor, Ph.D. (AAI '12)
Assistant Professor
Alfonso Felipe-López, Ph.D. (AAI '16)
Postdoctoral Fellow
Centre for Research and Advanced Studies, Mexico City
Project: The Role of Cortactin for Epithelial Barrier Regulation during Salmonella enterica vs. Salmonella typhimurium Infections



Kenneth J. Oestreich, Ph.D. (AAI '14)
Assistant Professor
Michael D. Powell (AAI '15)
Graduate Student
Virginia Tech Carilion Research Institute
Project: Identification of Novel Transcription Factors That Regulate the Expression of Bcl-6 and the TFH and TCM Gene Programs



Jyotika Sharma, Ph.D. (AAI '05)
Assistant Professor
Christopher N. Jondle (AAI '16)
Graduate Student
University of North Dakota
Project: Role of Macrophage Galactose-Type Lectin-1 in Neutrophil Turnover

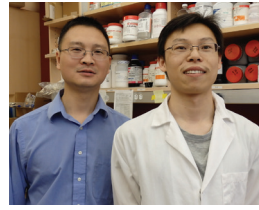


David M. Shepherd, Ph.D. (AAI '03)
Professor

Joanna M. Kreitinger (AAI '14)
Graduate Student

University of Montana

Project: Defining the Effects of AhR Activation in CD11c+ Cells during Immune Cell Development and/or Function in the Thymus and Lungs

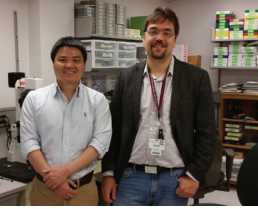


Tsan Sam Xiao, Ph.D. (AAI '07)
Associate Professor

Zhonghua Liu, Ph.D. (AAI '16)
Postdoctoral Fellow

Case Western Reserve University

Project: Mechanism of Gasdermin D-Driven Pyroptosis

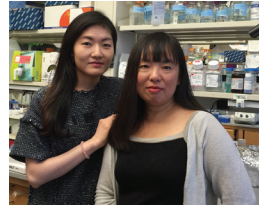


Aleksandar Stanic-Kostic, M.D., Ph.D. (AAI '10)
Assistant Professor

Yan Li, M.B.B.S., Ph.D. (AAI '16)
Postdoctoral Fellow

University of Wisconsin

Project: Innate Lymphoid Cell—Dendritic Cell Axis Regulates Vascular Remodeling at the Maternal-Fetal Interface

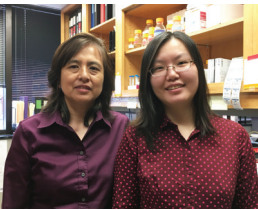


Catherine T. Yan, Ph.D. (AAI '14)
Assistant Professor

Youn-Jung Kang, Ph.D. (AAI '16)
Postdoctoral Fellow

Harvard Medical School/Broad Institute/Beth Israel Deaconess Medical Center

Project: Lig4 Syndrome R278H Mutation Impact on HSC Lymphoid Differentiation and Genomic Instability

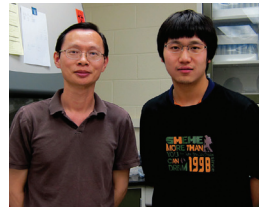


Xiao-Hong Sun, Ph.D. (AAI '99)
Member

Liangyue M. Qian, Ph.D. (AAI '16)
Postdoctoral Fellow

Oklahoma Medical Research Foundation

Project: Regulation of ILC2 Differentiation from Thymic Progenitors

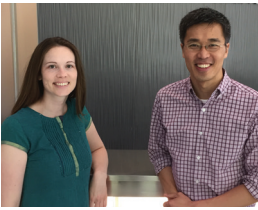


Xuexian Yang, Ph.D. (AAI '14)
Assistant Professor

Handong Zheng (AAI '16)
Graduate Student

University of New Mexico

Project: Cytokine-Induced SH2 Protein in Stabilization of Regulatory T Cells

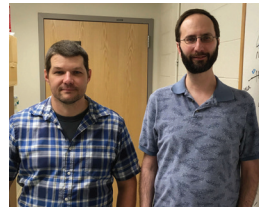


Bao Q. Vuong, Ph.D. (AAI '14)
Assistant Professor

Allysia J. Matthews, Ph.D. (AAI '16)
Postdoctoral Fellow

City University of New York: City College

Project: Regulation of Immunoglobulin Gene Diversification by iCSR

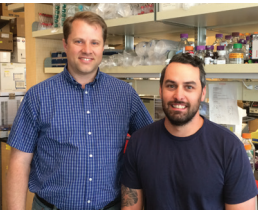


Thomas Yankee, Pharm.D., Ph.D. (AAI '05)
Associate Professor

John M. Szarejko (AAI '16)
Graduate Student

University of Kansas Medical Center

Project: Development of a Novel Chimeric Antigen Receptor for the Treatment of Solid Tumors

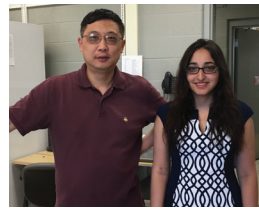


Matthew A. Williams, Ph.D. (AAI '07)
Associate Professor

Jeremy Snook (AAI '16)
Graduate Student

University of Utah

Project: The Impact of Differential NFAT Activity in the Differentiation of CD4+ Memory T Cells

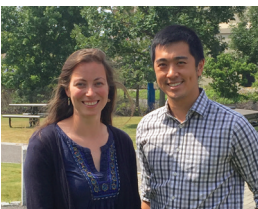


Kefei Yu, Ph.D. (AAI '16)
Associate Professor

Shahnaz Masani, Ph.D. (AAI '16)
Postdoctoral Fellow

Michigan State University

Project: Understanding the Role of APE1 in Immunoglobulin Somatic Hypermutation

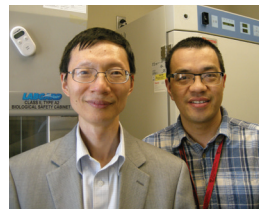


Elizabeth A. Wohlfert, Ph.D. (AAI '16)
Assistant Professor

Richard M. Jin (AAI '16)
Graduate Student

University at Buffalo, School of Medicine and Biomedical Sciences

Project: Understanding How Pathogenic Tregs Promote Muscle Damage during Infection



Mingtao Zeng, Ph.D. (AAI '09)
Associate Professor

Ke Wen, Ph.D. (AAI '16)
Postdoctoral Fellow

Texas Tech University Health Sciences Center at El Paso

Project: A Rationally Designed Zika Virus Vaccine and Its Immune-Protective Mechanism

To view past AAI Careers in Immunology Fellowship recipients, visit www.aai.org/Awards/Archives/Careers-in-Immunology.html

2016 Summer Cycle Travel for Techniques Award Recipients

AAI selected recipients for its Travel for Techniques Awards for the summer application cycle, which closed June 15, 2016. The program reimburses up to \$1,500 in travel expenses for a member PI or designated lab member to travel to another laboratory to learn a technique or method that might benefit current or future research goals. Proposals are considered on a rolling basis, with application deadlines in February, June, and October. AAI invites applications for the fall cycle of the program through October 15.

The 2016 Summer Cycle Travel for Techniques Award recipients are:



Jose Crispin, M.D. (AAI '11)

Staff Researcher

Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán

Marco Tapia Maltos (AAI '16), a Ph.D. student in the laboratory of Dr. Jose Crispin, will visit Dr. Konrad Krzewski's laboratory at the National Institute of Allergy and Infectious Diseases to learn

genome editing using the Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)/CRISPR-associated protein-9 nuclease (Cas9) system. He plans to study the effects of single nucleotide polymorphisms on the behavior of genes to achieve a deeper understanding of the pathogenesis of lupus.



Santiago Partida-Sánchez, Ph.D. (AAI '01)

Associate Professor

The Research Institute at Nationwide Children's Hospital

Dr. Frank Robledo-Avila (AAI '16), a postdoctoral fellow in the laboratory of Dr. Partida-Sánchez, will travel to the laboratory of Dr. Dana-Lynn Koomoa at the University of Hawaii at Hilo

to learn patch-clamp electrophysiology. Robledo-Avila and Partida-Sánchez will use this technique to understand further how ion channels in phagocytic cells regulate the inflammatory response.



Gregory Wu, M.D., Ph.D. (AAI '09)

Assistant Professor

Washington University in St. Louis

Dr. Wu will visit Dr. Anita Koshy at the University of Arizona to learn laser capture microdissection using spinal cord and brain tissue. Dr. Wu will use this technique to characterize the molecular features of several different subsets of

perivascular macrophages within the central nervous system.

AAI Wins Design Awards

The American Association of Immunologists was the proud recipient of two recent awards recognizing its strength in marketing creativity and design of its collateral for the annual meeting.

The association's website for its 2016 annual meeting (IMMUNOLOGY2016.org) recently received a 2016 American Web Design Award from Graphic Design USA in recognition of its design, responsiveness, and user experience.

The Marcom Awards, an international competition of marketing collateral, awarded an Honorable Mention to the branding and graphics of the IMMUNOLOGY 2015™ (New Orleans) meeting materials, out of a field of more than 6,500 entries from more than 34 countries.



At left: Pictured with the American Web Design Award, AAI Web Designer/ Developer Nathaly Branham

At right: Pictured with the Marcom Award, AAI Executive Director Michele Hogan (right) with Mary Bradshaw (AAI) and David Franek (The Design Channel, creator of the IMMUNOLOGY 2015™ branding campaign)



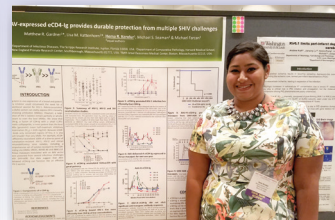
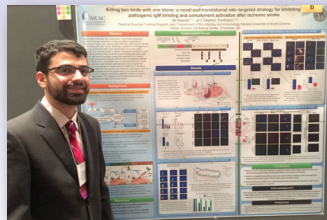
AAI Outreach Program Update

The AAI Outreach Program provides career development opportunities for young investigators by supporting oral and poster presentation awards at member-organized immunology meetings throughout the United States. The program, now in its fifth year, provided sponsorship at four recent meetings: the American Physician Scientists Association Annual Meeting, immunologyLA, the Southeastern Immunology Symposium, and the ThymUS conference.

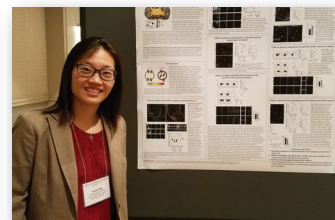
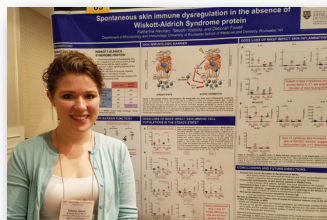
American Physician Scientists Association (APSA)

The APSA hosted its 12th Annual Meeting, held April 15–17, at the Fairmont Chicago, Millennium Park, Chicago, Illinois. The meeting was organized, in part, by Daniel Camacho (AAI '14) and featured a grant-writing workshop, led by Loyola University Chicago Professor and AAI member Dr. Katherine Knight (AAI '68).

For the third consecutive year, AAI provided support for five Young Investigator Awards. The meeting drew participants from over 50 institutions, and the APSA Organizing Committee selected the AAI award recipients from among the immunology abstract authors. The honorees were Ali Alawieh (Medical University of South Carolina), Sagar Bapat (Salk Institute for Biological Studies), Victoria Fang (Skirball Institute, New York University School of Medicine), Katherine Herman (University of Rochester School of Medicine and Dentistry), and Hema Kondur (University of Miami Miller School of Medicine).



At their 2016 APSA Annual Meeting poster presentations, AAI Young Investigator Awardees (clockwise, from top left) Ali Alawieh, Hema Kondur, Victoria Fang, and Katherine Herman

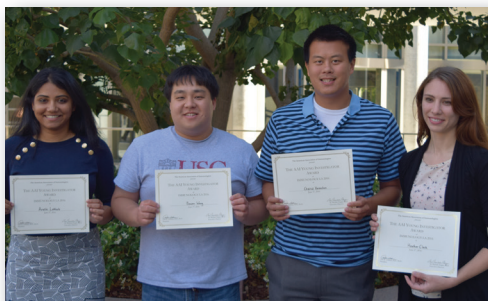


immunologyLA

immunologyLA hosted its 6th annual forum, held June 3, at the Skirball Cultural Center in Los Angeles, California. Organized by Drs. William DePaolo (AAI '12), Helen Goodridge (AAI '09), Alexander Hoffman (AAI '15), and Caroline Jefferies (AAI '10), the meeting drew 145 participants and featured a keynote lecture by AAI member Dr. Shane Crotty (AAI '04), entitled “T Follicular helper cells and B cell responses in the context of vaccines and infections.”

