



THE AMERICAN
ASSOCIATION OF
IMMUNOLOGISTS

AAI NEWSLETTER



IMMUNOLOGY2022™

PROGRAM PREVIEW

May 6–10, 2022

Oregon Convention Center | Portland, OR

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AAI President's Invitation to IMMUNOLOGY2022™



Dear Colleagues,

It is my enormous pleasure to invite you to the 105th annual meeting of The American Association of Immunologists (AAI), **IMMUNOLOGY2022™**, being held in person on May 6–10 in Portland, Oregon. This will be our first meeting in the beautiful city of Portland, and it

promises to be a spectacular event.

As I noted in my summer President's Message (see www.aai.org/About/Presidents-Message), this is an extraordinary time to be an immunologist. Our discipline has emerged front and center on the global stage as the world grapples with the worst pandemic in more than a century. Immunologists have been critical in helping to explain to an anxious public what we are facing. And, even more importantly, research carried out by immunologists has been instrumental in developing life-saving vaccines that are critical to leaving the COVID-19 emergency behind us.

As we all know, AAI members and other immunologists around the world have made enormous contributions over the past two years, not only related to COVID, but also to understanding the fundamental mechanisms of immune cell function and how these relate to protection of the host. Immunologists have continued to make great strides in better understanding the mechanisms of immune dysfunction leading to pathologies and how these may be treated by manipulating the immune system. In so many ways, despite the challenges the world is facing, this is a watershed moment for our field. It is this that we will be celebrating at our annual meeting in Portland as attendees showcase their most recent and exciting scientific discoveries.

In addition to discussing outstanding science, our annual meeting will be a wonderful opportunity for you to reconnect and network with colleagues and friends. In May, it will have been three long years since we were last able to gather in person as a community. Much has occurred during this time and, while Zoom and other online platforms have enabled us to keep in touch with colleagues from around the world, we have all learned that virtual gatherings are not nearly the same as meeting in person. This is especially true for our trainees and early career colleagues. I hope you will be able to join us in Portland and support the next generation of immunologists.

As highlighted below, **IMMUNOLOGY2022™** will feature the latest in scientific findings presented by investigators at every career stage and spotlighted in plenary and award lectures, special topics symposia, and abstract-driven sessions.

- It will be my privilege to present the President's Address, "Immunology: Building on the Past to Meet the Moment," to start the meeting officially on Friday evening, May 6, and to chair the President's Symposium, "From Fundamental Investigation to Revolutions in Health Care: Stories of Immunological Discovery," on May 9. I am delighted that this symposium will feature leaders in the field, including Arthur Weiss (AAI '81), Carl H. June (AAI '87), M. Virginia Pascual (AAI '09), and Raphaela T. Goldbach-Mansky (AAI '16).
- Each full day of the meeting will conclude with a Distinguished Lecture presented by one of three outstanding scientists: Robert D. Schreiber (AAI '76), Katherine A. Fitzgerald (AAI '06), and Yasmine Belkaid (AAI '13).
- Presentation of AAI Career Awards, which are among the leading professional honors given annually to immunologists, will take place throughout the meeting. These include the 2022 AAI Lifetime Achievement Award and 2022 AAI Excellence in Mentoring Award presentations, to be made in conjunction with the President's Address and President's Symposium, respectively.
- Eight Major Symposia, each featuring five to six leading investigators as presenters, will address a wide range of topics and cutting-edge research interests.
- Sessions organized by NIH institutes, guest societies from around the world, and many AAI committees will highlight intriguing topics.
- Presentation of unpublished data in the form of abstracts will again offer one of the most interactive aspects of the meeting. Selected abstracts will be presented in podium presentations (Block Symposia), and all abstracts will be featured in Poster Sessions scheduled daily during dedicated times unopposed by any other sessions.
- Leading companies and institutions will showcase the newest laboratory research tools, techniques, resources, programs, and services in over 100 booths in the AAI Exhibit Hall. Additionally, each day scientists from these organizations will present their most recent results and data in Exhibitor Workshops.

The meeting will also include dynamic career advancement sessions, social events, and unparalleled networking opportunities for which the AAI meetings are known.

This year you can attend:

- ♦ interactive roundtable sessions led by mentor-scientists addressing challenges and opportunities facing trainees and early career scientists
- ♦ sessions for developing a CV, interviewing for a job, and writing a successful NIH grant
- ♦ workshops featuring tips for a successful postdoctoral experience and enhancing your immunology teaching
- ♦ an interactive panel session featuring biotech professionals addressing careers in industry
- ♦ a (*new!*) session that will detail and give pointers regarding the all-important “Chalk Talk” and preparing for the faculty interview process.

Memorable social events will once again be the highlight of **IMMUNOLOGY2022™**. These will include the **Welcome Back! Reception** on May 6, following the President’s Address. This opening night reception will feature offerings from a lineup of Portland’s world-famous food trucks with cuisines for every taste. On May 9, the **IMMUNOLOGY2022™ Gala** will be held at the Portland Art Museum. Attendees will have access to all museum exhibits while connecting with colleagues. Food, drinks, and dancing on the Grand Ballroom dance floor will delight all.

In closing, let me affirm that nothing is more important when gathering in person than the public health considerations and safety of our attendees. Accordingly, all meeting registrants, staff, and other participants will be required to be fully vaccinated and provide official proof of WHO- or CDC-approved COVID-19 vaccination for access to the meeting. Also, **IMMUNOLOGY2022™** attendees can be assured that all meeting participants will be required to comply with vaccine, mask, distancing, and testing requirements for indoor and outdoor public settings, regardless of vaccination status, prevailing in Oregon and Portland at the time of the meeting. See detailed instructions and stay abreast of the latest updates by visiting www.IMMUNOLOGY2022.org.

I look forward to greeting you in person in May!

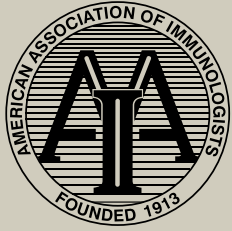
Sincerely,

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



AAI President





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To see a list of AAI staff, visit

www.aai.org/staff

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About the Cover

James E. Dunbar, known as "The Painter of Colorful Memories," is a Northwest native best known for his cityscapes featuring bridges and local landmarks of Portland, Oregon. His heavily sculptured oils and bold use of color composition have established his reputation as a highly sought-after commissioned artist whose work is owned by art lovers across the country, including in New York, Chicago, San Francisco, and Seattle. AAI is pleased to feature Mr. Dunbar's "Portland Oregon Sign #15" on this cover and his companion works as the motif throughout the Program Preview pages of this issue (pp. 3-63). Learn more about the artist at www.localartboutique.com.



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IMMUNOLOGY2022™

PROGRAM PREVIEW

All listings in the meeting program are subject to change.

AAI PRESIDENT'S PROGRAM

AAI President's Address

Generously supported by 10x Genomics

FRIDAY, MAY 6 • 5:00 PM

PORTLAND BALLROOM 252-255

Immunology: Building on the Past to Meet the Moment

Presentation of AAI Lifetime Achievement Award and recognition of the Distinguished Fellows of AAI Class of 2022 prior to President's Address

Gary A. Koretzky, Cornell Univ. and Weill Cornell Med., AAI President

Introduction

Arthur Weiss, HHMI, Univ. of California, San Francisco



Gary A. Koretzky

AAI President's Symposium

MONDAY, MAY 9 • 12:30 PM - 2:30 PM

PORTLAND BALLROOM 252-255

From Fundamental Investigation to Revolutions in Health Care: Stories of Immunological Discovery

Presentation of AAI Excellence in Mentoring Award prior to President's Symposium

Chair

Gary A. Koretzky, Cornell Univ. and Weill Cornell Med., AAI President

Speakers

Arthur Weiss, HHMI, Univ. of California, San Francisco
Early efforts to understand how the oligomeric T cell antigen receptor signals led to simplicity and complexity

Carl H. June, Univ. of Pennsylvania Perelman Sch. of Med.
Engineering the immune system as a new tool for cancer therapy

M. Virginia Pascual, Weill Cornell Med., Drukker Inst. for Children's Hlth.

A roadmap to personalized therapies for autoimmune diseases

Raphaela T. Goldbach-Mansky, NIAID, NIH
Autoinflammatory diseases in children



Arthur Weiss



Carl H. June



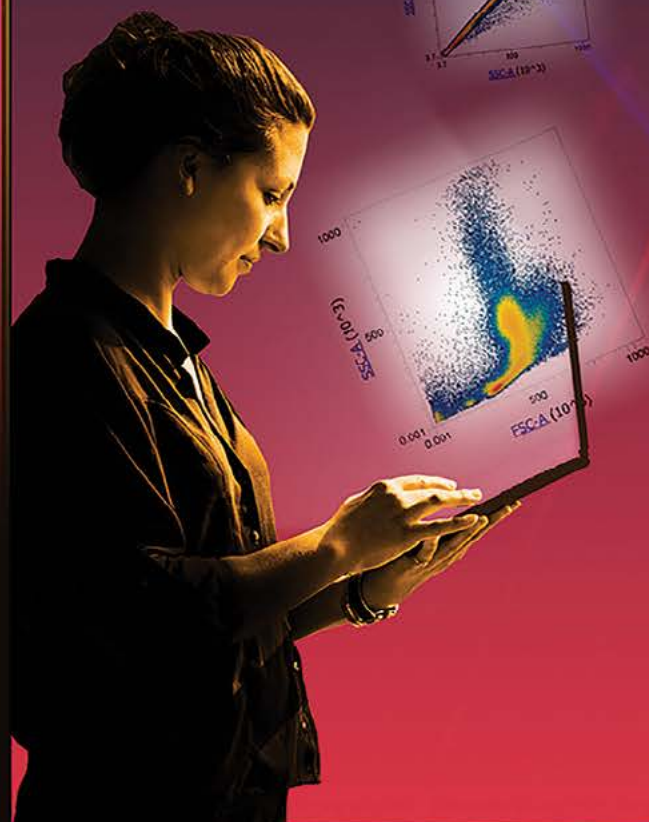
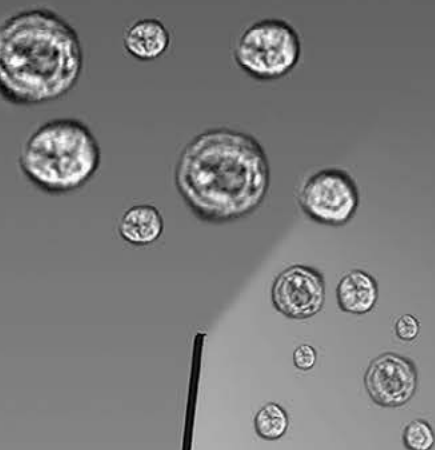
M. Virginia Pascual



Raphaela T. Goldbach-Mansky

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AAI President's Symposium Preview

From Fundamental Investigation to Revolutions in Health Care: Stories of Immunological Discovery

I was incredibly fortunate to become an immunologist at a turning point in our field. Molecular technologies were just developing and being applied to many life science disciplines. These approaches made it possible for immunologists to tackle questions that had vexed our field for decades, from understanding how a small set of genes could create an enormous repertoire of antigen-specific cells, to probing the basic biology of how immune cells develop and are then activated to combat foreign antigens without damaging the host. As both a physician and an immunologist, I was intrigued by how these molecular tools and our new understanding of fundamental immunology could be used to better understand human disease and how manipulation of the immune system could lead to novel therapeutic interventions.