For the third consecutive year, AAI sponsored five Young Investigator Awards, including two oral presentation awards and three poster presentation awards. AAI awardees included Heather Clark (University of California, Irvine/Case Western Reserve University), Arathi Lakhole (Children's Hospital Los

Angeles/University of Southern California), Siobhan Smith (Cedars-Sinai Medical Center/Royal College of Surgeons), Chairut Vareechon (University of California, Irvine/Case Western Reserve University), and Bowen Wang (University of Southern California).



immunologyLA 2016 AAI Young Investigator Awardees (from L-R) Arathi Lakhole, Bowen Wang, Chairut Vareechon, and Heather Clark

Correction

In the June/July issue of the *AAI Newsletter*, the recipients of Ray Owen Poster Awards and Council Awards at the Midwinter Conference of Immunologists (MCI) were incorrectly identified. Pictured at right are Ray Owen awardees Amritha Balakrishnan and Thornton Thompson and, at far right, MCI Council awardees Nicole Arroyo and Joseph Dolina. Congratulations to the awardees!



AAI Outreach Program Update *(continued)*

Southeastern Immunology Symposium (SIS)

Duke University hosted 245 scientists at the 5th annual SIS on June 18–19, 2016. This event, hosted in part by Michael Krangel (AAI '90), included talks spanning a range of topics in contemporary immunology. Keynote presentations were provided by Lewis Lanier (AAI '80; "Natural killer cells remember"), Anjana Rao (AAI '90; "NFAT-dependent transcriptional program in T cells"), and Ellen Rothenberg (AAI '83; "Dissecting the transcriptional regulation of early T cell development").

AAI provided 14 Young Investigator Awards to trainees judged to have submitted the most outstanding abstracts. Those selected for oral presentation awards were: Masashi Kanayama (Duke University), Alicia Koblansky (University of North Carolina, Chapel Hill), Seddon Thomas (National Institute of Environmental Health Sciences), and Elizabeth Wong (Duke University). Poster presentation awards were given to Denise Allard-Trout (University of North Carolina, Chapel Hill), Alexander Bally (Emory University), Haitao Guo (University of North Carolina, Chapel Hill), Bin-Jin Hwang (University of North Carolina, Chapel Hill), Jie Liang (Duke University), Erik Lykken (Duke University), Andrew Monteith (University of North Carolina, Chapel



Michael Krangel (L) with AAI Young Investigator Awardees at the SIS meeting (L-R) Seddon Thomas, Elizabeth Wong, Erik Lykken, Sumedha Roy, Masashi Kanayama, Alicia Koblansky, Alexander Bally, Bin-Jin Hwang, Denise Allard-Trout, Boyung Shin, Andrew Monteith, Jie Liang, and Justin Wilson

Hill), Sumedha Roy (Duke University), Boyung Shin (University of Alabama, Birmingham), and Justin Wilson (University of North Carolina, Chapel Hill).

The 2017 Symposium will be hosted by Vanderbilt University.

ThymUS

The ThymUS meeting took place June 5–9 at the Wailea Marriott Beach Resort and Spa, Maui, Hawaii. The meeting was organized, in part, by Marcel Van den Brink (AAI '96), David Wiest (AAI '02), and Juan Carlos Zúñiga-Pflücker (AAI '96) and featured sessions focused on the thymus and T cell function/development. Topics ranged from the thymic microenvironment to cancer immunotherapy. Diane Mathis (AAI '99) opened the meeting with a keynote presentation, entitled "Aire novelties, cellular and molecular."

AAI sponsored five abstract presentation awards. The awardees were Maude Dumont-Lagace (Institute for Research in Immunology and Cancer, University of Montreal), Annina Graedel (University of Oxford), Nadia Kurd (University of California, Berkeley), Kaiyong Li (German Cancer Research Center (Deutsches Krebsforschungszentrum), and Jason White (University of Colorado).



AAI Young Investigator Awardees for outstanding abstracts at ThymUS (L-R) Maude Dumont-Lagace and Annina Graedel



Poster presentations at ThymUS

AAI is pleased to support travel grants to assist members in attending the International Congress of Immunology 2016, August 21–26, in Melbourne, Australia. We congratulate the following recipients.

Nicole V. AcuffGraduate Student, *University of Georgia***Anshu Agrawal, Ph.D.**Associate Adjunct Professor, *University of California, Irvine***Ali Ahmad, Ph.D.**Associate Professor, *University of Montreal***Reza Alimohammadi, Ph.D., M.S.**Graduate Student, *Shahid Beheshti University of Medical Sciences***Irving C. Allen, Ph.D.**Assistant Professor, *Virginia Tech***Samita S. Andreansky, Ph.D.**Assistant Professor, *University of Miami Miller School of Medicine***Pornpimon Angkasekwinai, Ph.D.**Assistant Professor, *Thammasat University***Marcia Arenas-Hernandez**Graduate Student, *Wayne State University***Amit Awasthi, Ph.D.**Assistant Professor, *Translational Health Science & Technology Institute***Xue-Feng Bai, M.D., Ph.D.**Associate Professor, *Ohio State University***Joan-Miquel Balada-Llascar, Ph.D. Pharm.D.**Assistant Professor, *Ohio State University***Ilan Bank, M.D.**Deputy Head, *Sheba Medical Center, Tel Aviv University***Tatiana Barichello, Pharm.D., Ph.D.**Assistant Professor, *University of Texas Health Science Center at Houston***Charles L. Bevins, M.D., Ph.D.**Professor, *University of California, Davis, School of Medicine***Haribabu Bodduluri, Ph.D.**Professor, *University of Louisville***Subbarao Bondada, Ph.D.**Professor, *University of Kentucky***Lisa H. Butterfield, Ph.D.**Professor, *University of Pittsburgh***Joseph M. Cantor, Ph.D.**Assistant Professor, *University of California, San Diego***James R. Carlyle, Ph.D.**Associate Professor, *University of Toronto***Devavani Chatterjea, Ph.D.**Associate Professor, *Macalester College***Nagarjuna R. Cheemarla**Graduate Research Assistant, *Louisiana State University***Bogoljub Ciric, Ph.D.**Assistant Professor, *Thomas Jefferson University***Amanda M. Costa**Graduate Student, *Dartmouth College***Ben A. Croker, Ph.D.**Assistant Professor, *Boston Children's Hospital***Soumita De**Senior Research Fellow, *Institute of Post-Graduate Medical Education and Research***Indhira De La Rosa, Ph.D.**Postdoctoral Associate, *Baylor College of Medicine***Abbe N. de Vallejo, Ph.D.**Associate Professor, *University of Pittsburgh School of Medicine***Gudrun Debes, D.V.M.**Assistant Professor, *University of Pennsylvania School of Veterinary Medicine***Rodney P. DeKoter, Ph.D.**Associate Professor, *Western University***Meihong Deng, M.D.**Research Assistant Professor, *University of Pittsburgh***Joseph S. Dolina, Ph.D.**Postdoctoral Research Fellow, *La Jolla Institute for Allergy & Immunology***Jeffrey M. Duggan**Graduate Student, *University of Washington***Sarah J. Dulson**Graduate Student, *University of Alabama at Birmingham***Ahmet Eken, Ph.D.**Assistant Professor, *Erciyes University***Francis Eko, D.Sc.**Professor, *Morehouse School of Medicine***Jason S. Ellis, Ph.D.**Research Assistant Professor, *The Curators of the University of Missouri***Diba Emal**Graduate Student, *Academic Medical Center Amsterdam***Pablo Engel, M.D., Ph.D.**Associate Professor, *University of Barcelona***Marissa Fahlberg**Graduate Student, *Tulane University***Victoria Fang**Graduate Student, *New York University School of Medicine***A. Darise Farris, Ph.D.**Associate Member, *Oklahoma Medical Research Foundation***Nadeem Fazal, M.D., Ph.D.**Professor, *Chicago State University***Viviana P. Ferreira, D.V.M., Ph.D.**Associate Professor, *University of Toledo College of Medicine and Life Sciences***Osric A. Forrest**Graduate Student, *Emory University***Michael L. Freeman, Ph.D.**Instructor, *Case Western Reserve University***Wenxian Fu, Ph.D.**Assistant Professor, *University of California, San Diego***Ramya Ganesan**Graduate Student, *Wright State University***Ramon Garcia-Areas**Graduate Student, *Florida Atlantic University***Lee Ann Garrett-Sinha, Ph.D.**Associate Professor, *State University of New York at Buffalo***Eliver Ghosn, Ph.D.**Research Associate Fellow, *Stanford University School of Medicine***Caitlin M. Gillis**Graduate Student, *Institut Pasteur***Julio Gomez-Rodriguez, Sr., Ph.D.**Staff Scientist, *National Institutes of Health***Misty Good, M.D.**Assistant Professor of Pediatrics, *Children's Hospital of Pittsburgh***Richard E. Goodman, Ph.D.**Research Professor, *University of Nebraska-Lincoln***Sergei Grivennikov, Ph.D.**Assistant Professor, *Fox Chase Cancer Center***Melanie R. Gubbels Bupp, Ph.D.**Associate Professor, *Randolph-Macon College***Mireia Guerau-De-Arellano, Pharm.D. Ph.D.**Assistant Professor, *Ohio State University***Beichu Guo, Ph.D.**Assistant Professor, *Medical University of South Carolina***Hamza N. Hanieh, Ph.D.**Assistant Professor, *King Faisal University***Boris Hartmann, Ph.D.**Assistant Professor, *Icahn School of Medicine at Mount Sinai***Karen Hastings, M.D., Ph.D.**Associate Professor, *University of Arizona College of Medicine-Phoenix***Gyri Haugland, Ph.D.**Researcher, *University of Bergen***Yukai He, M.D., Ph.D.**Professor, *Augusta University***Masayuki Hirano, Ph.D.**Assistant Professor, *Emory University***Brad E. Hoffman, Ph.D.**Assistant Professor, *University of Florida***Nichol E. Holodick, Ph.D.**Institute Scientist, *Feinstein Institute for Medical Research***David J. Holthausen**Graduate Student, *Emory University***Haitao Hu, M.D., Ph.D.**Assistant Professor, *University of Texas Medical Branch***Hai Huang, M.D.**Research Assistant Professor, *University of Pittsburgh*