In the 40 years since I earned my Ph.D., there has been one paradigm shift after another as our new understanding of basic immunology has positively impacted the care of patients in many areas of medicine. This year's President's Symposium, "*From Fundamental Investigation to Revolutions in Health Care: Stories of Immunological Discovery*," will highlight some of these amazing innovations.

For this symposium, I am thrilled to welcome four world-renowned colleagues, each of whom has made enormous contributions to our field. Art Weiss, Carl June, Virginal Pascual, and Raphaela Goldbach-Mansky are physician-scientists who have explored the basic biology of adaptive or innate immune cells and have uncovered unique mechanisms by which they function. These inspiring researchers have adapted their work to ask how the discoveries they and colleagues have made can be used to understand and/or treat illness. Their work has truly revolutionized our understanding of fundamental immunologic principles that are critical for human health.

Arthur Weiss, M.D., Ph.D., DFAAI (AAI '81), HHMI, is the Ephraim P. Engleman Distinguished Professor of Rheumatology and a professor of medicine and immunology at the University of California, San Francisco. He is also a past president of AAI (2008–2009). Dr. Weiss is a leader in the field of lymphocyte signaling, elucidating how complex molecular

interactions between cells can lead to developmental decisions, cell differentiation, and proliferation. More specifically, Weiss has focused on the roles of tyrosine kinases and phosphatases in regulating lymphocyte activation and how abnormalities in tyrosine phosphorylation pathways can lead to immunologically mediated diseases. Weiss's elucidation of how these biochemical signals are controlled has led to the development of new therapies that have helped numerous patients.

Carl H. June, M.D., DFAAI (AAI '87), is the Richard W. Vague Professor in Immunotherapy and the director of the Center for Cellular Immunotherapies at the Perelman School of Medicine, and the director of the Parker Institute for Cancer Immunotherapy at the University of Pennsylvania. Dr. June's groundbreaking research has focused on how T cells develop and become activated, findings then translated by June to adoptive immunotherapies. His research has described CD28 as integral in controlling T cell activation and has established culture systems to grow central memory T cells *in vitro*. He developed chimeric antigen receptor (CAR) T cells to combat HIV infection and lymphocytic leukemia. He secured the first FDA approval of CAR T cell therapy (tisagenlecleucel) for treatment of relapsed acute lymphoblastic leukemia. Most recently, June and his group are participating in research that repurposes treatment for cytokine storms induced by cancer therapy as a therapeutic for COVID-19.

M. Virginia Pascual, M.D. (AAI '09), is the Ronay Menschel Professor of Pediatrics and the Gale and Ira Drukier Director of Children's Health Research at the Weill Cornell Medical College. Her innovative and integrative research focuses on identifying biomarkers and therapeutic targets for inflammatory and autoimmune disease intervention by elucidating their immune pathogenesis. Dr. Pascual's work has described how dendritic cells, T cell subsets, and type I interferons and other cytokines drive disease in systemic lupus erythematosus, arthritis, and other inflammatory immune responses. More recently, her work has expanded to include immune responses that result in the development of multisystem inflammatory syndrome in children (MIS-C) following pediatric SARS-CoV-2 infection.

Raphaella T. Goldbach-Mansky, M.D., M.H.S. (AAI '16), is a senior investigator and chief of the Translational Autoinflammatory Disease Studies Unit in the Laboratory of Clinical Immunology and Microbiology at the National Institute of Allergy and Infectious Diseases, NIH. Her research focuses on clinical and translational studies in children with early onset autoinflammatory diseases. She investigates pathogenesis and immune-dysregulatory mechanisms of IL-1-mediated autoinflammatory diseases, including neonatal multisystem inflammatory disease (NOMID), deficiency of the IL-1 receptor

antagonist (DIRA), and the NLRC4-mediated disease macrophage activation syndrome (MAS), among other autoinflammatory conditions. Her clinical studies on NOMID have led to FDA approval of the IL-1-blocking agent anakinra as a treatment for this condition. Dr. Goldbach-Mansky uses the knowledge gained from her pathogenesis evaluations to identify drug targets for better treatment.

I have been inspired by the work of each of these researchers, and I hope you will join me in celebrating their accomplishments by attending their presentations.

IMMUNOLOGY2022™ Public Health and Safety Policy

In the interest of the health and safety of those attending IMMUNOLOGY2022™, AAI is requiring all attendees (scientific registrants, AAI staff, exhibitors, guests, contractors, and convention center staff) to be fully vaccinated against SARS-CoV-2 (COVID-19) as per the CDC and WHO Guidelines.

To attend IMMUNOLOGY2022™, official "Proof of Vaccination" confirming an attendee has been fully vaccinated is required. A full vaccination regimen must be completed by April 22, 2022, 14 days in advance of the start of the meeting. For the most up-to-date information, visit www.immunology2022.org/PublicHealthPolicy or contact meetings@aai.org.





Distinguished Fellows of AAI Class of 2022

The American Association of Immunologists proudly announces
the 2022 class of Distinguished Fellows of AAI.

This program recognizes members for distinguished careers and outstanding scientific contributions as well as their service to AAI and the immunology community. It honors active, long-term members (25 or more years) who have demonstrated one or more of the following: excellence in research accomplishment in the field of immunology; exceptional leadership to the immunology community in academia, foundations, nonprofits, industry, or government at a national or international level; notable distinction as an educator. Election as a Distinguished Fellow occurs annually and is among the highest honors bestowed by AAI. Distinguished Fellows bear the designation "DFAAI."



Jeremy M. Boss, Ph.D. (AAI '94)†
Emory University School of
Medicine



Michael C. Carroll, Ph.D. (AAI '86)
Boston Children's Hospital,
Harvard Medical School



Cheong-Hee Chang, Ph.D. (AAI '95)
University of Michigan
Medical School



Douglas T. Fearon, M.D. (AAI '75)
Cold Spring Harbor Laboratory



Ann J. Feeney, Ph.D. (AAI '85)
Scripps Research



JoAnne L. Flynn, Ph.D. (AAI '96)*
University of Pittsburgh
School of Medicine



Patricia P. Jones, Ph.D. (AAI '81)
Stanford University



Michael S. Krangel, Ph.D. (AAI '90)#
Duke University Medical Center



Edith M. Lord, Ph.D. (AAI '78)**
University of Rochester School of
Medicine and Dent.



Stephen D. Miller, Ph.D. (AAI '77)
Northwestern University
Feinberg School of Medicine



Robert L. Modlin, M.D. (AAI '86)
David Geffen School of
Medicine at UCLA



Joost J. Oppenheim, M.D. (AAI '68)
NCI, NIH



Ellen A. Robey, Ph.D. (AAI '95)
University of California, Berkeley



Nancy H. Ruddle, Ph.D. (AAI '74)
Yale School of Public Health



**Lawrence E. Samelson, M.D.
(AAI '84)**
NCI, NIH



**Ronald H. Schwartz, M.D.,
Ph.D. (AAI '76)**
NIAID, NIH



David W. Scott, Ph.D. (AAI '73)
Uniformed Services University
of Health Sciences



**Arlene H. Sharpe, M.D., Ph.D.
(AAI '96)***
Harvard Medical School



Carl F. Ware, Ph.D. (AAI '82)
Sanford Burnham Prebys Medical
Discovery Institute



Tania H. Watts, Ph.D. (AAI '90)
University of Toronto



**Juan Carlos Zúñiga-Pflücker,
Ph.D. (AAI '96)**
University of Toronto,
Sunnybrook Research Institute

*AAI Past President

**AAI Past Secretary-Treasurer

†The *JCI* Past Editor-in-Chief

#ImmunoHorizons Past Editor-in-Chief

DISTINGUISHED FELLOWS OF AAI CLASS OF 2022



**Jeremy M. Boss,
Ph.D., DFAAI
(AAI '94)**

*Associate Dean for
Basic Research*

*Professor and Chair,
Department of
Microbiology
and Immunology*

Emory University School of Medicine

<https://med.emory.edu/directory/profile/?u=JMBOSS>

Dr. Boss' research focuses on molecular mechanisms by which genes in the immune system are controlled in response to developmental and environmental stimuli. By defining the roles of specific factors and pathways, these studies aim to identify potential targets for immune-based therapies to treat infectious disease, cancer, and autoimmunity. Boss served as a councilor for the Association of Medical School Microbiology and Immunology Chairs. His honors include an endowed chairmanship (Emory Chair in Basic Sciences Research) and an Outstanding Faculty Service Award from Emory University, election as a fellow of the American Association for the Advancement of Science (AAAS), and membership in the Henry Kunkel Society. He was awarded the AAI Distinguished Service Award in 2014.

Boss served on the AAI Council from 2014 to 2021 and was AAI president from 2019 to 2020. From 2008 to 2013, he was the 10th editor-in-chief of *The Journal of Immunology (The JI)*, following terms as a deputy editor and associate editor. He has served as a major symposium speaker and careers roundtable leader at AAI annual meetings.



**Michael C. Carroll,
Ph.D., DFAAI
(AAI '86)**

*Senior Investigator
and Professor*

*Program in Cellular
and Molecular
Medicine, Boston
Children's Hospital*

*Department of Pediatrics, Harvard
Medical School*

www.childrenshospital.org/research/researchers/c/michael-carroll

Dr. Carroll's laboratory investigates how the innate and adaptive immune responses interact to identify foreign and self-antigens, promote antigen uptake by follicular dendritic cells, and form germinal centers; the goal of these studies is understanding how self-reactive lymphocytes escape tolerance to lead to autoimmunity. Another broad area of research focuses on neural-immune mechanisms underlying neurological diseases, such as neuro-psychiatric lupus and schizophrenia. Carroll served as director of the Harvard Graduate Program in Immunology from 2005 to 2016. He was a recipient of the 2016 Research Award from the National Alliance for Mental Health. He is a member of the Henry Kunkel Society and an honorary member of the Scandinavian Society for Immunology.