April M. Huseby KelcherGraduate Student, *Mayo Graduate School***Jin S. Im, M.D., Ph.D.**Instructor, *University of Texas MD Anderson Cancer Center***Tracy In**Graduate Student, *Sunnybrook Research Institute, University of Toronto***Gregory C. Ippolito, Ph.D.**Research Assistant Professor, *University of Texas at Austin***Zeina Jaffar, Ph.D.**Research Assistant Professor, *University of Montana***Salema Jafri**Graduate Student, *University of Cambridge***Pooja Jain, Ph.D.**Professor, *Drexel University College of Medicine***Venkatakrishna R. Jala, Ph.D.**Assistant Professor, *University of Louisville***Dragana Jankovic, Ph.D.**Senior Associate Scientist, *National Institute of Allergy and Infectious Diseases, National Institutes of Health***J M K Chandima Jeewandara,****M.B.B.S.**Graduate Student, *Center for Dengue Research***Venkatesh Jegannathan, Ph.D.**Research Scientist, *Feinstein Institute for Medical Research***Wei Jiang, M.D.**Assistant Professor, *Medical University of South Carolina***Vandana Kalia, Ph.D.**Assistant Professor, *University of Washington School of Medicine***Laurel B. Kartchner**Graduate Student, *University of North Carolina at Chapel Hill***Azad Kaushik, D.Sc., D.V.M.**Associate Professor, *University of Guelph***William Kerr, Ph.D.**Murphy Family Professor of Children's Oncology Research, *State University of New York Upstate Medical University***Mohamed Khass, Ph.D.**Postdoctoral Fellow, *University of Alabama, Birmingham***Sung Kim, Ph.D.**Associate Professor, *University of Western Ontario***You-Me Kim, Ph.D.**Assistant Professor, *Pohang University of Science and Technology***Girish S. Kirimanjeswara, D.V.M., Ph.D.**Assistant Professor, *Pennsylvania State University***Koichi S. Kobayashi, M.D., Ph.D.**Professor, *Texas A&M Health Science Center***Elizabeth Kolawole, Ph.D.**Postdoctoral Research Fellow, *Emory University***Ekaterina Koltsova, M.D., Ph.D.**Assistant Research Professor, *Fox Chase Cancer Center***Sergei B. Korolov, Ph.D.**Assistant Professor, *New York University***ChiaChi Ku, Ph.D.**Assistant Professor, *National Taiwan University***Pawan Kumar, Ph.D.**Instructor, *University of Pittsburgh***Rajiv Kumar, Ph.D.**INSPIRE Faculty (Assistant Professor), *Netaji Subhas Institute of Technology***Girdhari Lal, Ph.D.**Scientist "E," *National Centre for Cell Science***Tracey J. Lamb, Ph.D.**Assistant Professor, *Emory University School of Medicine***Dhafer Laouini, Ph.D.**Associate Professor, *Institut Pasteur de Tunis***Sasha E. Larsen, M.S.**Graduate Student, *Unifomed Services University of the Health Sciences***Sylvie Le Gall, Ph.D.**Assistant Professor, *Massachusetts General Hospital/Harvard Medical School***Graham R. Leggatt, Ph.D.**Research Fellow/Senior Lecturer, *University of Queensland Diamantina Institute***Quanzhen Li, Ph.D.**Associate Professor, *University of Texas Southwestern Medical Center***Bei Liu, M.D., M.P.H.**Assistant Professor, *Medical University of South Carolina***Wanli Liu, Ph.D.**Assistant Professor, *Tsinghua University***Yuan Liu, M.D., Ph.D.**Professor, *Georgia State University***Ulrike M. Lorenz, Ph.D.**Associate Professor, *University of Virginia***Binfeng Lu, Ph.D.**Associate Professor, *University of Pittsburgh School of Medicine***Emily M. Mace, Ph.D.**Assistant Professor, *Baylor College of Medicine***Fathia Mami-Chouaib, Ph.D.**Research Director, *INSERM U1186***Rebecca Martin, Ph.D.**Postdoctoral Fellow, *Virginia Commonwealth University***Amanda Marzo, Ph.D.**Assistant Professor, *Rush University Medical Center***Damian Maseda, Ph.D.**Postdoctoral Associate, *Vanderbilt University Medical Center***Stephen O. Mathew, Ph.D.**Assistant Professor, *University of North Texas Health Science Center***Guangxun Meng, Ph.D.**Laboratory Chief, *Institut Pasteur of Shanghai***Francoise Meylan, Ph.D.**Staff Scientist, *National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health***Anil Mishra, Ph.D.**Endowed Schlieder Chair and Professor of Medicine, *Tulane University School of Medicine***Manoj K. Mishra, Ph.D.**Associate Professor, *Alabama State University***Claudia Gabriela Mitrofan**Graduate Student, *University of Cambridge***Halima Moncrieffe, Ph.D.**Instructor, *Cincinnati Children's Hospital Medical Center***Elena Morandi, M.S.**Graduate Student, *University of Nottingham***Joshua Moreau**Graduate Student, *Princess Margaret Cancer Centre***Penelope A. Morel, M.D.**Professor, *University of Pittsburgh***Ioannis Morianos, Ph.D.**Postdoctoral Fellow, *Biomedical Research Foundation of the Academy of Athens***Kamal D. Moudgil, M.D., Ph.D.**Professor, *University of Maryland School of Medicine***Hong-Hua Mu, M.D., Ph.D.**Associate Professor, *University of Utah School of Medicine***Mustafa G. Mujtaba, Ph.D.**Assistant Professor, *Florida Gulf Coast University***James T. Muller, II**Graduate Student, *New York University School of Medicine***Carlos Muñoz Minutti, Sr.**Graduate Student, *Universidad Complutense de Madrid***Ian Myles, M.D.**Transitional Clinical Fellow, *National Institutes of Health***Soheil Najafi**Graduate Student, *Tehran University of Medical Science School of Public Health***Hiroshi Nakajima, M.D., Ph.D.**Professor, *Graduate School of Medicine, Chiba University***Toshinobu Nishimura, Ph.D.**Postdoctoral Fellow, *Stanford University School of Medicine***Mahyar A. Nouri-Shirazi, D.V.M., Ph.D.**Associate Professor, *Florida Atlantic University***Moses Odugbo, Ph.D.**Assistant Director Research, *National Veterinary Research Institute***Sungwhan Oh, Ph.D.**Research Fellow, *Harvard Medical School***Sergio Oliveira, D.V.M., Ph.D.**Professor, *Universidade Federal de Minas Gerais***Emrah Ozay**Graduate Student, *University of Massachusetts Amherst***Chelsea R. Parker Harp**Graduate Student, *Washington University in St. Louis***Santiago Partida-Sanchez, Ph.D.**Associate Professor, *Nationwide Children's Hospital***Jon D. Piganelli, Ph.D.**Associate Professor, *University of Pittsburgh School of Medicine***Meenu R. Pillai, Ph.D.**Staff Scientist, *St. Jude Children's Research Hospital***Daniel A. Powell, Ph.D.**Postdoctoral Researcher, *University of Arizona***Ellis J. Powell, Ph.D.**Graduate Research Assistant, *Iowa State University***Zhijuan Qiu, Ph.D.**Postdoctoral Fellow, *Stony Brook University*

Tam D. Quach, Ph.D.

Postdoctoral Fellow, *Feinstein Institute for Medical Research*

Malini Raghavan, Ph.D., M.S.

Professor, *University of Michigan Medical School*

Parameswaran Ramakrishnan, Ph.D.

Assistant Professor, *Case Western Reserve University*

Srinika Ranasinghe, Ph.D.

Senior Research Scientist, *Ragon Institute of MGH, MIT and Harvard*

Jason S. Rawlings, Ph.D.

Assistant Professor, *Furman University*

Eduardo Reyes-Vargas

Graduate Research Assistant, *University of Utah*

Kevan Roberts, Ph.D.

Associate Professor, *University of Montana*

Noe Rodriguez Rodriguez

Research Student, *Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán*

Melissa Ruck

Graduate Student, *University of California, San Francisco*

Horea G. Rus, M.D., Ph.D.

Professor, *University of Maryland School of Medicine*

Roland Ruscher, Ph.D.

Postdoctoral Fellow, *University of Minnesota*

Scheherazade Sadegh-Nasseri, Ph.D.

Professor, *Johns Hopkins Medical Institute*

Shashikumar K. Salgar, D.V.M., Ph.D.

Immunologist/Physiologist, *Madigan Army Medical Center*

Amali Samarasinghe, Ph.D.

Assistant Professor, *University of Tennessee Health Science Center*

Buka Samten, M.D.

Associate Professor, *University of Texas Health Science Center, Tyler*

Mark Y. Sangster, Ph.D.

Research Associate Professor, *University of Rochester*

Sophia D. Sarafova, Ph.D.

Associate Professor, *Davidson College*

Surojit Sarkar, Ph.D.

Assistant Professor, *University of Washington School of Medicine*

Francesco Schiavone, M.D.

Graduate Student, *Sapienza University*

David W. Scott, Ph.D.

Professor and Vice Chair for Research, *Uniformed Services University of Health Sciences*

Tzvia Segal-Abramson, Ph.D.

Professor, *San Jose State University*

Periasamy Selvaraj, Ph.D.

Professor, *Emory University School of Medicine*

Tamer Shabaneh

Graduate Student, *Geisel School of Medicine at Dartmouth*

Wenhai Shao, Ph.D.

Assistant Professor, *Temple University School of Medicine*

Namit Sharma, D.V.M., Ph.D.

Postdoctoral Fellow, *Hospital for Sick Children*

Nilabh Shastri, Ph.D.

Professor, *University of California, Berkeley*

JianRong Sheng, Ph.D.

Assistant Professor, *University of Chicago*

Kim R. Simpfendorfer, Ph.D.

Institute Scientist, *Feinstein Institute for Medical Research*

Kelly L. Singel

Graduate Student, *Roswell Park Cancer Institute*

Narendra Singh, Ph.D.

Professor, *University of South Carolina School of Medicine*

Om Prakash Singh, Ph.D.

Postdoctoral Fellow (Scientist Grade), *Banaras Hindu University*

Ram Singh, M.D.

Professor of Medicine and Pathology, *University of California, Los Angeles*

Udai P. Singh, Ph.D.

Associate Professor of Pathology, Microbiology and Immunology, *University of South Carolina School of Medicine*

Megan Smithley, Ph.D.

Research Assistant Professor, *University of Arizona*

Jim Song, Ph.D.

Associate Professor, *Penn State University College of Medicine*

Lynn Soong, Ph.D., M.D.

Professor, *University of Texas Medical Branch*

Igor Splichal, Ph.D.

Researcher, *Institute of Microbiology of the Czech Academy of Sciences*

John Stambas, Ph.D.

Associate Professor, *Deakin University*

Branislava Stankovic, M.S.

Graduate Student, *Rikshospitalet Oslo*

Jamie L. Sturgill, Ph.D.

Assistant Professor, *Virginia Commonwealth University*

Jiaren Sun, M.D., Ph.D.

Professor, *University of Texas Medical Branch*

Xiao-Hong Sun, Ph.D.

Low and Myra Ward Chair in Biomedical Research, *Oklahoma Medical Research Foundation*

Neil Surana, M.D., Ph.D.

Instructor, *Boston Children's Hospital*

Marulasiddappa R. Suresh, D.V.M., Ph.D.

Professor, *University of Wisconsin-Madison*

Kavya Swaminathan, Ph.D.

Postdoctoral Fellow, *Stanford University*

Yuri Sykulev, M.D., Ph.D.

Professor, *Thomas Jefferson University*

Xiaolei Tang, M.D., Ph.D.

Assistant Professor, *Loma Linda University*

Masaki Terabe, Ph.D.

Associate Scientist, *National Cancer Institute, National Institutes of Health*

Bolaji Thomas, Ph.D.

Associate Professor, *Rochester Institute of Technology*

Linda F. Thompson, Ph.D.

Member, *Oklahoma Medical Research Foundation*

Felix N. Toka, D.Sc., D.V.M., Ph.D.

Associate Professor, *Ross University School of Veterinary Medicine*

Christos Tsatsanis, Ph.D.

Associate Professor, *University of Crete*

David Tscharke, Ph.D.

National Health and Medical Research Council Student Research Fellowship Award, *John Curtin School of Medical Research, Australian National University*

Deepak Upreti, M.S.,

Graduate Student, *University of Manitoba College of Medicine*

Jude E. Uzonna, Ph.D. D.V.M.,

Associate Professor, *University of Manitoba*

Peter M. Van Endert, M.D.,

Professor of Immunology, *INSERM U1151, Hospital Necker*

Nicolai S. van Oers, Ph.D.

Associate Professor, *University of Texas Southwestern Medical Center*

Joshua A. Vieth, Ph.D.

Postdoctoral Fellow, *Child Health Institute of New Jersey/Rutgers University*

Girish N. Vyas, Ph.D.

Professor Emeritus, *University of California, San Francisco*

Shengjun Wang, Ph.D.

Principal Investigator, *Jiangsu University*

Xiang-Yang Wang, Ph.D.

Professor, *Virginia Commonwealth University*

Yui-Hsi Wang, Ph.D.

Assistant Professor, *University of Cincinnati College of Medicine*

Stephanie S. Watowich, Ph.D.

Professor, *University of Texas MD Anderson Cancer Center*

Alexander Wein

Graduate Student, *Emory University*

Astar Winoto, Ph.D.

Professor, *University of California, Berkeley*

Deborah Witherden, Ph.D.

Senior Staff Scientist, *Scripps Research Institute*

Jacek Witkowski, M.D., D.Sc., Ph.D.

Professor, *Medical University of Gdansk*

Hsin-Jung Wu, Ph.D.

Assistant Professor, *University of Arizona*

Min Wu, M.D., Ph.D.

Professor, *University of North Dakota*

Huang-Yu Yang, M.D., Ph.D.

Assistant Professor, *Chang Gung Memorial Hospital*

Hung-Rong Yen, M.D., Ph.D.

Associate Professor, *China Medical University Hospital*

Ben A. Youngblood, Ph.D.

Assistant Member, *St. Jude Children's Research Hospital*

Hans Yssel, Ph.D.

Director of Research, *INSERM U1135*

Tomasz Zal, Ph.D.

Associate Professor, *University of Texas MD Anderson Cancer Center*

Mingtao Zeng, Ph.D.

Associate Professor, *Texas Tech University Health Sciences Center*

Xian Zhang, Ph.D., D.V.M.

Associate Professor, *Medical University of South Carolina*

Song Zheng, M.D., Ph.D.

Professor of Medicine, *Penn State University Hershey*

Norberto W. Zwirner, Ph.D.

Principal Investigator, *Instituto de Biología y Medicina Experimental*

As AAI and its members celebrate 100 years of *The Journal of Immunology* (The *Ji*), we're continuing to examine events that had a profound impact on the journal. This article studies the influence that World Wars I and II (WWI/II) had on The *Ji* in its first three decades.

The *Ji* in a World at War

Since its founding in February 1916, *The Ji* has reflected a world outside of the laboratory. Indeed, with an inaugural issue published 18 months into WWI, papers in that first year included research on war-related diseases. With the arrival of WWII, this trend continued more rapidly and in more far-reaching ways, in content and production.

As timely and on point as *The Ji* is today, the same held true yesterday, as well.

WWI: Reshaping a Young AAI

Although the United States stayed out of WWI until April 1917, the fighting had an impact on the formation of *The Ji* and the shape of AAI, which had been founded only a few years earlier, in 1913.

Of the latter, medical service in the military was important enough to AAI leadership that at the second annual meeting in 1915, well before American involvement in the war, AAI extended “active memberships, without the payment of dues” to the directors and assistant directors of the laboratories of the Army Medical School, the Navy Medical School, and the Hygienic Laboratory of the U.S. Public Health Service (renamed the National Institute of Health in 1930).¹

With regard to *The Ji*, the founders envisioned it as an international journal,² but the state of world affairs precluded participation with subscribers, contributors, and editors from the countries of the Central Powers (Germany, Austria-Hungary, Bulgaria, and the Ottoman Empire). By March of 1917, *The Ji*, with 439 subscribers, went to “practically every foreign country,” in Europe except the Central Powers countries.³



World War I recruitment poster, 1917

Arthur N. Edrop, *Library of Congress*

A month later, on April 6, 1917, the U.S. Congress issued a formal declaration of war and plunged the country into the Western Front in Europe. The AAI Council passed a resolution offering the “services of trained bacteriologists and immunologists and the facilities of their respective laboratories” to federal and state government.⁴ Many AAI members, including future presidents and editors of *The Ji*, responded to the call and enlisted in the U.S. Army Medical Reserve Corps (MRC).⁵ So many volunteered that the 1919 annual meeting was very short on abstract submissions. AAI President William H. Park (AAI '16, president 1918–19) sent a letter to the membership, in which he asked that “all who have had a chance to do experimental work, will feel it a

duty to present a report of this at the annual meeting.”⁶ Nonetheless, only 16 abstracts were presented that year, down from 38 the year before.

Answering the call of duty obviously had an impact on the structure of the AAI Council. When Council member Richard Weil died in the line of duty as a member of the MRC,⁷ his seat was filled by George McCoy, who had been given membership as director of the Hygienic Laboratory of the Public Health Service. In 1918, the first editor-in-chief of *The Ji*, Arthur Coca (AAI '16, editor-in-chief, *The Ji*, 1916–48, secretary-treasurer 1918–45), was appointed both treasurer pro tem and secretary to replace Willard J. Stone (AAI '13, treasurer 1913–18) and Martin J. Synnott (AAI '13, secretary 1913–18), both of whom were serving in the MRC.⁸

1. Minutes of the Second Annual Meeting, May 10, 1915, AAI Archive, Rockville, MD [hereafter AAI-Rockville].

2. James W. Jobling to Simon Flexner, August 5, 1915, Simon Flexner Papers, “Jobling, James W., 1912–1945, Folder 1,” American Philosophical Society, Philadelphia, PA.

3. Letter from Charles Thomas, circulation manager, Williams & Wilkins Co., to Martin J. Synnott, March 30, 1917.

4. Minutes of the Fourth Annual Meeting, April 7, 1917, AAI-Rockville.

5. For more information about AAI members in WWI, see “Immunologists during the First World War: One Soldier-Scientist’s Experience—Stanhope Bayne-Jones,” *AAI Newsletter* (December 2012): 16–23.

6. Letter from William H. Park, to the members of the American Association of Immunologists, 1919, AAI-Rockville.

7. Commissioned into the MRC when the United States entered WWI in 1917, Weil was appointed chief of medical staff at Camp Wheeler near Macon, Georgia. While attending hospitalized troops there, Weil contracted pneumonia and died on November 19, 1917.

8. Minutes of Council Meeting, January 31, 1918.

Immunology on the Battlefields

In his president's address, published in the September 1, 1918, issue of *The JI*, John A. Kolmer (AAI '13, president 1917–18) expressed optimism regarding how the science of immunology would affect the conduct of the war.⁹ He predicted that “a notable victory over the common enemy, disease, will be recorded as one of the greatest triumphs in this greatest of all conflicts” through improvements in sanitation, immunization, and treatment.¹⁰ Immunologists had made advances in combating many diseases that once plagued battlefields, including smallpox, typhoid, tetanus, diphtheria, and syphilis. Typhoid, in particular, was no longer the threat it had once been: as late as 1898, 85 percent of all U.S. deaths in the Spanish-American War were from typhoid, but with mandatory immunization against the disease for all U.S. troops in WWI, the disease claimed only 227 soldiers, *one-quarter of one percent* of all U.S. deaths in the war.¹¹ Kolmer's prediction was proven largely true, as WWI was the first U.S. war in which the death rate from disease was lower than that from battle.¹²

Kolmer also recognized major challenges that could be exacerbated by the war. Most pressing to him were the development of tests for immunity to pneumonia, tuberculosis, and meningococcal meningitis, along with immunizations against measles, anterior

poliomyelitis, syphilis, and gonorrhea.¹³ Tuberculosis and meningitis were among the top wartime killers of American soldiers, although pneumonia overshadowed these two by far, accounting for 83.6 percent of deaths from disease.¹⁴



Typhoid prophylaxis, World War I, c. 1917

Images from the History of Medicine, National Library of Medicine



World War I public health poster, 1918

H. Dewitt Welsh, Library of Congress

Of these 40,000 deaths from pneumonia, 25,000 were attributable to pandemic influenza, a development that Kolmer could not have predicted.

Even before the pandemic of 1918–19, influenza had captured the interest of immunologists. The winter of 1915–16 had seen a sharp increase in the mortality rate from influenza, as an epidemic of the disease swept through most of the nation, killing thousands of people.¹⁵ The mortality rate from influenza in 1916 was 26.4 per 100,000, the highest it had been since 1900.¹⁶ During the pandemic, this ballooned to 400 per 100,000 among American soldiers in the United States in the second week of October 1918 alone. In response to these conditions, *The JI*, in the July 1919 issue, carried three articles focusing on influenza research. All three described experiments with *Bacillus influenzae*, or Pfeiffer's bacillus (now *Haemophilus influenzae*), then suspected to be the cause of influenza rather than an opportunistic pathogen. An article by F. M. Huntoon (AAI '18) and S. Hannum considered both the causal and opportunistic roles and also attempted to understand the relationships between the various strains of influenza “in order to account for the epidemiological features of the pandemic.”¹⁷ *The JI* continued to publish research that sought to address the causes of the pandemic for years after.¹⁸

9. Kolmer's address was delivered at the fifth annual meeting of AAI in Philadelphia, PA, on March 29, 1918.

10. John A. Kolmer, “The Rôle of Immunity in the Conduct of the Present War,” *The Journal of Immunology* 3, no. 5 (September 1, 1918): 371.

11. Leonard P. Ayres, *The War with Germany: A Statistical Summary* (Washington: Government Printing Office, 1919), 125.

12. Ayres, 124.

13. Kolmer, 373–74.

14. Ayres, 126.

15. Jeffery K. Taubenberger and David M. Morens, “1918 Influenza: The Mother of All Pandemics,” *Emerging Infectious Diseases* 12, no. 1 (2006): 15–22.

16. Department of Commerce, Bureau of the Census, *Mortality Statistics 1916. Seventeenth Annual Report*. (Washington: Government Printing Office, 1918), 38.

17. F. M. Huntoon and S. Hannum, “The Rôle of *Bacillus influenzae* in Clinical Influenza,” *The Journal of Immunology* 4, no. 4 (1919): 168.

18. For more information about the 1918–1919 influenza pandemic in pages of *The JI*, see Mary Litzinger, “The 1918–1919 Influenza Pandemic as Covered in *The Journal of Immunology*,” *AAI Newsletter* (July–August, 2012): 12–13.

Venereal Disease

Another perennial health problem highlighted by the war was sexually transmitted infection. With over four million troops mobilized, the American armed forces needed to educate their personnel on the dangers of venereal disease, specifically syphilis and gonorrhea. Pamphlets published for the War Department contended that because “such diseases as small-pox, yellow fever and typhoid have been practically wiped out...the greatest menace to the country is venereal disease.”¹⁹ From 1916 to 1920, 17 articles on syphilis and various tests for the disease appeared within the pages of *The JI*. Kolmer was especially optimistic about the recent advances in the management of syphilis, as the older mercury-based treatments had largely been replaced with the first chemotherapeutic drug, arsphenamine, also known by its trade name Salvarsan or “compound 606.” This arsenic-based medication was painful to the patient, required more than 18 months of treatment and at least 50 injections, bore unpleasant side effects (such as nausea and vomiting), and had to be stored in sealed vials of nitrogen—but it worked.²⁰



NRA poster, c.1933
Library of Congress

Ikuzo Toyama and Kolmer published an article on their work to explain the mechanisms of both arsphenamine and the older treatment of mercuric chloride. They determined that both drugs worked by increasing antibody production in small doses, whereas massive doses would have the opposite effect.²¹

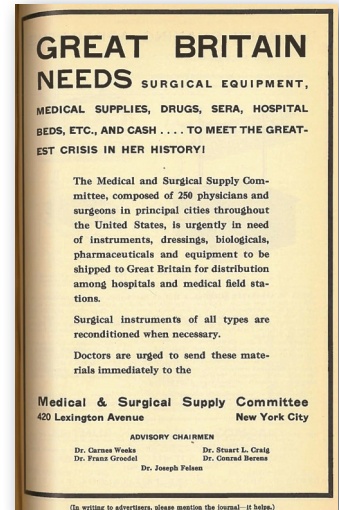
Research on the treatment of syphilis and gonorrhea led to effective public health education campaigns, as was evidenced early on in research concerning the incidence of these diseases among members of the armed forces. Although venereal diseases were still the most frequent cause for soldiers to be out of commission, a study found that, of the 48,167 cases treated at five army camps in the United States in the year ending May 21, 1919, 96 percent had been contracted before the patient enlisted.²² The constant bombardment of soldiers with information about these diseases produced an army with far lower rates of infection than the general public.

Interwar Years

After the Armistice of November 11, 1918, both the United States and the AAI returned to a normal state of affairs. By early 1920, *The JI* had a subscription agent in Berlin to distribute the journal in Germany.²³ In the decades that followed, the economic fortunes of most post-war countries were in a state of flux, but the United States thrived during the Roaring Twenties until Black Tuesday, October 29, 1929, when the stock market crashed, and the Great Depression began.

On June 16, 1933, President Franklin D. Roosevelt established the National Recovery Administration (NRA) as his first large-scale legislative attempt to begin righting the country's economic ship. The goal of the new agency was to bring fair, regulated competition to the market and better working conditions to laborers through the creation of codes to stabilize production; set price controls; and regulate collective bargaining, wages, and maximum work hours for laborers. The NRA emblem, a blue eagle clutching a gear in one talon and lightning bolts in the other, symbolized industry and power. The symbol quickly gained a foothold in the American consciousness and was displayed in shop windows and printed on the packaging of goods to demonstrate support for the agency. Although use of the emblem was voluntary, businesses that did not display or use it were often boycotted.

Scientific publishers were not immune to the public pressure to include the NRA logo on their journals. Thus, the NRA eagle first appeared prominently on the cover of the October 1933 issue of *The JI*.²⁴



Medical and Surgical Supply Committee of America notice, Nov. 1940
The Journal of Immunology

19. American Social Hygiene Association, *Keeping Fit to Fight* (New York, 1918), 3–4.

20. Félix Bosch and Laia Rosich, “The Contributions of Paul Ehrlich to Pharmacology: A Tribute on the Occasion of the Centenary of His Nobel Prize,” *Pharmacology* 82, no. 3 (2008): 177–78.

21. Ikuzo Toyama and John A. Kolmer, “The Influence of Arsphenamine and Mercuric Chlorid upon Complement and Antibody Production,” *The Journal of Immunology* 3, no. 4 (1918): 316.

22. Ayres, 127.

23. “Information for Contributors and Subscribers,” *The Journal of Immunology* 5, no. 1 (1920): 8.

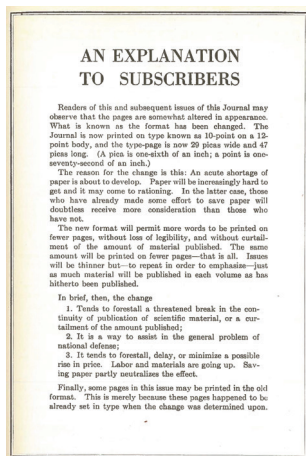
24. “Table of Contents,” *The Journal of Immunology* 25, no. 4 (1933).

WWII: Supporting the Effort

By the late 1930s, immunology had become an established field of research that was both growing and diversifying, and *The JI* was the preeminent journal for immunology in North America. At that time, the journal was publishing one issue each month and nearly 1,000 pages of research each year.

When WWII broke out in Europe in 1939, the first visual clue of the war in *The JI* was a full-page notice from the Medical and Surgical Supply Committee of America in the November 1940 issue. A large, bold headline exclaimed that “Great Britain Needs Surgical Equipment,” in its solicitation of donations of medical supplies from medical professionals and institutions. After the United States entered the war, *The JI* voluntarily and proactively took steps to conserve paper in anticipation of restrictions on supplies. In January 1942, *The JI* published an “Explanation to Subscribers,” explaining the new format of the journal, with smaller type and narrower margins to fit the same amount of content into roughly 20 percent fewer pages.²⁵ In 1943, the War Production Board codified such efforts, issuing regulations limiting publishers to 90 percent of the weight of paper they had used in 1941.²⁶ In early 1944, a “V” logo (“V” for Victory”) appeared on the cover, indicating that the journal was complying with wartime paper restrictions.