Carroll served as a member of the AAI Nominating and Program Committees and as an abstract programming chair for the AAI annual meeting. He also served as a faculty member of the AAI Advanced Course, a major symposium chair and speaker at AAI annual meetings, and as a section and associate editor for *The JI*.



**Cheong-Hee Chang,
Ph.D., DFAAI
(AAI '95)**

Professor

*Department of
Microbiology and
Immunology*

University of Michigan Medical School

<https://medicine.umich.edu/dept/microbiology-immunology/cheong-hee-chang-phd>

Dr. Chang's research focuses on molecular and cellular mechanisms that govern T cell-mediated immunity. Her laboratory is studying how an antioxidant pathway regulates T cell survival and effector function, how the difference in T cell metabolism influences inflammatory responses, and how signaling pathways and transcription factors cross-regulate metabolism and effector function. Her honors and awards include the Trustee Teaching Award from the Indiana University School of Medicine and the Elizabeth Crosby Faculty Grant from the University of Michigan Medical School. She has served the immunology community as a Council member of the Autumn Immunology Conference; a participant of NIH focus groups; and a grant reviewer for organizations, including the NIH and American Heart Association.

Chang is a member of the AAI Publications Committee. She has served as an AAI Awards Committee member and chair, a member of the Committee on the Status of Women and of the Grant Review for Immunologists Program Committee, and as an associate editor for *The JI*.



**Douglas T. Fearon,
M.D., DFAAI (AAI '75)**

*Professor, Cold Spring
Harbor Laboratory*

*Walter B. Wriston
Professor of Pancreatic
Cancer Research, Weill
Cornell Medical College*

*Emeritus Sheila Joan Smith Professor of
Immunology, University of Cambridge*

www.cshl.edu/research/faculty-staff/douglas-fearon/

Dr. Fearon's laboratory studies the interaction between cancer and the immune system with the premise that the tumor microenvironment is immunosuppressive due to cancer cells eliciting responses characteristic of wound healing and tissue regeneration. This approach

led to the finding that activated fibroblasts in the tumor stroma mediate immunosuppression in several mouse models of cancer. He has been honored as a member of the National Academy of Sciences and the Association of American Physicians (AAP), as a fellow of the Royal Society and the AAAS, and with the Lee C. Howley Sr. Prize for Arthritis Scientific Research from the Arthritis Foundation. He has contributed his expertise by serving on scientific advisory boards for the CRUK Cambridge Institute, Pancreatic Cancer UK, the Medical Research Council, the Max Planck Institute of Immunobiology, and others.

Fearon served as a member of the AAI Education and Program Committees. He also was a section editor for *The JI* and represented AAI on the Federation of American Societies for Experimental Biology (FASEB) Publications Committee.



**Ann J. Feeney, Ph.D.,
DFAAI (AAI '85)**

Professor Emeritus

*Department of
Immunology and
Microbiology*

Scripps Research

www.scripps.edu/faculty/feeney/

Dr. Feeney studies the epigenetic, genetic, and transcriptional mechanisms that control accessibility of the V, D, and J immunoglobulin gene segments for V(D)J recombination and that regulate the differentiation of B cell progenitors. Her research aim is to understand the basis of non-random gene utilization in pro-B cells, chromatin modifications that accompany B cell differentiation, and the mechanisms by which transcription factors control V(D)J rearrangement and B cell differentiation. She has served the immunology community as a long-time co-organizer of the La Jolla Immunology Conference, a member of the Midwinter Conference of Immunologists Council, and a faculty member at the Marine Biological Laboratory, AAI Advanced Course in Immunology, and University of California, San Diego.

Feeney has served as an AAI Membership Committee member and chair and as a member of the Publications, Finance, and Nominating Committees. She also has participated as a major symposium chair and speaker at the AAI annual meeting; an abstract programming chair for the AAI annual meeting; and a deputy, section, and associate editor for *The JI*.



**JoAnne L. Flynn,
Ph.D., DFAAI
(AAI '96)**
*Distinguished Professor
Department of
Microbiology and
Molecular Genetics
Assistant Dean*

University of Pittsburgh School of Medicine

www.mmg.pitt.edu/person/joanne-l-flynn

Dr. Flynn's research focuses on the interaction of pathogens with the host, with emphasis on the immune mechanisms that protect against or exacerbate disease. Specifically, her work focuses on the immune responses required for protection against tuberculosis and the immune mechanisms responsible for maintaining a latent tuberculosis infection. She has served the immunology community as a member of the Board of Scientific Counselors for the National Institute of Allergy and Infectious Diseases (NIAID). She is a fellow of the American Academy of Microbiology (AAM) and was awarded the Chancellor's Distinguished Research Award and Distinguished Mentor Award from the University of Pittsburgh.

Flynn served as AAI president from 2018 to 2019 and was a member of the AAI Council from 2013 to 2020. She is a past member of the AAI Nominating and Publications Committees, has served as an abstract programming chair and major symposium chair and speaker at AAI annual meetings, and has participated as a faculty member of the AAI Introductory and Advanced Courses in Immunology. She is also a past section and associate editor for *The JI*.



**Patricia P. Jones,
Ph.D., DFAAI
(AAI '81)**
*The Dr. Nancy Chang
Professor of Biology,
Emerita
Department of Biology
Stanford University*

<https://profiles.stanford.edu/patricia-jones>

Dr. Jones' research has focused on genetic, molecular, and cellular mechanisms that regulate innate and adaptive immune responses. Her laboratory has

shown a role for calcineurin in regulating innate immune responses, a finding that has implications for patients chronically treated with calcineurin inhibitor immunosuppressants, such as organ transplant recipients. She was founding director of the Stanford Ph.D. Program in Immunology and previously held appointments as chair of the Department of Biological Sciences, associate dean of research, vice provost for faculty development and diversity, and director of Stanford Immunology. She received the Founders' Prize from the Texas Instruments Foundation and has been honored by Stanford for teaching excellence with the Hoagland Prize for Undergraduate Teaching, the Dean's Award for Distinguished Teaching (twice), and selection as Duca Family University Fellow in Undergraduate Education.

Jones served as a member of the AAI Awards Committee and as a member and chair of the Nominating and Publications Committees. She also served as a member of the Committee on Public Affairs.



**Michael S. Krangel,
Ph.D., DFAAI
(AAI '90)**
*George Barth Geller
Distinguished Professor
of Immunology
Chair, Department
of Immunology*

Duke University Medical Center

<https://immunology.duke.edu/people/michael-s-krangel-phd>

Dr. Krangel's laboratory studies the molecular basis for developmentally regulated rearrangement and expression of murine T cell receptor genes. A main focus has been the role of chromatin structure in determining the portions of the TCR loci that are accessible for V(D)J recombination and the mechanisms by which cis-regulatory elements within the loci function as developmental regulators of chromatin structure. Recent work has highlighted additional properties of antigen receptor loci that are important in development regulation, including subnuclear positioning and locus conformation. His honors include his election as a fellow of the AAAS and a member of the Henry Kunkel Society. He has received an NIH MERIT Award and the American Cancer Society Faculty Research Award.

Krangel served as the first co-editor-in-chief of *ImmunoHorizons* and as a deputy and associate editor for *The JI*. He is a past President's Symposium speaker and major symposium chair and speaker at AAI annual meetings.



**Edith M. Lord, Ph.D.,
DFAAI (AAI '78)**

Professor Emerita

*Department of
Microbiology and
Immunology and Wilmot
Cancer Institute*

*University of Rochester School of Medicine
and Dentistry*

www.urmc.rochester.edu/people/20022563-edith-m-lord

Dr. Lord's research has focused on immune responses that control tumor development and how immune cells function within the challenging microenvironment of growing tumors. Her laboratory has examined how radiation treatment alters the tumor microenvironment and the immune system with the goal of determining how to best use radiation therapy to stimulate immunity. She previously served as senior associate dean for graduate education and director of the Postbaccalaureate Research Education Program at the University of Rochester. She has been honored with the 2022 AAI Distinguished Service Award (see p. 24), the Davey Award for Cancer Research, and the University of Rochester Lifetime Mentoring Award.

Lord served on the AAI Council as secretary-treasurer from 2015 to 2021 and as chair of the AAI Finance Committee for the same term. She has also served as a member of the Finance Committee, an abstract programming chair for AAI annual meetings, and as a section and associate editor for *The JI*.



**Stephen D. Miller,
Ph.D., DFAAI
(AAI '77)**

*Judy Gugenheim
Research Professor
of Microbiology-
Immunology*

*Director, Interdepartmental
Immunobiology Center*

*Northwestern University Feinberg School
of Medicine*

www.feinberg.northwestern.edu/faculty-profiles/laz/profile.html?xid=14949

Dr. Miller's research focuses on understanding the mechanisms underlying treatment of T cell-mediated autoimmune diseases, allergic disease, and transplant rejection using antibody blockade of immune costimulatory molecules. His laboratory has translated the use of immune tolerance induction by infusion of antigen-coupled apoptotic cells and antigen-encapsulating biodegradable PLG nanoparticles to clinical trials of multiple sclerosis and celiac disease. He has also studied the role of innate and adaptive immune responses in bladder cancer. Miller's honors include his election as a fellow of the AAM and the AAAS, and a Technology, Innovation and Development Award from the Society for Biomaterials.

Miller served as chair of the AAI Publications Committee and an *ex officio* member of the AAI Council from 2002 to 2004. He was also a member of the AAI Publications and Finance Committees, a major symposium speaker and abstract programming chair at AAI annual meetings, a section editor for *The JI*, and a mentor for the AAI High School Teachers Summer Research Program.



**Robert L. Modlin,
M.D., DFAAI
(AAI '86)**
*Chief, Division of
Dermatology*
*Vice Chair for
Cutaneous Medicine and
Dermatological Research*

Distinguished Professor
*Department of Microbiology, Immunology
and Molecular Genetics*
David Geffen School of Medicine at UCLA
www.mimg.ucla.edu/people/robert-modlin-m-d/

Dr. Modlin's research focuses on the identification of novel mechanisms by which the innate and adaptive immune responses combat microbial pathogens. Using leprosy as a model, his laboratory has elucidated the role of mammalian Toll-like receptors and CD1-restricted T cells in host defense, including cytokine patterns and antimicrobial pathways. Modlin received the Albert M. Kligman/Phillip Frost Leadership Lecture Award from the Society for Investigative Dermatology and the Sulzberger Memorial Award and Lectureship from the American Academy of Dermatology. He has been honored as a fellow of the AAM and the AAAS, and as a member of both the AAP and The American Society for Clinical Investigation.