Paper wasn’t the only commodity that *The JI* was asked to help conserve. The August 1942 issue included a visually arresting headline over a message from the publisher, Williams and Wilkins: “URGENT: Notice of War Production Board Order Related to Obsolete Plates.” The War Production Board had issued Conservation Order M-99, which required the owners of obsolete printing plates to turn them over so their metals could be used in the war effort.²⁷ Williams and Wilkins had



“Explanation to Subscribers,”
Jan. 1942

The Journal of Immunology

previously provided authors published in *The JI* with the plates used to print their figures. The announcement informed authors that they were subject to “fine or imprisonment” if they did not comply with the government order. Such penalties, however, were likely intended for businesses, not individuals with a single plate here and there.²⁸

The expansion of War Production Board restrictions affected the scientific enterprise more broadly, as travel restrictions caused the cancellation of scientific meetings, including the AAI annual meetings in 1943, 1944, and 1945.

Funding War-Related Research

On June 28, 1941, President Roosevelt issued Executive Order No. 8807 to establish the Office of Scientific Research and Development (OSRD) “for the purpose of assuring adequate provision for research on scientific and medical problems relating to the national defense.”²⁹ This new agency would spend over half a billion dollars on scientific research during the course of the war.

Many contributors to *The JI* benefited from OSRD funding during the war. A total of 23 articles described research funded in whole or in part by OSRD contracts, and the May 1946 issue featured five articles with OSRD funding—one-half of the content for that issue. The OSRD-funded articles in *The JI* reflected the changing needs of the military; the earliest of these articles described research on perennial threats, such as tetanus, typhus, and syphilis, whereas later articles dealt with diseases faced by soldiers fighting in the Pacific, such as dysentery and malaria. These papers were studies in basic research, as well as new and improved diagnostic and treatment options, including vaccine and penicillin research.

Seymour Halbert (AAI ’47), Stuart Mudd (AAI ’27), and Joseph Smolens (AAI ’43) of the University of Pennsylvania published three articles on aspects of Shigella, which had caused several severe outbreaks of dysentery in all theaters of the war.³⁰ Two OSRD-funded articles described methods of producing the *Clostridium perfringens* alpha-toxin, the agent responsible for gas gangrene. Although both incidence and mortality of gas gangrene had declined sharply since WWI, prevention of the debilitating condition remained a priority for

25. The average article length in 1941 was 12.7 pages. With the new format in 1942, the average article length was 10.1 pages.

26. Ernest Kanzlee, “Part 3133—Printing and Publishing: Limitation Order L-241,” *Federal Register* 8 (January 9, 1943): 357.

27. Amory Houghton, “Part 1106—Printing and Publishing: General Conservation Order M-99,” *Federal Register* 7 (August 7, 1942): 6146.

28. The wording of Order M-99, while technically including individuals, was clearly intended to apply to companies, as its primary effect was to compel printers and publishers to certify that they had no obsolete plates in their possession before obtaining new metal.

29. Franklin D. Roosevelt: “Executive Order 8807 Establishing the Office of Scientific Research and Development” (June 28, 1941).

30. S. B. Hays et al., *Preventive Medicine in World War II. Volume IV: Communicable Diseases Transmitted Chiefly Through Respiratory and Alimentary Tracts* (Washington, D.C.: Office of the Surgeon General, Department of the Army, 1958), 393.



the military.³¹ Michael Heidelberger (AAI '35, president 1946–47, 1948–49) and various co-authors, including Manfred Mayer (AAI '46, president 1976–77), published a series of five articles detailing their unsuccessful quest to find a malaria vaccine. Even with the relative luxury of a large population of volunteer subjects for research and over \$5.5 million spent on malaria research, that goal remained out of reach.³²

At the outset of the war in Europe, penicillin had not yet been used to successfully treat bacterial infections in humans. A few years into the war, however, this changed, and there was an urgent need to understand the antibiotic properties of penicillin and to ramp up production of the new drug. In the United States, the OSRD and pharmaceutical companies were largely responsible for initiating this research.

Although there was only one OSRD-funded paper on penicillin research,³³ the OSRD recommended or supplied penicillin for two other experiments that were published in *The JI*.³⁴ Werner Henle (AAI '38, president 1962–63) and Gertrude Henle focused their research on influenza during WWII from their lab at the University of Chicago; the pair received OSRD contracts for human subject research that resulted in two articles in *The JI*.³⁵

The Army Epidemiological Board

Many contributors to *The JI*, the Henles among them, received wartime funding from the Board for the Investigation and Control of Influenza and Other Epidemic Diseases in the Army (later shortened to the Army Epidemiological Board). At the urging of Brigadier General James S. Simmons, Chief of Preventive Medicine in the Office of the Surgeon General during WWII, and his deputy, Stanhope

Bayne-Jones (AAI '17, president 1930–31), the War Department approved the Board in January 1941 to “prevent catastrophic outbreaks of disease.”³⁶ Influenza was a high priority for the military, as the pandemic during WWI had been one of the largest sources of medical non-battle casualties in the U.S. Army abroad and at home. Among the 17 initial board members and commission directors were nine AAI members, including four past presidents, two future presidents, and six long-time members of *The JI* editorial staff, four of whom were editing the journal throughout the war. Bayne-Jones served as the first administrator of the Board, and Francis G. Blake (AAI '21, president 1934–35) was its first president. Among

the other prominent AAI members and editors of *The JI* who served with the Board were Oswald T. Avery (AAI '20, president 1929–30), Alphonse R. Dochez (AAI '20, president 1931–32), and Thomas Francis, Jr. (AAI '30, president 1949–50). In the next two years, John F. Enders (AAI '36, president 1952–53) joined the Commission on Measles and Mumps, and Karl F. Meyer (AAI '22, president 1940–41) joined the Commission on Tropical Diseases, adding two more active editors of *The JI* to the Board.

Albert Sabin (AAI '46) served on the Board's Commission on Neurotropical Virus Diseases and in 1943, went to Cairo to set up a lab for the study of sandfly fever, infectious hepatitis, and poliomyelitis.³⁷ Sabin was very pleased with the results of his research in the field, especially on sandfly fever, which also shed light on other mosquito-borne diseases, such as dengue.³⁸



Board for the Investigation and Control of Influenza and other Epidemic Diseases in the Army, c.1941

Images from the History of Medicine, National Library of Medicine

31. Clinton K. Murray, Mary K. Hinkle, and Heather C. Yun, “History of Infections Associated With Combat-Related Injuries,” *Journal of Trauma Injury, Infection, and Critical Care* 64, Supp. 3 (2008): S226.
32. Michael Heidelberger, Manfred M. Mayer, and Constance R. Demarest, “Studies in Human Malaria I. The Preparation of Vaccines and Suspensions Containing Plasmodia,” *The Journal of Immunology* 52, no. 4 (1946): 325–30.
33. John E. Blair, Miriam Carr, and Joseph Buchman, “The Action of Penicillin on Staphylococci,” *The Journal of Immunology* 52, no. 3 (1946): 281–92.
34. Lowell A. Rantz and William M. M. Kirby, “The Action of Penicillin on the *Staphylococcus* in Vitro,” *The Journal of Immunology* 48, no. 6 (1944): 335–43; Henry Welch, Ruth P. Davis, and Clifford W. Price, “Inhibition of Phagocytosis by Penicillin,” *The Journal of Immunology* 51, no. 1 (1945): 1–4.
35. Werner Henle et al., “Experiments on Vaccination of Human Beings against Epidemic Influenza,” *The Journal of Immunology* 53, no. 1 (1946): 75–93; “Experimental Exposure of Human Subjects to Viruses of Influenza,” *The Journal of Immunology* 52, no. 2 (1946): 145–65.
36. Theodore E. Woodward and Center of Excellence in Military Medical Research and Education, *The Armed Forces Epidemiological Board: Its First Fifty Years* (Falls Church, VA.: Office of the Surgeon General, Department of the Army, 1990), 15.
37. Woodward and Center of Excellence, 57.
38. Letter from Sabin, Albert B., to Riley, William A., dated 1944-04-28, found in Correspondence, General—1943–63—Military Service, Sandfly Fever, Hauck Center for the Albert B. Sabin Archives, Henry R. Winkler Center for the History of the Health Professions, University of Cincinnati, Cincinnati, OH.

Among the many accomplishments of the board were successful treatments or vaccines for pneumonia, influenza, typhoid, typhus, tetanus, diphtheria, and numerous tropical diseases, as well as new understanding of the transferability of cellular immunity and the technique for fluorescent labeling of antibodies. *The JI* was among the journals publishing research produced by the various commissions.



World War II scrap drive poster, c. 1942

Library of Congress

bacteriophages, polio, and the discovery of a new disease. During the war, Mary Hewitt Loveless (AAI '41) completed her influential five-part series, "Immunological Studies of Pollinosis."³⁹ The power of the electron microscope, invented the previous decade, was harnessed to begin the investigation of the processes, mechanisms, and structure of antibodies. Alfred D. Hershey (AAI '42) completed his six-part series on "Specific Precipitation" and multiple papers on phage-antiphage reaction.⁴⁰

Polio remained a disease of constant concern on the homefront during the war. Although no major discoveries regarding polio were made during the war, the research helped set the stage for the post-war breakthroughs. In *The JI*, 12 papers on polio were published with contributions from 12 different authors at seven institutions. The authors included Beatrice F. Howitt; Joseph L. Melnick (AAI '48), a pioneering virologist; and Ulrich Friedemann, a refugee of Nazi Germany. All of the articles were funded by the National Foundation for Infantile Paralysis (commonly known as the March of Dimes), an organization that quickly became a major sponsor of polio treatment and research.⁴¹

In the September 1944 issue, the discovery of the Semliki Forest Virus (SFV) by Kenneth C. Smithburn (AAI '37) and Alexander J. Haddow of the Yellow

Fever Research Institute in Entebbe, Uganda, was published.⁴² Although the discovery of SFV might not have been recognized as a major breakthrough at the time, it has since become a workhorse in immunology. Generally, non-lethal in humans, the virus makes an excellent vector and is used extensively in biological research because it has broad host range and incredibly efficient replication. It is used as a vector to transmit genes encoding vaccines (for viruses of public health interest, such as Chikungunya) and vaccines for cancers that are virally induced. SFV has also been used to treat cancer because it has high anti-tumor properties and therefore, enhances the immune response against solid tumors.

Non-military Research

The JI continued to publish research, independent of the military, on a broad spectrum of topics, including allergic reactions, new technologies,

Wartime Diversity

The JI became a home for a greater diversity of authors and institutions from around the world during the war. It published papers from Jonas Salk (AAI '47) and Alfred Hershey well before they were internationally recognized. Five papers were published to complete a Ph.D. requirement, including that of Abram B. Stavitsky (AAI '50). It published papers from a wide range of institutions, including universities, government facilities, and pharmaceutical companies. Of the 124 articles published during the WWII, 35.9 percent had at least one female author. Manuscripts were accepted from Australia, Brazil, Chile, Egypt, Ireland, Iceland, Israel, Mexico, Sweden, Turkey, and Uganda. *The JI* also published papers from scientists who had fled the Nazi regime, including immunologists Werner and Gertrude Henle, Manfred M. Mayer, Felix Haurowitz (AAI '48), Hilary Koprowski (AAI '46), Ernest Witebsky (AAI '35), and pioneering biomathematician Felix Bernstein.

Faced with changes in research caused by two world wars, *The JI* held true to its mission of publishing peer-reviewed articles at the forefront of immunological research. Following the return to peacetime after WWII, the Cold War would soon begin, and a "Doctor Draft" would affect the research of the next generation of immunologists; this will be explored in the next *AAI Newsletter*.

Authors: John S. Emrich, Ph.D., AAI Historian;
Charles Richter, AAI History Intern

Editors: Mary I. Bradshaw, Senior Director of
Communications and Development;
Daniel S. Patrell, Director of Communications

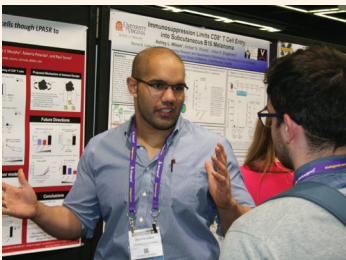
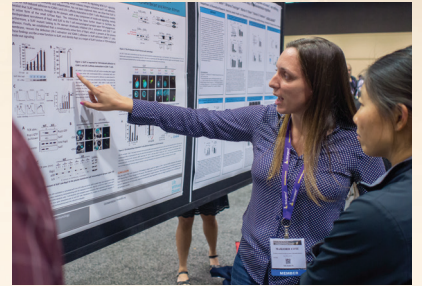
39. Mary Hewitt Loveless, "Immunological Studies of Pollinosis: I-V," *The Journal of Immunology* 38, no. 1 (1940): 25–50; 41, no. 1 (1941): 15–34; 44, no. 1 (1942): 1–8; 47, no. 2 (1943): 165–80; 47, no. 4 (1943): 283–92.

40. Alfred D. Hershey, "Specific Precipitation I–VI," *The Journal of Immunology* 42, no. 4 (1941): 455–84; 42, no. 4 (1941): 485–513; 42, no. 4 (1941): 515–301; 45, no. 1 (1942): 39–50; 46, no. 4 (1943): 249–61; 48, no. 6 (1944): 381–401.

41. Established in 1938, the organization was officially renamed the March of Dimes Birth Defects Foundation in 1976 and March of Dimes Birth Foundation in 2007.

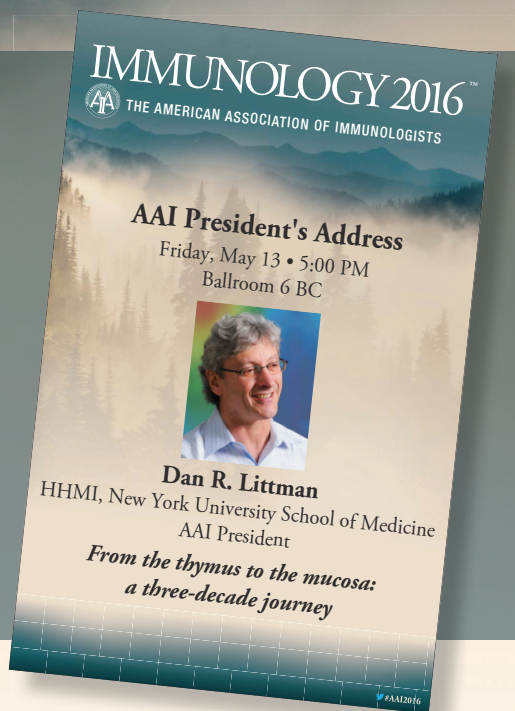
42. Kenneth C. Smithburn and Alexander J. Haddow, "Semliki Forest Virus I. Isolation and Pathologic Properties," *The Journal of Immunology* 49, no. 3 (1944): 141–57. The Yellow Fever Research Institute, Entebbe, Uganda, was supported jointly by the Medical Department of the Uganda Protectorate and the International Health Division of The Rockefeller Foundation.

IMMUNOLOGY 2016™



2016 AAI Annual Meeting Highlights | May 13–17, 2016 | Seattle, WA

Drawing attendees from 46 countries, IMMUNOLOGY 2016™ attracted over 4,000 participants to Seattle, May 13-17. Held at the Washington State Convention Center, the meeting featured leading-edge immunology presented in more than 235 sessions spotlighting more than 750 AAI and guest society members and over 1,800 poster presenters. In addition to the scientific program, attendees took advantage of numerous career sessions and networking opportunities including the high-energy social events. More than 750 attendees received AAI career or travel awards, and all enjoyed the beautiful scenery and local color of the great Pacific Northwest!

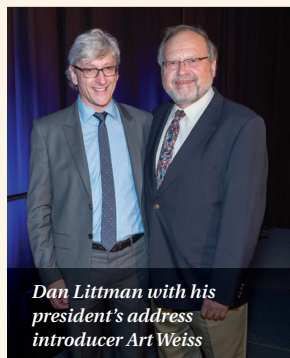


AAI Presidents Program & Distinguished Lectures

AAI President's Address

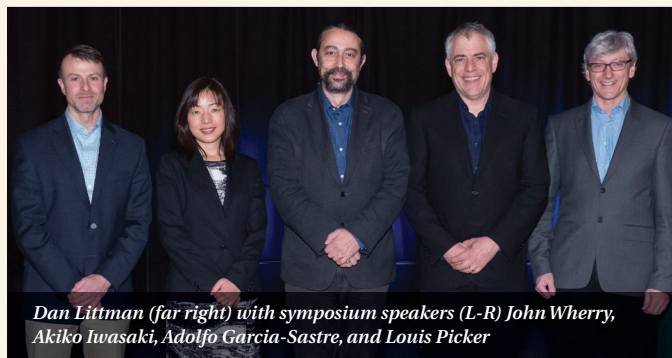


AAI President Dan Littman presenting the meeting's opening address



Dan Littman with his president's address introducer Art Weiss

AAI President's Symposium



Dan Littman (far right) with symposium speakers (L-R) John Wherry, Akiko Iwasaki, Adolfo Garcia-Sastre, and Louis Picker

AAI Distinguished Lectures



Lecturer Ulrich von Andrian with Program Chair Wendy Havran



Lecturer Susan Pierce with Dan Littman



Lecturer John O'Shea

IMMUNOLOGY 2016™

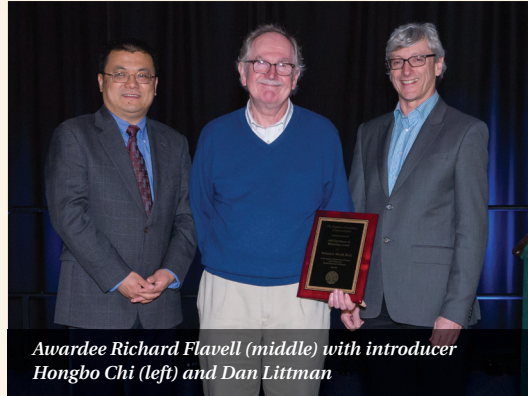
AAI Honors for Career Achievement and Service

AAI Lifetime Achievement Award Presentation



Lifetime Achievement honoree Olivera Finn with Dan Littman

AAI Excellence in Mentoring Award Presentation



Awardee Richard Flavell (middle) with introducer Hongbo Chi (left) and Dan Littman



AAI-Thermo Fisher Meritorious Career Award Presentation and Lecture



Awardee Kenneth Murphy (middle) with Thermo-Fisher's Christoph Hergersberg (left) and Dan Littman

AAI-BioLegend Herzenberg Award Presentation and Lecture



Awardee John Kearney (middle) with (L-R) BioLegend's Gene Lay, Leonore Herzenberg, Dan Littman, and BioLegend's Craig Monell

AAI-BD Biosciences Investigator Award Presentation and Lecture



Awardee Ming Li (middle) with BD Biosciences executive Robert Balderas (left) and Dan Littman

AAI-Steinman Award for Human Immunology Presentation and Lecture



Awardee Lieping Chen (left) with Dan Littman

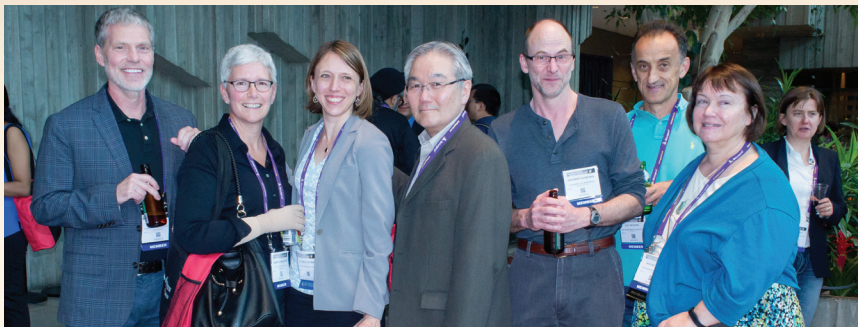
AAI Distinguished Service Award Presentation



Awardee Mitch Kronenberg (middle) with Dan Littman and Michele Hogan

2016 AAI Annual Meeting Highlights | May 13–17, 2016 | Seattle, WA

Opening Night Welcome Reception - Sponsored in part by the Fred Hutchinson Cancer Research Center



New Member Reception

At this annual event, members of AAI Council, AAI committee chairs and members, and staff welcomed new members attending their first AAI meeting. The 164 new members in attendance represented more than 1,300 first-time members welcomed by AAI for 2016.



IMMUNOLOGY 2016™

Exhibit Hall

Exhibitors and attendees explored the latest in research tools and resources in the IMMUNOLOGY 2016™ exhibit hall. Anchored by the AAI booth and that of *The JI* celebrating the 100th anniversary of the journal, the exhibit floor included booths representing 155 companies and organizations, a more than 10 percent increase over 2015.



2016 AAI Annual Meeting Highlights | May 13–17, 2016 | Seattle, WA

AAI Professional Development Awards

Chambers-eBioscience Memorial Award



Awardee Vinit Kumar (left) with eBioscience's Trent Colville

Lefrançois-BioLegend Memorial Award



Awardee Michael Constantinides (right) with BioLegend's Craig Monell

Pfizer-Showell Travel Award



Awardee Li-Fan Lu (right) with Dan Littman

Lustgarten-eBioscience Memorial Award



Awardee Margaret Bynoe (middle) with (L-R) Dan Littman and eBioscience's Trent Colville

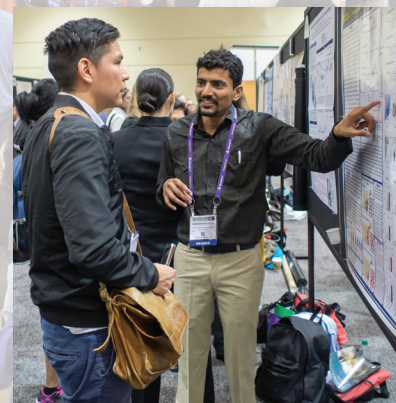
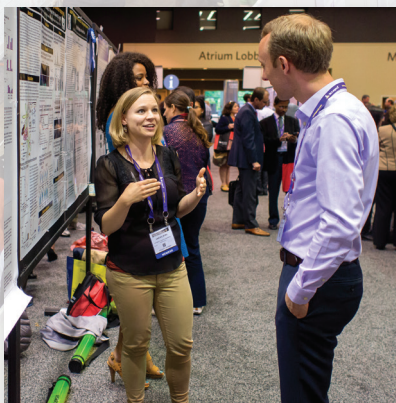
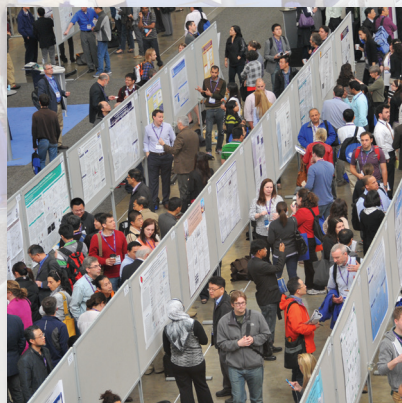
AAI-Thermo Fisher Trainee Achievement Awards



Awardees (L-R) Zhenyu Zhong, Si Ming Man, Xiaodi Wu, Emma Kuan, Timothy O'Sullivan, and Timotheus Y. F. Halim

Poster Sessions

Scientific presentations featured immunologists at every career stage and included poster presentations by 1,878 scientists and trainees, reflecting a nearly 9 percent jump in abstract submissions over 2015.



IMMUNOLOGY 2016™

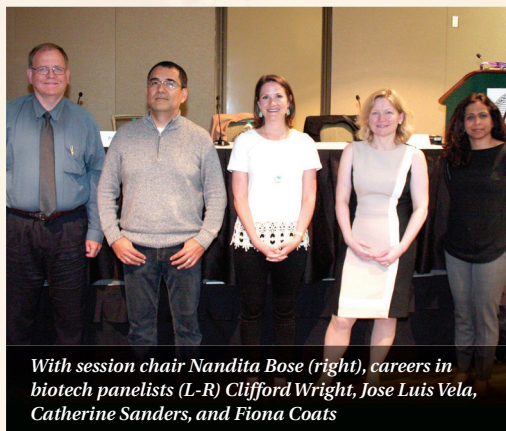
AAI Committee-Sponsored and Career Sessions

AAI Committee on Public Affairs Session: Hot Topics in NIH Funding and Research Policy



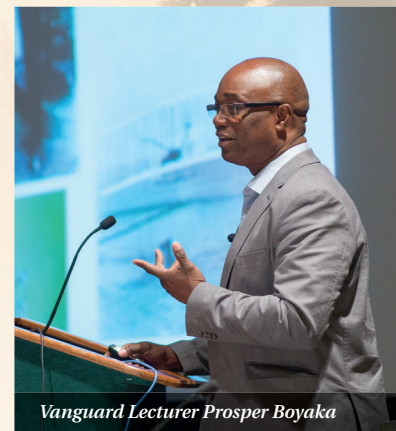
With Dan Littman (right) and session chair Clifford Harding (left), NIH funding and research policy panelists (L-R) Richard Nakamura, Gail Bishop, and Richard Hodes

AAI Education Committee Careers in Biotech Panel Discussion & Networking



With session chair Nandita Bose (right), careers in biotech panelists (L-R) Clifford Wright, Jose Luis Vela, Catherine Sanders, and Fiona Coats

AAI Minority Affairs Committee — Vanguard Lecture



Vanguard Lecturer Prosper Boyaka

AAI Education Committee and Committee on the Status of Women Careers in Science Roundtable



AAI Program Committee Workshop: Back to School - A Review of Four Fast-Moving Fields