Modlin served as a member and chair of the AAI Clinical Immunology Committee. He has participated as a faculty member for the AAI Introductory and Advanced Courses in Immunology and as a major symposium chair and speaker at AAI annual meetings. He has also served as a senior editor for *ImmunoHorizons* and as a section and deputy editor for *The JI*.



**Joost J. Oppenheim,
M.D., DFAAI
(AAI '68)**
*Chief, Laboratory
of Molecular
Immunoregulation*
*Head, Cellular
Immunology Section*

*Senior Investigator, Laboratory of Cancer
Immunometabolism*
Center for Cancer Research
National Cancer Institute
National Institutes of Health

<https://ccr.cancer.gov/staff-directory/joost-j-oppenheim>

Dr. Oppenheim's research focuses on cytokines, chemokines, and alarmins. He has studied the role of alarmins that activate Toll-like receptors in inducing immunity to cancer and has been engaged in translational studies aimed at using alarmins as adjuvants in vaccines for use against infectious agents and tumors. He also has investigated means of blocking T regulatory cell-mediated immunosuppression to augment antitumor immunity. Oppenheim is a fellow of the AAM and a member of the AAP. He has been honored with the Avery Landsteiner Prize from the German Society for Immunology, the Honorary Lifetime Membership Award from the International Cytokine and Interferon Society (ICIS), and the Technology Transfer Award and Outstanding Mentor Award from the National Cancer Institute (NCI).

Oppenheim has served as a member and chair of the AAI Program Committee and a member of the Finance Committee. He also has participated as a major symposium chair and speaker at AAI annual meetings, served as an associate editor for *The JI*, and represented AAI on the FASEB Finance and Meetings Committees.



**Ellen A. Robey,
Ph.D., DFAAI
(AAI '95)**
*Professor of Immunology
and Pathogenesis*
*Department of Molecular
and Cell Biology*

University of California, Berkeley

<https://vcresearch.berkeley.edu/faculty/ellen-robey>

Dr. Robey's laboratory is interested in how signaling pathways control T cell fate in the thymus, as well as mechanisms of immune responses to parasitic infection. Research interests include positive and negative selection of T cells in the thymus, control of CD4⁺ versus CD8⁺ T cell lineage choice, and mechanisms of effective immunity in the face of persistent infection. The lab also makes extensive use of 2-photon imaging approaches to observe and analyze T cell behavior in real time in situ. Robey has been honored as an AAI Distinguished Lecturer, received a Chancellor's Initiative Grant and Miller Professorship from the University of California, and been presented with an honorary doctorate from the University of Toulouse, France.

Robey has served as a member and chair of the AAI Nominating Committee and member of the Program Committee. She has participated as a President's Symposium speaker, major symposium chair and speaker, and abstract programming chair at AAI annual meetings and has served as a faculty member for the AAI Advanced Course in Immunology.



Nancy H. Ruddle,
Ph.D., DFAAI
(AAI '74)

*John Rodman Paul
Professor Emerita
Departments of
Epidemiology of
Microbial Diseases and
Immunobiology*

*Yale School of Public Health and Yale
School of Medicine*

https://lysph.yale.edu/profile/nancy_ruddle/?tab=bio

Dr. Ruddle's research has concentrated on cell trafficking and inflammation in autoimmunity and lymphoid organ development, particularly the roles of members of the lymphotoxin/tumor necrosis factor family. Her laboratory group has shown that cytokines' functions in lymphoid organ development and inflammation are similar, and the group's studies on high endothelial venules and lymphatic vessels point toward potential treatments and prevention of chronic inflammation. Ruddle previously held appointments as acting chair and acting dean of public health and

director of graduate studies at the Yale School of Public Health. She is a past president of ICIS and her additional honors include the Connecticut Medal of Science, Honorary Lifetime Membership Award from ICIS, and 2022 Richard K. Gershon Memorial Lectureship from Yale School of Medicine.

Ruddle served as chair of the AAI Nominating Committee and as a member of the Awards Committee, Membership Committee, and Committee on the Status of Women. She also has been a major symposium speaker at the AAI annual meeting.



**Lawrence E.
Samelson, M.D.**
DFAAI (AAI '84)

*Chief, Laboratory
of Cellular and
Molecular Biology
Deputy Director, Center
for Cancer Research*

National Cancer Institute

National Institutes of Health

<https://ccr.cancer.gov/staff-directory/lawrence-e-samelson>

Dr. Samelson's research focuses on the biochemistry and cell biology of the signal transduction mechanisms coupled to the T cell antigen receptor. His laboratory has examined the role of protein tyrosine kinases, such as Fyn, Lck, and ZAP-70; adapter molecules, including the characterization of LAT; and multi-protein signaling complexes. He previously served as deputy chief of the Cell Biology and Metabolism Branch of the National Institute of Child Health and Human Development. He has been elected a member of The American Society for Clinical Investigation and the AAP and as a fellow of the AAAS. He has received the NIH Director's Award (twice), the NCI Mentor of Merit Award, and the William B. Coley Award for Distinguished Research in Basic Immunology from the Cancer Research Institute.

Samelson was selected as a speaker in the AAI President's Symposium in 2009 and 2012. He has also served as a major symposium speaker at the AAI annual meeting and as a deputy editor and associate editor for *The JI*.



**Ronald H. Schwartz,
M.D., Ph.D., DFAAI
(AAI '76)**

Retired

*Formerly Chief,
Laboratory of
Cellular and
Molecular Immunology*

*National Institute of Allergy and
Infectious Diseases*

National Institutes of Health

<https://www.linkedin.com/in/ronald-and-joan-schwartz-40523386/>

Dr. Schwartz's research has characterized T cell development and responses. This work involved the utilization of T cell cloning technology to demonstrate reactivity of a single T cell. His laboratory provided evidence for the influence of MHC structure on specificity of the response, T cell clonal anergy as a peripheral tolerance mechanism, and the importance of costimulation in preventing anergy in T cells following cognate antigen engagement. Schwartz was an AAI Distinguished Lecturer at the 1986 AAI Annual Meeting. He is an elected fellow of the AAAS and has also been honored with the NIH Award of Merit, NIAID Special Act or Service Award, and multiple awards from the United States Public Health Service, including the Distinguished Service Medal.

Schwartz has served as chair of the AAI Awards Committee and as a member of the Finance, Nominating and Program Committees. He also was a delegate to the International Union of Immunological Societies' general assembly.



**David W. Scott,
Ph.D., DFAAI
(AAI '73)**

*Professor of Medicine
Uniformed Services
University of the
Health Sciences*

www.usuhs.edu/node/10848

Dr. Scott's research focuses on immunologic tolerance and gene therapy. His laboratory has used multiple strategies for tolerance induction, most recently engineering antigen-specific regulatory T cells,

to prevent and reverse pathogenic autoimmune responses with the goal of clinical translation. His honors include the Hemophilia Researcher of the Year Award from the National Hemophilia Foundation and the Scientific Achievement Award from the American Association of Pharmaceutical Scientists. Scott received the 2004 AAI Distinguished Service Award for his dedicated efforts in directing and advancing the mission of the AAI High School Teachers Summer Research Program in Immunology. He has also served the immunology community as a long-time member of the Midwinter Conference of Immunologists Council, current editor-in-chief of *Cellular Immunology*, and participant on review panels for the NIH and National Multiple Sclerosis Society.

Scott has served AAI as a member and chair of the Education Committee, member of the Awards Committee, section editor for *The JI*, and AAI representative on the FASEB Education Committee.



**Arlene H. Sharpe,
M.D., Ph.D., DFAAI
(AAI '96)**

*Chair and George
Fabyan Professor of
Comparative Pathology
Chair, Department
of Immunology*

Harvard Medical School

<https://immunologyphd.hms.harvard.edu/people/arlene-helen-sharpe>

Dr. Sharpe's research focuses on functions of T cell costimulatory pathways and their immunoregulatory roles in controlling the balance between T cell activation and tolerance. She served as AAI President from 2016 to 2017 and was a member of the AAI Council from 2011 to 2018. She was selected for the 2022 AAI Lifetime Achievement Award in recognition of a career of extraordinary scientific achievement and exceptional leadership and service to AAI.

Please see page 22 for more information on her career achievements.



**Carl F. Ware, Ph.D.,
DFAAI (AAI '82)**

*Director, Infectious
and Inflammatory
Diseases Center*

*Professor, Laboratory of
Molecular Immunology*

*Sanford Burnham Prebys Medical
Discovery Institute*

www.sbpdiscovery.org/our-scientists/carl-f-ware-phd

Dr. Ware's research is directed at defining the intercellular communication pathways controlling immune responses. His laboratory examines the role of the tumor necrosis factor (TNF)-related cytokines in regulating decisions of cell survival and death, particularly in response to viral pathogens. His laboratory's translational research is focused on redirecting the communication networks of the TNF superfamily to alter the course of autoimmune and infectious disease and cancer. Ware's honors include the Honorary Lifetime Membership Award from ICIS and an NIH MERIT Award. He has served the immunology community as a member of the Scientific Advisory Board for the Allen Institute of Immunology, as a board member and chair for the Arthritis National Research Foundation, and as an organizer of the TNF Superfamily Conferences.

Ware has served AAI as a member of the Nominating and Program Committees, major symposium chair and speaker at AAI annual meetings, Advanced Course in Immunology faculty member, and associate editor for *The JI*. He has also been an invited speaker in the President's Symposium at the AAI annual meeting.



**Tania H. Watts,
Ph.D., DFAAI
(AAI '90)**

Professor of Immunology

*Canada Research Chair
in Anti-Viral Immunity*

University of Toronto

<https://immunology.utoronto.ca/faculty/tania-watts>

Dr. Watts's research focuses on T cells and immunity to infection in humans, with an emphasis on influenza and, more recently, SARS-CoV-2. Her group also explores the role of tumor necrosis factor family members, their ligands, and signaling adaptors in lymphocyte and cancer cell survival and in protective immunity to viral infections.

She has been honored with the JJ Berry-Smith Award for outstanding mentorship of doctoral students at the University of Toronto and the John D. Reynolds Award and Bernhard Cinader Award Lectureship from the Canadian Society for Immunology.

Watts has served as a member and chair of the AAI Publications Committee and an *ex officio* member of the Council and Finance Committee. She is a past AAI President's Symposium speaker and has served as a major symposium chair and speaker and abstract programming chair at AAI annual meetings. She has also served as an associate editor for *ImmunoHorizons* and as a section and associate editor for *The JI*.