With session chairs (at left) Wendy Havran and Frances Lund, Program Committee workshop panelists (L-R) Leonard Shultz, Garry Nolan, Helen Su, and John Chang

AAI Minority Affairs Committee Careers Roundtable and Speed Networking Session



AAI Publications Committee Session: Scientific Publishing - Writing, Responding to Reviewers, and Adhering to Ethical Standards



Session chairs/speakers Eugene Oltz and Pam Fink (at left) and speaker Kristin Hogquist (right) with AAI Publication Director Kaylene Kenyon

2016 AAI Annual Meeting Highlights | May 13–17, 2016 | Seattle, WA

Converting CV to Resumé



One-on-One Career Counseling



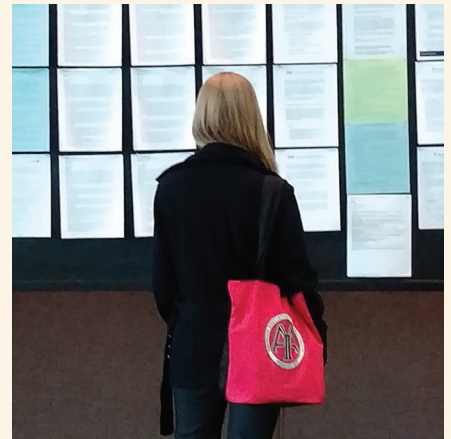
NIH Grants Workshop



Immunology Teaching Interest Group



Jobs Board for Employers, Job Seekers



Interviewing for a Job



IMMUNOLOGY 2016™

AAI Service Appreciation Reception - Cirrus Ballroom, Sheraton Seattle, Sponsored by BioLegend



2016 AAI Annual Meeting Highlights | May 13–17, 2016 | Seattle, WA

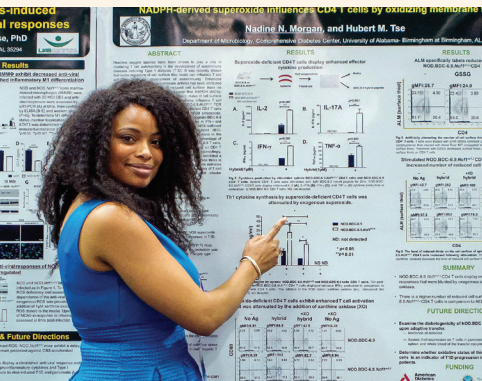
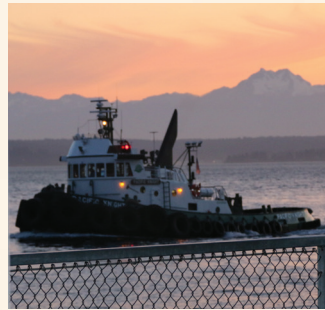
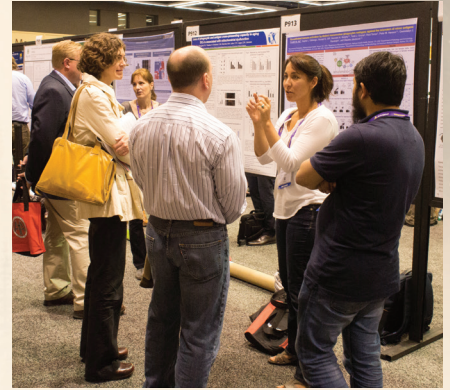
AAI Gala - Experience Music Project (EMP) Museum, *Sponsored by BioLegend*

A brief Monorail ride from the Seattle convention center, the world famous EMP Museum indulged attendees' penchants for popular music and science fiction! Displays featured guitars signed by rock legends, hand-written lyrics, costumes and props from popular sci-fi films, and more. Attendees danced to a phenomenal live band, recorded their own performance in the EMP's Sound Lab, and enjoyed drinks and food by Wolfgang Puck!



IMMUNOLOGY 2016™

See you in Washington, D.C.! Visit www.IMMUNOLOGY2017.org!



The IMMUNOLOGY 2016™ bag makes the perfect companion on your trips abroad, such as this bag spotted in Turks and Caicos!

IMMUNOLOGY 2017™

SAVE THE DATE

MAY 12-16, 2017

WALTER E. WASHINGTON
CONVENTION CENTER

WASHINGTON, DC

www.IMMUNOLOGY2017.org



Highlights of 2016 AAI Business Meeting

The annual AAI Business Meeting and Awards Presentation convened this year during IMMUNOLOGY 2016™, May 13–17, in Seattle, Washington. At this business session, held Saturday, May 14, from 1:00 to 2:30 PM in Room 615 of the Washington State Convention Center, AAI leaders and staff presented the annual report on the association and *The Journal of Immunology*. The session also featured certain 2016 awards presentations and acknowledgments.



AAI Executive Director M. Michele Hogan called the meeting to order at 1:00 PM, welcoming all present. Dr. Hogan asked all in attendance to observe a moment of silence in honor of members whose deaths had occurred or become known during the previous year.

Hogan reported robust attendance for IMMUNOLOGY 2016™, citing more than 3,500 registrants from 46 countries,

1,934 abstract submissions, and 156 exhibitors. She described the rich menu of scientific sessions and lectures, social events, and career development resources available for attendees. Hogan acknowledged the many contributions of the sponsors of the 2016 meeting. Premier sponsors of IMMUNOLOGY 2016™ include BioLegend, eBioscience—an Affymetrix business, FASEB MARC, Thermo Fisher Scientific, BD Biosciences, STEMCELL Technologies, Sanofi, MilliporeSigma, Fred Hutchinson Cancer Research Center, Miltenyi Biotec, Genentech, Sheridan Journal Services, Sony, Kyowa Hakko Kirin California, Garland Science, Bio-Rad Laboratories, HistoTox Labs, NanoString, Boster, IntelliCyt, Quad Technologies, Bio X Cell, and Henry J. Showell/Pfizer.

Hogan reviewed current membership demographics by category and geography. Year-end 2015 total memberships (regular, trainee, emeritus, and associate member scientists) were 7,750 at the close of 2015, up slightly from the 2014 total. Based on scientists' residency, AAI membership remains nearly 80 percent from the United States and 20 percent international.

Hogan noted that AAI support for awards has nearly tripled since 2013, rising to more than \$2.6 million in 2016. For IMMUNOLOGY 2016™, AAI awarded more than \$675,000 in travel awards to 773 members. The largest AAI awards program, the Careers in Immunology Fellowship program, providing PIs

with salary support for trainee lab members, awarded 46 fellowships in 2015. AAI received 86 applications for the 2016 fellowships, up from 78 the previous year, and the budget for fellowships for 2016–2017 has been increased to \$1.7 million, up from \$1.6 million last year. Hogan said that recipients would be announced soon after the annual meeting. Three AAI Travel for Techniques grants were funded for the 2016 winter cycle for an anticipated \$4,500 in total support. Two more funding cycles remain for the year. Hogan reported that the AAI Outreach Program continues to provide robust support for member-organized regional immunology meetings, supporting 12 domestic immunology meetings in 2016 alone. AAI has supported more than 480 young investigators with travel grants and awards for these meetings since the program's founding in 2011.

AAI is also lending strong support for members to participate in international immunology meetings. Hogan announced that AAI allocated funds totaling more than \$550,000 to support travel for approximately 230 members to the 2016 International Congress of Immunology in Melbourne, Australia, in August.

AAI Committee on Public Affairs Chair Clifford Harding



provided a brief summary of AAI public affairs activities. Harding opened with a report on the current state of the National Institutes of Health (NIH) budget. The agency received \$32.3 billion for fiscal year (FY) 2016, an increase of \$2 billion. AAI was very pleased with this outcome and hopes that Congress will build on it in FY 2017. Harding also

reported on the current status of the FY 2017 budget for NIH.

He touched on some other key funding and policy issues, including Congressional gridlock over funding to combat Zika virus, the National Cancer Moonshot led by Vice President Joe Biden, and NIH efforts to enhance rigor and transparency.

Dr. Harding also announced the winners of the 2015 Public Affairs Awards. AAI selected Senator Barbara Mikulski (D-MD) to receive its 2015 Public Service Award and National Institute of Allergy and Infectious Diseases (NIAID) Principal Deputy Director Hugh Auchincloss to receive its 2015 Public Affairs Recognition Award.

Harding concluded his remarks with an update on the AAI Public Policy Fellows Program (PPFP), a program designed to provide early career scientists with an opportunity to learn about and participate in AAI public affairs activities. He introduced the 2016–2017 fellows, who began their fellowship year on May 1, 2016, and shared pictures from the 2016 PPFP Capitol Hill Day.



Pamela J. Fink, Editor-in-Chief (EIC) of *The Journal of Immunology* (*The JI*), reported on operations and initiatives for the journal. Dr. Fink recognized the members of the AAI Publications Committee, thanked outgoing Section Editors, and acknowledged new editors beginning their service on July 1, 2016. Fink reported

publishing data, noting that *The JI* is cited more than any other immunology journal. Fink noted that 2,500 manuscripts were submitted in 2015, down from 3,045 in 2014. She attributed the drop to decreased NIH funding and the proliferation of online journals. She urged members to submit their manuscripts to *The JI* and to cite articles published in *The JI* whenever they write a manuscript, regardless of where it will be published. She noted that 46 percent of manuscripts submitted to the journal are published and that the average time from submission to initial decision continues to narrow. Fink cited new features of *The JI*, including the new “Novel Immunological Methods” and “Systems Immunology” sections. In addition, in January 2017, the journal will feature a series of “Brief Reviews” on “The Macro Influence of the Microbiome.” Furthermore, the maximum length for “Cutting Edge” manuscripts has been increased.

Fink described initiatives to mark the 100th anniversary of *The Journal of Immunology*, including articles describing the history of *The JI* that will be on the journal’s Website throughout the year, as well as published in the *AAI Newsletter*. She invited all present to attend the Sunday, May 15, Publications Committee-sponsored session and to visit the journal’s booth in the Sky Bridge to learn more of the journal’s history and view the “art gallery” of covers displayed there.

The following awards were presented, with Hogan presiding:

Distinguished Service Award to Mitchell Kronenberg, Ph.D., President and Chief Science Officer, La Jolla Institute for Allergy and Immunology, for outstanding service to AAI and the immunology community as Secretary-Treasurer of AAI, 2009-2015

Pfizer-Showell Travel Award to Li-Fan Lu, Ph.D., Assistant Professor, University of California, San Diego

Lustgarten-eBioscience Memorial Award to Margaret S. Bynoe, Ph.D., Associate Professor, Cornell University

Chambers-eBioscience Memorial Award to Vinit Kumar, Ph.D., Staff Scientist, The Wistar Institute

Lefrancois-BioLegend Memorial Award to Michael G. Constantinides, Ph.D., Postdoctoral Fellow, NIAID, NIH

AAI-Thermo Fisher Trainee Achievement Awards to

- Timotheus Y. F. Halim, Ph.D., Postdoctoral Fellow, Medical Research Council Laboratory of Molecular Biology
- Emma L. Kuan, Ph.D., Postdoctoral Research Associate, Benaroya Research Institute
- Si Ming Man, Ph.D., Postdoctoral Fellow, St. Jude Children’s Research Hospital
- Timothy E. O’Sullivan, Ph.D., Research Scholar, Memorial Sloan Kettering Cancer Center
- Xiaodi Wu, Graduate Student, Washington University School of Medicine
- Zhenyu Zhong, Ph.D., Postdoctoral Fellow, University of California, San Diego

The meeting was adjourned by Executive Director Hogan at 2:30 PM.