**Juan Carlos Zúñiga-
Pflücker, Ph.D.,
DFAAI (AAI '96)**

*Professor and Chair,
Department of
Immunology*

*Senior Scientist,
Sunnybrook
Research Institute*

University of Toronto

<https://sunnybrook.ca/research/team/member.asp?t=13&m=191&page=172>

Dr. Zúñiga-Pflücker's research is directed at understanding T cell development and differentiation. His laboratory examines the molecular mechanisms that govern lymphocyte lineage commitment and has shown the importance of Delta-like/Notch interactions occurring in the thymus in T cell differentiation. His group also works to develop model systems for the induction of T cell differentiation from defined sources of stem cells. Zúñiga-Pflücker received the AAI Distinguished Service Award in 2020 for the invaluable service he provided to AAI during his tenure as director of the AAI Introductory Course in Immunology. He was selected as the AAI Minority Affairs Committee Guest Lecturer (now called the Vanguard Lecturer) at the AAI annual meeting in 2005. His additional honors include the Investigator Award from the Canadian Society for Immunology and the Premier's Research Excellence Award from the government of Ontario, Canada.

Zúñiga-Pflücker has served as a member of the AAI Awards, Publications, and Nominating Committees. He also has been a major symposium chair and speaker at AAI annual meetings and a section and associate editor for *The JI*.

AAI BUSINESS MEETING AND AWARDS PRESENTATIONS

SATURDAY, MAY 7 • 1:00 PM – 2:30 PM

ROOM B110-112

Chair

M. Michele Hogan, AAI Chief Executive Officer

AAI reports on the “state of the association” to its members at every AAI annual meeting. Members will hear from the CEO, the Secretary-Treasurer on the financial standing of AAI, the Editors-in-Chief of *The Journal of Immunology (The JI)* and *ImmunoHorizons (IH)* on the status of AAI journals, and the Chair of the Committee on Public Affairs on important public policy issues, as well as other items of interest to the membership.

Selected 2022 AAI awards will also be presented during this session, including the AAI Distinguished Service Awards and the AAI Meeting Awards.

AAI Distinguished Service Awards Presentations

Ross Kedl (AAI '02), Univ. of Colorado Anschutz Sch. of Med.

The AAI Distinguished Service Award recognizes Dr. Kedl for outstanding service to AAI as Chair and member of the AAI Committee on Public Affairs, 2015–2021.

Edith M. Lord (AAI '78), Univ. of Rochester Sch. of Med. and Dent.

The AAI Distinguished Service Award recognizes Dr. Lord for exceptional service as AAI Secretary-Treasurer, 2015–2021.

AAI Meeting Awards Presentations

AAI annually provides hundreds of AAI Meeting Awards and Grants to recognize the promise and promote the professional development of investigators at all career stages.

Presentations

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

Acknowledgments

- AAI Trainee Abstract Awards
- AAI Trainee Poster Awards
- AAI Early Career Faculty Grants
- AAI Laboratory Grants
- AAI Undergraduate Faculty Grants
- AAI Minority Scientist Awards

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

Connect with AAI!

Do you have a story or a story idea for a future issue of the *AAI Newsletter*? Send us an email! Interested in the latest news from AAI? Keep in touch through our social media channels. Follow us on Twitter, Facebook, or LinkedIn, and keep abreast of daily developments in the world of immunology.

- ✉ @ImmunologyAAI
- ✉ @J_Immunol (*The Journal of Immunology*)
- ✉ @ImmunoHorizons (*ImmunoHorizons*)
- f @ImmunologyAAI
- in [linkedin.com/company/the-american-association-of-immunologists](https://www.linkedin.com/company/the-american-association-of-immunologists)
- ✉ AAINewsletter@aai.org (story ideas and comments about the *AAI Newsletter*)



AAI CAREER AWARDS

AAI PROUDLY PRESENTS THE 2022 AAI CAREER AWARDS FOR
OUTSTANDING RESEARCH ACHIEVEMENTS AND CAREER SERVICE.

AAI Lifetime Achievement Award



Arlene H. Sharpe
Harvard Med. Sch.

AAI Distinguished Service Award



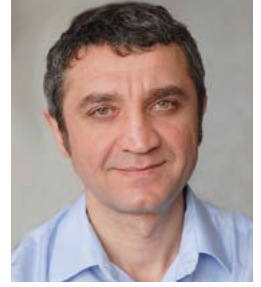
Ross Kedl
*Univ. of Colorado
Sch. of Med.*

AAI Distinguished Service Award



Edith M. Lord
*Univ. of Rochester
Sch. of Med. and Dent.*

AAI Excellence in Mentoring Award



Ruslan Medzhitov
HHMI, Yale Univ. Sch. of Med.

AAI-Steinman Award for Human Immunology Research



Jeffrey A. Bluestone
*Univ. of California, San Francisco,
and Sonoma Biotherapeutics*

AAI-Thermo Fisher Meritorious Career Award



Katherine A. Fitzgerald
*Univ. of Massachusetts
Chan Med. Sch.*

AAI-BioLegend Herzenberg Award



Christopher C. Goodnow
*Garvan Inst. of Med.
Res., Australia*

AAI-BD Biosciences Investigator Award



Andrea Schietinger
Mem. Sloan Kettering Cancer Ctr.

AAI Vanguard Lecture



Cherié L. Butts
Biogen

CAREER AWARDS

Each year, AAI recognizes the extraordinary professional achievements and career promise of its members. The following are the recipients of the 2022 AAI Career Awards being presented at **IMMUNOLOGY2022™**.

AAI Lifetime Achievement Award Presentation

FRIDAY, MAY 6 • 5:00 PM

PORTLAND BALLROOM 252-255

This award recognizes a member for a career of extraordinary scientific achievement and exceptional leadership and service to AAI.

Chair

Gary A. Koretzky, Cornell Univ. and Weill Cornell Med., AAI President

Dr. Koretzky will introduce the awardee and present the award prior to the start of the President's Address.



Presented to
Arlene H. Sharpe
Harvard Med. Sch.

Arlene H. Sharpe, M.D., Ph.D., DFAAI (AAI '96), Harvard Medical School, Broad Institute, and Brigham and Women's Hospital, is the recipient of the 2022

AAI Lifetime Achievement Award in recognition of a career of extraordinary scientific achievement and exceptional leadership and service to AAI. This award is the highest honor bestowed by the AAI Council upon an AAI member.

Dr. Sharpe's research has been and continues to be integral to understanding the immunoregulatory functions of a variety of T cell costimulatory and coinhibitory pathways. These pathways are essential to understanding and manipulating immune responses. Appropriate engagement of these receptors mediates immune protection from pathogens and cancer, and protection from injurious immune responses to allergens, autoantigens, or transplanted tissue antigens. Conversely, coinhibitory receptors are expressed on the cell surface of phenotypically senescent and exhausted T cells. Immune senescence is a corollary of aging, and T cell exhaustion is a feature of chronic antigen exposure. Both are characterized by a decline in immune responses and blocking

coinhibitory receptors may restore T cell responses. Sharpe's laboratory uses a variety of genetic tools to address these issues and dissect the function and consequences of engagement of these molecules in murine models of disease and works to translate these findings into therapies for chronic viral infections, cancer, and autoimmune diseases.

Her work with B7-1 and B7-2 (CD80 and CD86) has demonstrated the essential role of these molecules in initiating immune responses and their contributions to germinal center formation and B cell immunoglobulin class switching; and to T cell activation, differentiation, and interleukin (IL)-2 production. Her laboratory also described a role for B7-1 and B7-2 costimulation in driving autoimmune disease. Currently, the B7-1/B7-2 blocking agent, cytotoxic T lymphocyte antigen-4 (CTLA-4)-4Ig, is used clinically to treat rheumatoid arthritis and prevent solid organ transplant rejection.

Sharpe has also described CTLA-4 as a key regulator of immune responses. In its absence, mice develop lymphoproliferative disease and fatal multiorgan tissue destruction. Her research has uncovered roles for CTLA-4 in regulating T cell tolerance, autoimmunity, and anergy. CTLA-4 and PD-1 also mediate and inhibit, respectively, the suppression exerted by T follicular regulatory (Tfr) cells, suggesting an additional mechanism by which these molecules affect B cell effector functions.

In addition to her studies on B7 and CTLA-4, Sharpe's research group has described inducible costimulator (ICOS) as critical for T-dependent B cell immunoglobulin isotype class switching and germinal center formation. ICOS is also integral for T helper (Th) cell type 1 and 2 effector functions, Th17 and T follicular helper (Tfh) development, and mucosal tolerance.

Sharpe's work also investigates how coinhibitory receptors are upregulated on antigen-experienced T cells and limit their capacity to respond to antigen challenge or re-challenge. Her laboratory demonstrated programmed death ligands 1 and 2 (PD-L1 and PD-L2) as key regulators of immune responses, because their interaction with programmed cell death protein (PD)-1 inhibits T cell proliferation, activation, and cytokine production, while contributing to T cell exhaustion in

both self- and foreign antigens. Understanding and manipulation of this pathway has implications for cancer, chronic viral infection, and immune tolerance.

Sharpe obtained her Ph.D. from Harvard University under the guidance of Dr. Bernard Fields, and her M.D. from Harvard Medical School. She completed her residency in pathology at Brigham and Women's Hospital and then completed a postdoctoral fellowship at The Whitehead Institute in the laboratory of Dr. Rudolf Jaenisch. She continued her research at Harvard Medical School, rising in rank from an assistant professor. She is currently the George Fabyan Professor of Comparative Pathology, member of the Ludwig Center, and chair of the Department of Immunology at Harvard Medical School, with appointments as an associate member of the Broad Institute, senior scientist in pathology at Brigham and Women's Hospital, and co-director of the Evergrande Center for Immunologic Diseases at Harvard Medical School and Brigham and Women's Hospital.

Among her many honors, Sharpe is a member of both the National Academy of Medicine and the National Academy of Sciences, a National Institutes of Health MERIT award recipient, and a fellow of the American Association for the Advancement of Science, American Association for Cancer Research, National Academy of Inventors, and Society for Immunotherapy of Cancer Academy of Immuno-Oncology. She has been recognized by Thomson Reuters as a Highly Cited Researcher (top 1%).

Sharpe has been heavily involved with AAI. She is a past AAI Council member, culminating in her service as AAI President in 2016–2017. Sharpe has served as a member of the Program and Publications Committees. She has also been very involved with the AAI annual meetings as a Distinguished Lecturer and a major symposium chair and speaker.

AAI Distinguished Service Awards Presentations

SATURDAY, MAY 7 • 1:00 PM

ROOM B110-112

This award recognizes members for outstanding service to the AAI community and the field of immunology.

Chair

M. Michele Hogan, DFAAI, AAI Chief Executive Officer
Presented during the AAI Business Meeting.



Presented to

Ross Kedl

*Univ. of Colorado
Sch. of Med.*

The AAI Distinguished Service Award recognizes Dr. Kedl for outstanding service to AAI as Chair and member of the AAI Committee on Public Affairs, 2015–2021.

Ross Kedl, Ph.D. (AAI '02), University of Colorado School of Medicine, is being honored with a 2022 AAI Distinguished Service Award. He provided outstanding service to AAI as chair and member of the AAI Committee on Public Affairs (CPA; chair, 2019–2021, member, 2015–2019).

Dr. Kedl served as the CPA chair during a unique and tumultuous time when immunology widely became an everyday topic of conversation. The COVID-19 pandemic began in the middle of his term, and his knowledge and leadership contributed to a wide range of AAI policy efforts, including as chair of a CPA-sponsored session at Virtual IMMUNOLOGY2021™ entitled “The U.S. COVID-19 Response: Successes, Failures, and Ongoing Challenges.” Other pandemic-related CPA activities during his tenure as chair included responding to a Congressional white paper developed by Senate Health, Education, Labor, and Pensions Committee Ranking Member Lamar Alexander on preparing for the next pandemic (and ending the current one); issuing an AAI statement on the dangers of pursuing natural immunity as a public health strategy for defeating COVID-19; developing an AAI handout entitled “COVID-19: Your Questions Answered”; and submitting congressional testimony that carefully described the key role of the immune system in understanding and defeating COVID-19.

In addition to his service as both a member and chair of the CPA, Kedl has served AAI in numerous other capacities. He has participated as a member of the Membership Committee, a lecturer at the AAI Advanced Course in Immunology, and an associate editor for *The Journal of Immunology*. He has contributed to the annual meetings as a major symposium speaker and abstract programming chair. He has been previously recognized by AAI as a recipient of the Lustgarten-eBioscience Memorial Award (currently the Lustgarten-Thermo Fisher Scientific Memorial Award), which is

presented to advance the career of mid-career scientists who submit an abstract to the annual meeting in the area of immune regulation.

Dr. Kedl received his Ph.D. in pathobiology from the University of Minnesota Medical School under the supervision of Matthew F. Mescher (AAI '79; d. 2021) and completed a postdoctoral fellowship in the laboratory of John Kappler, DFAAI (AAI '74) and Philippa Marrack, DFAAI (AAI '74), both HHMI investigators at the National Jewish Medical and Research Center. He then worked at 3M Pharmaceuticals in the small molecule immune response modifier program and as an adjunct assistant professor at the University of Minnesota. More recently, he moved to the University of Colorado Anschutz School of Medicine and has worked his way up the ranks from an assistant professor. He is currently a professor of immunology and microbiology.

Dr. Kedl investigates the signals that transition the immune response from innate to adaptive cellular responses. The innate immune response pathways, and their interaction with the tumor necrosis factor (TNF) receptor-ligand family, impact T cell expansion, effector function, and T cell memory. These findings have significance for the development of vaccines targeting chronic infections and cancer. Kedl has been honored as a recipient of numerous awards, including the Hellen Wohlberg and Herman Lambert Fellowship in Cancer Biology, the Dean's Mentoring Award, and the COVID-19 Resilience Award for Outstanding Research Collaboration from the University of Colorado Anschutz Medical Campus. He has served the immunology community as a National Institutes of Health (NIH) grant reviewer and as a member of the NIH Blue Ribbon Panel: Strategic Plan for Research on Vaccine Adjuvants. A frequently invited speaker, Kedl has presented the Walter F. Enz Memorial Lecture at the University of Kansas and numerous invited talks domestically and abroad.



Edith M. Lord
*Univ. of Rochester Sch.
of Med. and Dent.*

The AAI Distinguished Service Award recognizes Dr. Lord for exceptional service to AAI as Secretary-Treasurer, 2015–2021.

Edith M. Lord, Ph.D., DFAAI (AAI '78), University of Rochester School of Medicine and Dentistry, is being honored with a 2022 AAI Distinguished Service Award. She provided invaluable service to AAI during her two-term tenure as AAI secretary-treasurer from 2015 to 2021. As an AAI officer, she also served as a voting member of the AAI Council.

Dr. Lord was serving as a member of the AAI Finance Committee at the time of her election as a Council officer, and ably steered the committee as its chair during her tenure as secretary-treasurer. During her tenure, the AAI fellowship program added two new categories: the Fellowship for Career Reentry and the Intersect Fellowship for Computational Scientists and Immunologists. These programs added critical support for postdoctoral fellows who had experienced a lapse of research training due to medical leave or family circumstances, or who wished to undertake cross-disciplinary training between immunology and computational science. Both programs were widely welcomed by AAI member recipients, who expressed how they were aided in their careers by the programs. While Dr. Lord was secretary-treasurer, AAI net assets grew from under \$50 million to nearly \$80 million, reflecting her commitment to bolstering the financial strength of the organization. She was a careful steward of the AAI finances and was always available with her advice, assistance, and wisdom.

In addition to her service at secretary-treasurer, Dr. Lord has served AAI as an abstract programming chair for the annual AAI meeting and as both an associate and section editor for *The Journal of Immunology*. She and then-University of Rochester graduate student Aditi Murthy (AAI '15) also received the AAI Careers in Immunology Fellowship.

Dr. Lord completed her Ph.D. research at the University of California, San Diego, in the laboratory of Dr. Richard Dutton, DFAAI (AAI '63; AAI President, 1995–1996) and her postdoctoral fellowship at the University of California, San Francisco, in the laboratory of Dr. Daniel Stites (AAI '73). She then joined the University of Rochester, where she worked her way up in the ranks, starting as a senior instructor of oncology. Dr. Lord currently serves as professor emerita of microbiology and immunology and oncology.

Dr. Lord studies the microenvironment of solid tumors. Her work has investigated how radiation therapy affects and alters this microenvironment and how radiation therapy interacts with steroids to affect

the anti-tumor immune response. Recently, she has begun studying how the growth of nerves within the tumor microenvironment promotes tumor growth and survival. She is the recipient of the Davey Award for Cancer Research and has been recognized by the University of Rochester with the University Dean's Award for Meritorious Service in Ph.D. Defenses, the Graduate Student Society Advocacy Award, and the University of Rochester Lifetime Mentoring Award. Dr. Lord has actively served the immunology community as a mentor to numerous fellows and trainees, as a consultant to companies, and as a member of National Institutes of Health study sections.

AAI-BD Biosciences Investigator Award Presentation and Lecture

Generously supported by BD Biosciences

SATURDAY, MAY 7 • 4:30 PM

[PORTLAND BALLROOM 252-255](#)

This award recognizes an early career investigator who has made outstanding contributions to the field of immunology.

Chair

Gary A. Koretzky, Cornell Univ. and Weill Cornell Med., AAI President

Dr. Koretzky will introduce the awardee and present the award immediately prior to the lecture.



Presented to
Andrea Schietinger
Mem. Sloan Kettering Cancer Ctr.

T cell differentiation and fate choice in cancer and autoimmunity

Andrea Schietinger, Ph.D. (AAI '14), an associate professor at the Memorial Sloan Kettering Cancer Center (MSKCC), is the recipient of the 2022 AAI-BD Biosciences Investigator Award in recognition of her outstanding research contributions in the area of tumor immunology.

Dr. Schietinger began her investigations of anti-tumor immune responses as a graduate student at the University of Chicago, where she showed that a tumor-specific monoclonal antibody recognized a wild-type surface protein whose glycosylation had been altered as the result of a mutation in a chaperone for a glycosyltransferase. Her findings revealed the

role of altered posttranslational modifications as a novel mechanism for the formation of unique tumor neoantigens from wild-type proteins. During her postdoctoral fellowship in the laboratory of Dr. Philip Greenberg, DFAAI (AAI '82), at the University of Washington and Fred Hutchinson Cancer Center, Schietinger continued her research focus on immune responses to cancer. She demonstrated that cell-intrinsic epigenetically encoded memory in self- and tumor-reactive T cells retains them in a tolerant state, thereby preventing autoimmunity but also anti-tumor immunity.

Since establishing her independent laboratory, Schietinger has made pivotal discoveries on how T cells recognize developing tumors. She showed that T cells become hyporesponsive to cancer cells during the pre-cancerous phase of tumor development, earlier than many investigators thought. She and her team further demonstrated that chronic antigen encounter and T cell receptor (TCR) stimulation induce epigenetically defined programs of cellular hyporesponsiveness in tumor-reactive T cells and that the nuclear factor TOX plays a key role in orchestrating the dysfunction. Schietinger also showed that the T cell dysfunction was dependent on the affinity of the TCR for tumor antigen. She recently has extended her work on T cell populations to settings of autoimmunity, revealing that an autoimmune stem-like CD8⁺ T cell population in pancreatic draining lymph nodes gives rise to autoimmune effector T cells and drives type 1 diabetes in non-obese diabetic mice.

Alexander Y. Rudensky, Ph.D. (AAI '94), professor and chair, HHMI, MSKCC, Rockefeller University and Cornell University, says, "Given her exceptional ability to conduct research that embodies challenge, innovation, and impact, I am certain that Andrea will continue to break new grounds and advance our fundamental understanding of the molecular and epigenetic programs driving T cell dysfunction and its therapeutic reprogrammability. Andrea is a truly exceptional young immunologist."

Schietinger received her Ph.D. in biological sciences through a joint program of the University of Chicago and the Ludwig Maximilian University of Munich, Germany. Following a postdoctoral fellowship and instructor appointment at the University of Washington, she joined the faculty of MSKCC as an assistant member in 2015. She also served as a faculty member of the Sloan Kettering Graduate School of Biomedical Sciences and as an assistant professor of immunology and microbial pathogenesis at Weill Cornell Medical College. She was promoted to associate member in the MSKCC immunology program in 2020.

Schietinger has been honored with the National Institutes of Health Director's New Innovator Award, the Lloyd J. Old STAR (Scientists TAKing Risks) Award from the Cancer Research Institute, the Pershing Square Sohn Prize for Young Investigators in Cancer Research, and the AACR (American Association for Cancer Research)-Bristol Myers Squibb Midcareer Female Investigator Grant. She is a frequently invited speaker at academic institutions and conferences in the United States and abroad, including AACR annual meetings, Federation of American Societies of Experimental Biology Science Research Conferences, Keystone Symposia, the European Academy of Tumor Immunology and INSERM Immuno-Oncology Meeting, the World Immune Regulation Meeting, and the AAI annual meeting.