The Proud History of AAI

1913–2016



Chronicling the AAI Legacy. AAI staff historians and scientists are rigorously researching, archiving, and publishing materials to preserve the proud heritage of the association. Articles posted in the history section of the AAI website, www.aai.org/about/history, include:

- The Founding of AAI
- Industry Representation in Early AAI
- The Science at the First AAI Annual Meeting
- The Founding of *The Journal of Immunology*
- “Studies in Anaphylaxis”: The First Article in *The Journal of Immunology*
- Country Doctor, Pioneering Parasitologist, and the Father of Preventative Dentistry—Charles C. Bass
- Elise Strang L’Esperance: Pioneer in Cancer Prevention and Recipient of Lasker Award
- Immunologists during the First World War: One Soldier-Scientist’s Experience—Stanhope Bayne-Jones
- The 1918–1919 Influenza Pandemic as Covered in *The Journal of Immunology*
- Anna Wessels Williams: Infectious Disease Pioneer and Public Health Advocate
- 100 Years of AAI: A Look Back at Two Early Immunologists in Hawaii
- PI in the Scotland Yard of Streptococcal Mysteries—Rebecca Lancefield
- What’s Old is New Again: Early Editors of *The JI* Act to Address Perennial Challenges in the Peer-Review and Editing Process
- A Legacy of Advocacy Is Born as AAI Confronts McCarthyism
- The Founding of AAI Summer Courses in Immunology
- Creating a Buzz in the Field of Immunology: Mary Hewitt Loveless and the Development of Venom Therapy for the Prevention of Sting-Induced Anaphylaxis
- The Emergence of Immunology in Pittsburgh
- Immunology at the Mouth of the Mighty Mississippi: Diseases and Institutions that Shaped Research in Louisiana
- IMMUNOLOGY 2016™: The 100th AAI Annual Meeting

Explore the history of AAI at
www.aai.org/about/history

AAI Website

The history section of the AAI website continues to evolve as a living archive. Current and future resources include:

- AAI history articles published in the *AAI Newsletter*
- Oral History Project—exclusive interviews offering a rare glimpse into the lives and times of influential immunologists
- Digital Immunology Timeline, including all the images from the physical Centennial Timeline as well as citations for the scientific events
- Profiles of notable AAI members, including AAI Nobel and Lasker recipients, and past presidents and officers
- An eBook of commentaries on “Pillars” articles from *The Journal of Immunology*
- AAI Story Booth—attendees’ stories of events that shaped their careers in immunology, recorded at the past three annual meetings

GRANT AND AWARD DEADLINES

October 31

Warren Alpert Foundation Prize

- **Prize/Award:** Prize of \$250,000, along with award citation, plaque, and special scientific symposium in recognition of scientific achievement that has led to the prevention, cure, or treatment of human diseases or disorders
- **Eligibility:** Individual or team scientists whose research constitutes a seminal scientific finding of great promise for ultimately changing disease understanding and/or treatability; nominees may be from any country; nominations are accepted from academic institutions, centers of research, government, or other biomedical institutions from around the world
- **Details:** <http://www.warrenalpert.org/home/>
- **Contact:** (617) 432-2116; edward_canton@hms.harvard.edu

November 3

2017 AAI Career Awards

- **Prize/Award:** Multiple awards recognizing early- and mid-career scientific achievement in immunology (including achievement specifically related to human immunology), distinguished service to AAI and the field, and excellence in mentoring the next generation of scientists; included are awards conferring prizes ranging from \$5,000 to \$10,000
- **Eligibility:** Any AAI member in good standing nominated by another AAI member in good standing
- **Details:** www.aai.org/Awards/Career/index.html
- **Contact:** awards@aai.org

GRIP

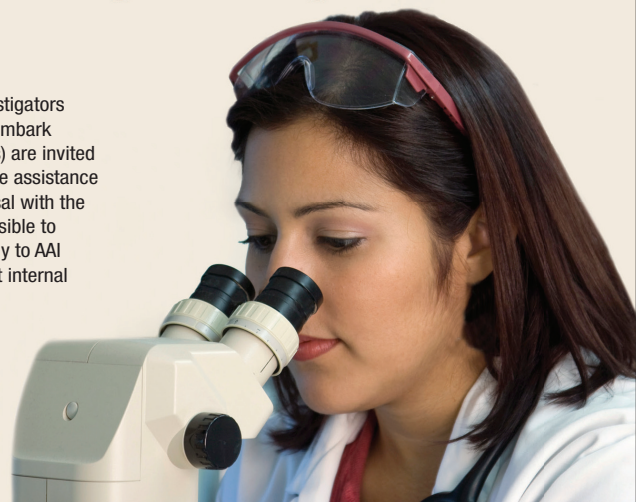
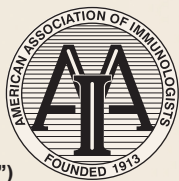
Grant Review for Immunologists Program

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

The AAI Grant Review for Immunologists Program (GRIP) offers new principal investigators (PIs) access to established PIs for guidance in preparing grant proposals as they embark on their independent careers. Early-career PIs (assistant professors or equivalents) are invited to submit their grants' "Specific Aims" pages to the GRIP coordinator who, with the assistance of a small volunteer subcommittee, will attempt to match each topic of the proposal with the research experience of an established PI. Matches will be made as quickly as possible to allow participants to meet upcoming NIH grant deadlines. Participation is open only to AAI regular members and is strictly voluntary. The program is not intended to supplant internal mentoring programs at applicants' institutions.

To apply, please send your CV and the grant's "Specific Aims" page to infoaai@aai.org. (please write "GRIP" in the subject line)

To volunteer as a mentor, please send your CV and a brief description of your grant-reviewing experience to infoaai@aai.org. (subject line "GRIP")



Program details at aai.org/Education/GRIP

Meetings and Events Calendar

Mark Your Calendar for These Important Dates!

2016

October 24–27, 2016

19th Annual Upstate New York Immunology Conference

The Sagamore Resort and Conference Center
Bolton Landing, NY
www.amc.edu/NYIC/index.cfm

November 3, 2016

Conference on Clinical Research for Rare Diseases

Washington Marriott Wardman Park
Washington, DC
<http://www.rarediseasesnetwork.org/conference/index.htm>

November 7, 2016

William E. Paul Memorial Symposium

Masur Auditorium, NIH, Bethesda, MD
<https://ncifrederick.cancer.gov/events/WilliamPaulMemorial/default.asp>

November 9–12, 2016

Annual Biomedical Research Conference for Minority Students – ABRCMS

Tampa Convention Center, Tampa, FL
<http://www.abrcms.org/>

November 11–12, 2016

Basic Science Symposium: Liver Immunology At the The Liver Meeting®

John B. Hynes Veterans Memorial Convention Center, Boston, MA
<http://www.aasld.org/events-professional-development/liver-meeting/program-0/basic-science-symposium-liver-immunology>

November 18–21, 2016

Autumn Immunology Conference (AIC) 2016

Chicago Marriott Downtown, Chicago, IL
www.autumnimmunology.org/

December 4–6, 2016

97th Annual Conference of Research Workers in Animal Diseases (CRWAD)

Marriott Downtown, Chicago, IL
<http://crwad.org/>

December 6–9, 2016

Joint British Society for Immunology (BSI) and Dutch Society for Immunology (NVVI) Congress 2016

Arena Conference Centre, Liverpool, UK
www.bsicongress.com/2016

2017

January 28–31, 2017

56th Midwinter Conference of Immunologists at Asilomar

Pacific Grove, CA
www.midwconimmunol.org

March 9–11, 2017

4th International Congress on Controversies in Rheumatology & Autoimmunity

Bologna, Italy
<http://cora2017.kenes.com/>

March 26–29, 2017

LUPUS2017: 12th International Congress on SLE & 7th Asian Congress on Autoimmunity

Melbourne, Australia
<http://lupus2017.org/>

April 2–5, 2017

21st Annual Woods Hole Immunoparasitology Meeting

Marine Biological Laboratory, Woods Hole, MA
<https://immunoparasitology.org/>

April 7–10, 2017

30th Annual Canadian Society of Immunology Spring Meeting

The Banff Centre
Banff, Alberta
www.csi-sci.ca/scientificmeeting.aspx

May 12–16, 2017

IMMUNOLOGY 2017™

AAI Annual Meeting
Walter E. Washington Convention Center
Washington, D.C.
www.IMMUNOLOGY2017.org

July 11–16, 2017

2017 AAI Introductory Course in Immunology

UCLA Luskin Conference Center
Los Angeles, CA
www.aai.org/Education/Courses
www.autumnimmunology.org/

July 23–28, 2017

2017 AAI Advanced Course in Immunology

Seaport World Trade Center, Boston, MA
www.aai.org/Education/Courses

November 17–20, 2017

Autumn Immunology Conference (AIC) 2017

JW Marriott, Chicago, IL
www.autumnimmunology.org/

2018

May 4–8, 2018

IMMUNOLOGY 2018™

AAI Annual Meeting
Austin Convention Center
Austin, TX

www.aai.org/Meetings/Future_Meeting.html

November 16–19, 2018

Autumn Immunology Conference (AIC) 2018

Chicago Marriott Downtown
Chicago, IL
www.autumnimmunology.org/

2019

May 9–13, 2019

IMMUNOLOGY 2019™

AAI Annual Meeting
San Diego Convention Center
San Diego, CA
www.aai.org/Meetings/Future_Meeting.html

2020

May 8–12, 2020

IMMUNOLOGY 2020™

AAI Annual Meeting
Hawaii Convention Center
Honolulu, HI
http://www.aai.org/Meetings/Future_Meeting.html

IMMUNOLOGY 2017™



Mark These Important Dates!

ABSTRACT SUBMISSION

Abstract Submission Opens Nov. 22, 2016
Abstract Submission Closes Jan. 11, 2017

REGISTRATION

Registration Opens Dec. 20, 2016
Early Registration Discount Ends Mar. 30, 2017

AWARDS

Career Award Nominations Due Nov. 3, 2016
Travel Award & Grant Applications Due Jan. 11, 2017

HOUSING

Housing Reservations Now Open!
Discounted Hotel Rate Ends Apr. 20, 2017

Join AAI in Washington, D.C., for IMMUNOLOGY 2017™, the world's leading annual all-immunology event. Visit www.IMMUNOLOGY2017.org for the latest on the meeting's cutting-edge scientific program, career sessions, networking events, abstract submission, award opportunities, registration and housing discounts, and more.

AAI ANNUAL MEETING | MAY 12-16, 2017 | WALTER E. WASHINGTON CONVENTION CENTER | WASHINGTON, D.C.

AAI Career Advisory Board

Starting your first lab? Facing new and puzzling issues? If so, you probably wish to turn to a more senior scientist for guidance—but perhaps not one at your own institution. The AAI Career Advisory Board (CAB) is tailored specifically for you.

The CAB is a referral service to match early faculty who submit requests for guidance on specific career issues with more senior PIs having experience and insight in those areas, excluding members of your own faculty. You may also specify individuals not to be contacted on your behalf.

Eligibility: Although the CAB is sponsored by the Committee on the Status of Women, it is open to all early-faculty AAI members, both men and women.

Advisors: A pool of senior scientists—men and women—are volunteering to be “on call.” Topics include recruiting, handling personnel issues, timing for first grant submissions, building networks, teaching, balancing family and work, serving on NIH study sections, and more.



Visit www.aai.org/CAB.html to submit a request.

1916

100 years of *The JI* 2016

A Century of Excellence

Comprehensive • Authoritative • Foundational

AAI proudly celebrates the 2016 centennial of *The Journal of Immunology (The JI)*, the largest and oldest journal in the field.

Today, *The JI* offers unparalleled reporting on major advances in immunology research in all areas of experimental immunology, including

- Innate and adaptive immunity
- Inflammation
- Host defense
- Clinical immunology,
- Autoimmunity, and more.

Special sections include Cutting Edge articles, Brief Reviews and Pillars of Immunology.

The JI publishes novel findings that are fully peer-reviewed, rapidly published, and broadly cited, making it the working scientist's "first stop" for keeping up with major advances in all areas of experimental immunology. The three-tier review process practiced by *The JI* ensures a fair, in-depth evaluation of each paper. Yet the time from submission to first decision is, on average, less than 29 days and publication online follows acceptance in just four weeks.

The JI is cited more than any other immunology journal, and, at 8.6 years, the citation half-life of *The JI* is one of the longest of any journal in the field, indicating that the content is of enduring relevance and importance to the field.

AAI thanks the more than 3,000 practicing immunologists who review manuscripts for *The JI* each year in a conscientious and objective manner. All reviewers and editors of *The JI* are committed to publishing research that is rigorously performed and moves the field forward. The continued high quality of *The JI* depends upon the dedicated service of all of these individuals.

During this milestone year, AAI is featuring on the journal website several fun and informative articles on the history of *The JI* – visit <http://www.jimmunol.org/site/misc/Centennial/Centennial-TOC.xhtml>. With additional articles to be added throughout the year, items currently available include:

- Founding *The Journal of Immunology*
- Publications of Nobel Laureates in *The JI*
- 100 Most Cited Articles in *The JI*
- Editors-in-Chief, Past and Present
- *The JI* Articles Featured in Pillars of Immunology

Visit <http://www.jimmunol.org/site/misc/Centennial/Centennial-TOC.xhtml> in the months ahead to view additional articles as they become available.





You have the power.

Your membership in the American Association of Immunologists helps advance the field—and your career.

Being a part of AAI enables you to take an active role in helping to shape the future of immunology and attain your professional goals. You'll stand with members representing immunological research concerns on Capitol Hill. Plus, you gain access to:

- The best and brightest minds today.
- The world's largest annual all-immunology meeting.
- *The Journal of Immunology*, the pre-eminent peer-reviewed journal in the field.
- Many occasions and opportunities to present your research.
- Awards/fellowships/grants to support talented scientists in every career stage.

To renew your AAI membership and its contributions to your professional life, call 301.634.7195 or visit www.aai.org today.



Future AAI Annual Meetings

Mark Your Calendar for the Premier Annual Immunology Event!

2017



IMMUNOLOGY 2017™
May 12–16
Washington, D.C.

2018



IMMUNOLOGY 2018™
May 4–8
Austin, Texas

2019



IMMUNOLOGY 2019™
May 9–13
San Diego, California