AAI-BioLegend Herzenberg Award Presentation and Lecture

Generously supported by BioLegend

SUNDAY, MAY 8 • 4:30 PM

PORTLAND BALLROOM 252-255

This award recognizes an individual who has made exemplary research contributions to the field of B cell biology.

Chair

Gary A. Koretzky, Cornell Univ. and Weill Cornell Med., AAI President

Introduction

Mark M. Davis, Stanford Univ. Sch. of Med., HHMI, AAI Vice President

Dr. Davis is very proud to introduce his former trainee and will present this award prior to the start of the lecture.



Presented to **Christopher C. Goodnow**

*Garvan Inst. of Med.
Res., Australia*

***Autoantibody control:
a conceptual journey
from B cell functional
silencing to immune tolerance checkpoints***

Christopher C. Goodnow, Ph.D. (AAI '96), Garvan Institute of Medical Research, Australia, is the recipient of the 2022 AAI-BioLegend Herzenberg Award. This

award is given in recognition of his fundamental contributions in the field of B cell biology that have shaped our understanding of B cell tolerance and basic mechanisms underlying autoimmunity.

Dr. Goodnow has focused on B cell biology since his doctoral studies with Gustav Nossal (AAI '75) and Antony Basten (AAI '76), during which he produced one of the first immunoglobulin (Ig) transgenic mouse lines (MD4) for the study of B cell tolerance. Using a well-studied soluble antigen, hen egg lysozyme (HEL), he made a series of mouse lines that expressed HEL as a soluble or membrane-bound autoantigen. Intercrosses of these mice led to a molecular description of anergy as a mechanism of tolerance to soluble autoantigens and helped to define the mechanism of deletion mediated by membrane-bound autoantigens. The MD4 transgenic mice have since been used by many laboratories around the world in studying various aspects of B cell biology.

As an independent faculty member, Goodnow further described the concept of immune checkpoints as a sequential process to restrain self-reactive lymphocytes. He also pursued large-scale genetic analysis of immune cell development and autoimmunity using ENU mutagenesis. These studies revealed the function of many critical regulators of immunity, including CARD11, THEMIS, and DOCK8. The ROQUIN1 gene was shown to be essential for restraining T follicular helper cell function, and mice and humans with mutations in Roquin suffer severe lupus-like autoimmune disease.

More recently, Goodnow and his team have described a new tolerance mechanism by which anergic B cells in the germinal center can undergo continuing mutation to evolve away from self and towards foreign reactivity, a process termed "clonal redemption." Goodnow has also provided evidence for the role of de novo somatic mutations in autoimmunity. By performing single-cell sequencing of 170 lymphoma-associated genes, Ig repertoire analysis, and antibody peptide sequencing on B cells and serum antibodies from a patient in the early and late phases of developing Sjogren's syndrome, he linked a de novo mutation in KLHL90P with the outgrowth of a pathogenic autoantibody producing clone.

Jason G. Cyster, Ph.D. (AAI '97), professor, HHMI, University of California, San Francisco, says, "Chris has repeatedly changed the way we think about the field of B

cell biology and autoimmunity. His work is central to all immunology textbooks....Beyond the truly remarkable breadth of his achievements in advancing the field of immunology, Chris has made numerous leadership contributions that have positively impacted the training of hundreds of immunologists in Australia and around the world. Chris is known as a charismatic and inspiring leader and an unbeatable person to work with.”

Goodnow began his doctoral studies at Walter and Eliza Hall Institute and completed them at the University of Sydney. He then joined the faculty of Stanford University Medical School and the Howard Hughes Medical Institute. In 1997, he became a professor and the director of the Medical Genome Centre at Australian National University, leading its development into the Australian Phenomics Facility. He moved to the Garvan Institute of Medical Research in 2015 and is currently the executive director, The Bill and Patricia Ritchie Foundation Chair, and head of the Immunogenomics Laboratory. He also is a professor and the director of the Cellular Genomics Futures Institute at the University of New South Wales in Sydney.

Goodnow was the 1998 recipient of the AAI-PharMingen (now AAI-BD Biosciences) Investigator Award. Among his many career honors, he is a member of the National Academy of Sciences and a fellow of the Royal Society and the Australian Academy of Science. Goodnow has received the William E. Paul Memorial Award from the Foundation for Primary Immune Diseases, the GlaxoSmithKline Award for Excellence in Medical Research, and the Gottschalk Medal from the Australian Academy of Science.

Goodnow has served AAI as a member of the Program Committee and as a major symposium chair and speaker at the AAI annual meeting.

AAI-Thermo Fisher Meritorious Career Award Presentation and 2022 Distinguished Lecture

Award generously supported by Thermo Fisher Scientific

SUNDAY, MAY 8 • 6:00 PM

PORTLAND BALLROOM 252-255

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

Chair

Gary A. Koretzky, Cornell Univ. and Weill Cornell Med., AAI President

Dr. Koretzky and David Piper, Senior Director of Research and Development (Protein and Cell Analysis), Thermo Fisher Scientific, will introduce the awardee and present the award immediately prior to the lecture.



Presented to

Katherine A. Fitzgerald

Univ. of Massachusetts Chan Med. Sch.

Regulation, initiation, and resolution of inflammation

Katherine (Kate) A. Fitzgerald, Ph.D. (AAI '06),

University of Massachusetts Chan Medical School, is the recipient of the 2022 AAI-Thermo Fisher Meritorious Career Award in recognition of her outstanding research contributions in the area of innate immunity.

The overarching theme of Dr. Fitzgerald's research is to understand the molecular mechanisms that control inflammation in response to a variety of self- and pathogenic antigens, with four main foci. One arm of research studies how nucleic acids drive inflammation by their intracellular localization. Fitzgerald's laboratory works to understand how the nucleic acid-sensing pathways drive inflammation in response to pathogenic and autoimmune triggers resulting from inappropriate intracellular localization of nucleic acids. Nucleic acids accumulating in the cytosol activate sensors following intracellular infiltration of pathogens, and likewise activate their attempts to elude immune detection. This inappropriate intracellular localization of nucleic acids can also drive autoimmune inflammation.

Her group's second focus studies how inflammasomes, specifically AIM2 and NLRP3, are activated and regulated. Once stimulated, inflammasomes activate caspase-1—and in turn control interleukin (IL)-1 and IL-18—and rapid cell death (pyroptosis).

A third area of study works to describe how long non-coding RNAs regulate the function of both macrophages and dendritic cells. Lastly, Fitzgerald and her colleagues study the innate immune response to malaria. This fourth area of study has suggested that innate immune responses are triggered by the recognition of parasitic DNA by phagocytes.

Ann Marshak-Rothstein, Ph.D., DFAAI (AAI '85), professor, University of Massachusetts Chan Medical School, says, "Dr. Fitzgerald is an extremely talented, creative, and highly productive investigator whose contributions are exceptional both for their scope and overall impact on the field of innate immunity. She has consistently and fearlessly expanded her research program in new directions, and in each case, her innovative approach and clever insights have rapidly identified her as a true super star in that discipline."

Fitzgerald completed her Ph.D. in biochemistry and postdoctoral fellowship at Trinity College Dublin, Ireland. Since 2001, she has risen through the ranks at the University of Massachusetts Chan Medical School. She currently is a professor of medicine and the vice chair for research in the Department of Medicine and director of the Program in Innate Immunity in the Division of Infectious Diseases and Immunology. She also served as an adjunct professor at the Norwegian Institute of Science and Technology from 2014 to 2019. She is the founder of Danger Bio, LLC, and serves or has served on numerous scientific advisory boards.

Fitzgerald was the 2014 recipient of the AAI-BD Biosciences Investigator Award. Her numerous additional honors include election as a member of the National Academy of Sciences, the American Academy of Microbiology, and the Royal Irish Academy. She has received the Saint Patrick's Day Medal, awarded by the Irish Government and Science Foundation Ireland, and is a recipient of the Wellcome Trust International Research Award. She is also the recipient of a National Institutes of Health-National Institute of Allergy and Infectious Diseases MERIT Award and is the current president of the International Cytokine and Interferon Society.

AAI Vanguard Lecture

Sponsored by the AAI Minority Affairs Committee

MONDAY, MAY 9 • 11:15 AM

ROOM C123-124

This annual scientific lecture is presented by an AAI member selected by the Minority Affairs Committee for their scientific achievement and exemplary career success.

Chair

Tonya J. Webb, Univ. of Maryland Sch. of Med., AAI Minority Affairs Committee Chair



Speaker

Cherié L. Butts

Biogen

Concept to approved drug: why immunologists are critical when developing new medicines

Cherié L. Butts, Ph.D. (AAI '10), serves as medical director in the Therapeutics Development Unit at Biogen in Cambridge, Massachusetts, where she is responsible for assessing immunological treatments for neurodevelopmental disorders. Prior to joining Biogen, she held research and drug development-related evaluation appointments at the Food and Drug Administration (FDA) and the National Institutes of Health (NIH), including at the National Institute of Mental Health (NIMH) and National Cancer Institute (NCI).

Butts obtained her Ph.D. from the University of Texas (UT) MD Anderson Cancer Center-UT Health Graduate School of Biomedical Sciences, where her research examined dendritic cell (DC)-mediated anti-tumor immunity in patients with metastatic epithelial ovarian cancer. She studied neuroendocrine regulation of dendritic cells in autoimmune and infectious disease models as a postdoctoral fellow in the Section of Neuroendocrine Immunology at NIMH, NIH.

She continued a research focus on neuroendocrine modulation of immunity as a senior staff fellow in the Laboratory of Immunology, Center for Drug Evaluation and Research, at the FDA. She examined progesterone shifts in DC-directed T cell responses generated by CPG oligodeoxynucleotides and evaluated tacaribe viral infection of neonatal mice with brain inflammation and neuronal cell damage mediated by T cells. Butts also evaluated immunogenicity and chemistry-manufacturing controls for new drug and biologics applications. While at the FDA, she served as a guest researcher for one year at the NCI, where she examined the role of sex hormones in cancer and colitis.

Butts joined Biogen in 2012 and has contributed in a variety of roles during her tenure there. She first held an appointment as an associate director of Immunology Research, using two- and three-dimensional systems to examine the effect of chemical and mechanical cues on DC function while also facilitating project management responsibilities. In 2015, she became portfolio lead in Strategy and Portfolio Leadership, where she drove

strategy for the Neuroimmunology and Acute Neurology group and researched the impact of chemical cues on microglia function and quality of neuron–microglia interactions. She then served as associate medical director in Late-Stage Clinical Development with a focus on leading clinical development activities for multiple sclerosis trials.

In a subsequent role as medical director and head of clinical assessments in Digital and Quantitative Medicine, she used novel instruments in clinical trials with the goal of developing more sensitive and specific measures, easing regulatory acceptance, and reducing clinical trial burden. She also identified gaps in understanding disease pathophysiology for neurodegenerative conditions with the aim of enhancing clinical measurement tools to address these gaps. She was clinical lead for peginterferon beta-1a, approved by the FDA for multiple sclerosis treatment in 2021, and is currently in a health equity assignment focused on reducing time to a correct diagnosis as well as addressing gaps in clinical data.

Butts is a member of the AAI Committee on Public Affairs, where she serves on the NIH and Public Health and Biosecurity (PHB) Subcommittees and has served on the Advocacy Programs Subcommittee. She served as scientific co-author of the AAI primer on the clinical trial vaccine development process produced by the PHB Subcommittee in November 2020.

Butts is a past member and chair of the AAI Minority Affairs Committee (MAC). In addition to leading AAI diversity programs and meeting sessions as MAC chair, Butts helped expand AAI support of the Annual Biomedical Research Conference for Minority Scientists (ABRCMS). She initiated annual AAI co-sponsorship of ABRCMS presentation awards for outstanding student presenters in immunology and spearheaded creation of the AAI Young Scholars Awards. Since 2016, the Young Scholars Awards have provided support for 17 top ABRCMS immunology presenters to attend the AAI annual meeting.

Since 2017, Butts has also served as AAI representative to the Federation of American Societies for Experimental Biology (FASEB) Finance Committee. In July 2021, she was named to the FASEB Board of Directors as Treasurer-Elect, becoming the first industry scientist, first African American, and second woman scientist appointed to the position. She will continue as a board officer and serve as chair of the FASEB Finance Committee when she becomes FASEB Treasurer this July.

At Virtual IMMUNOLOGY2021™, Butts participated as a panelist in the MAC-sponsored “Minority Scientists Experience: Challenging and Overcoming Barriers to Enhancing Diversity and Career Advancement” session. She has served as a table leader at the annual MAC Careers Roundtables session at AAI meetings. Her past AAI awards include the AAI Trainee Abstract Award and AAI Minority Scientist Travel Award.

Butts’s career appointments include service on behalf of the NIH Intramural Program on Research on Women’s Health; Society of Leukocyte Biology Council; Keystone Symposia Board of Directors; National Postdoctoral Association; Dana-Farber Cancer Institute CURE Advisory Board; Johns Hopkins Technology Ventures; Beth Israel Deaconess Medical Center Leadership Board; Massachusetts Economic Development Planning Council; Salem (Massachusetts) State University Board of Trustees (vice chair); and University of Maryland (adjunct professor).

AAI Excellence in Mentoring Award Presentation

MONDAY, MAY 9 • 12:30 PM

PORTLAND BALLROOM 252-255

This award recognizes a member for exemplary career contributions to a future generation of scientists.

Chair

Gary A. Koretzky, Cornell Univ. and Weill Cornell Med., AAI President

Dr. Koretzky and Gregory M. Barton, HHMI, Univ. of California, Berkeley, will introduce the awardee and present the award prior to the start of the President’s Symposium.



Presented to

Ruslan Medzhitov
HHMI, Yale Univ. Sch. of Med.

Ruslan Medzhitov, Ph.D. (AAI ’00), HHMI, Yale University School of Medicine, is the recipient of the 2022 AAI

Excellence in Mentoring Award, in recognition of his contributions to a future generation of scientists.

Dr. Medzhitov has enhanced our understanding of innate immunity. His research has spanned diverse topics within that subject, including identification of key innate immune signaling components, demonstration

of the homeostatic interactions between Toll-like receptors and the intestinal microbiota, and description of a cell-intrinsic DNA-activated antiviral response and its role in certain autoimmune diseases. Another legacy is his dedicated and supportive mentorship to more than 75 graduate students and postdoctoral fellows, many of whom are now established as independent investigators and notable contributors to the field of innate immunity. Former lab members have been successful in attaining faculty positions at universities and research institutes in the United States and abroad, including Weill Cornell Medicine; Boston Children's Hospital; the University of Washington; Brown University; the University of Pennsylvania; the University of Arizona; the Mayo Clinic; the University of Oxford, United Kingdom; McGill University, Canada; the University of Marburg, Germany; Kobe University, Japan; the Korea Advanced Institute of Science and Technology, South Korea; and ShanghaiTech University, China.

Former trainees in the Medzhitov laboratory describe his broad interests, clarity of thought, and generosity with his talent and time as making a lasting impact. Gregory M. Barton, Ph.D. (AAI '09), professor and division head, HHMI, University of California, Berkeley, believes that all trainees in the lab leave with the Medzhitov "imprint." He says, "Somehow Ruslan manages to infuse his lab with his intellect and ambition while avoiding the tendency to micromanage projects or people. Looking back, I am amazed at his ability to provide advice, encouragement, and direction while allowing each of us to make our own decisions and mistakes." Medzhitov's support also extends to trainees after they leave his lab. His generosity in allowing trainees to take their projects with them greatly contributes to their success as principal investigators of their own labs, and he remains available for advice as they confront new career opportunities and challenges. Former and current lab members gather every few years for a retreat which, following the style of his lab, includes scientific talks and ample time for discussion.

Caroline L. Sokol, M.D., Ph.D. (AAI '18), assistant professor of medicine, Harvard Medical School, reflects on how Medzhitov's mentorship when she was an M.D.-Ph.D. student at Yale helped her in overcoming imposter syndrome. She states, "I was surrounded by equal numbers of men and women at all stages of training, trainees from all backgrounds and from countries across the globe, and by physicians and scientists, all of whom shared curiosity in common. Being able to see yourself in the others sitting at the table—as a woman, as an underrepresented minority, as a biochemist, as a physician—there was support and a sense of unity in

that diversity. By establishing a supportive atmosphere, in which we all felt that we belonged, Ruslan gave us the safety that we all needed to take intellectual risks."

Medzhitov received his Ph.D. from Moscow State University, Russia. He completed a postdoctoral fellowship with Charles Janeway (AAI '74; d. 2004) at Yale University School of Medicine before becoming an assistant professor there in 1999. He is currently Sterling Professor in the Department of Immunobiology at Yale. He has been an HHMI investigator since 2000.

Medzhitov was the 2006 recipient of the AAI-BD Biosciences Investigator Award. His additional honors include the Shaw Prize in Life Science and Medicine, the Lurie Prize in Biomedical Sciences, the Else Kröner Fresenius Stiftung Prize, and the Vilcek Prize in Biomedical Science. He is a fellow of the American Association for the Advancement of Science and a member of the National Academy of Sciences and the National Academy of Medicine.

Medzhitov was selected an AAI Distinguished Lecturer in 2013 and has also served as a major symposium speaker at AAI meetings, an elected member of the Program Committee, and a faculty member for the AAI Advanced Course in Immunology.

AAI-Steinman Award for Human Immunology Research Presentation and Lecture

MONDAY, MAY 9 • 4:30 PM

PORTLAND BALLROOM 252-255

This award recognizes an individual who has made significant contributions to the understanding of immune processes underlying human disease pathogenesis, prevention, or therapies.

Chair

Gary A. Koretzky, Cornell Univ. and Weill Cornell Med., AAI President

Dr. Koretzky will introduce the awardee and present the award prior to the start of the lecture.



Presented to

Jeffrey A. Bluestone
Univ. of California, San Francisco, and Sonoma Biotherapeutics

Immune tolerance: the long road to finding the holy grail

Jeffrey A. Bluestone, Ph.D., DFAAI (AAI '82), University of California, San Francisco (UCSF), and Sonoma Biotherapeutics, is the recipient of the 2022 AAI-Steinman Award for Human Immunology Research. He is recognized for his seminal contributions in the areas of T cell activation and immune tolerance, leading to new therapies for autoimmune diseases.

Dr. Bluestone has been steadfastly committed to translating knowledge of T cell tolerance to the clinic. He and his collaborators demonstrated that anti-CD3 in the NOD mouse model of type 1 diabetes could reverse diabetes in newly diabetic mice. This work led to a clinical trial in which the antibody was shown to preserve insulin c-peptide levels in new onset type 1 diabetes patients compared to controls, and it was later demonstrated to delay the onset of diabetes in those at high risk of developing the disease. Bluestone also applied the therapeutic potential of inhibiting cytotoxic T lymphocyte antigen 4 (CTLA4) interactions with CD28 in the transplantation setting, showing that a blocking approach with a CTLA4-Ig fusion protein could confer lasting tolerance in an animal model system involving xenogeneic transplant of human pancreatic islets. This work laid part of the foundation for the ultimate FDA approval of CTLA4-Ig as a therapy in transplantation and rheumatoid arthritis.

Bluestone has also focused on regulatory T cells (Tregs) as a treatment approach for autoimmunity, demonstrating that CD4⁺CD25⁺ T cells played an important role in preventing diabetes in the NOD mouse model. This was followed by a clinical trial in which autologous Tregs were expanded *ex vivo* from the blood of patients and then adoptively transferred back to the patients. His group found that the approach was safe and that the adoptively transferred Tregs had a long half-life, supporting further research to test the efficacy of Treg therapy.

Mark S. Anderson, M.D., Ph.D. (AAI '04), professor and Robert B. Friend and Michelle M. Friend Endowed Chair in Diabetes Research, UCSF, says "Overall, Dr. Bluestone

has played an exceptional role in moving forward our understanding of T cell biology and tolerance into the clinic. In addition to his scientific contributions, it is also worth noting his leadership in the field for translation." Bluestone served as the founding director of the National Institute for Allergy and Infectious Diseases Immune Tolerance Network from 1999 until 2010. The Immune Tolerance Network has overseen more than 75 clinical trials related to allergy, autoimmunity, and transplantation.

Bluestone received his Ph.D. from the Cornell Graduate School of Medical Sciences. He started his independent career at the National Cancer Institute before moving to the University of Chicago, Ben May Institute for Cancer Research, as an associate professor. He later served as its director from 1995 to 2000. In 2000, Bluestone joined the UCSF faculty as the director of the Diabetes Center and Metabolic Research Unit. Among the many leadership positions Bluestone has held at UCSF, he served as executive vice chancellor and provost from 2010 to 2015. He currently holds the appointment of A.W. and Mary Margaret Clausen Distinguished Professor Emeritus of Medicine at UCSF. Bluestone served as president and CEO of the Parker Institute for Cancer Immunotherapy from 2015 to 2019. He assumed his position as president and CEO of Sonoma Biotherapeutics in 2019.

Bluestone is a 2019 Distinguished Fellow of AAI and was the recipient of the AAI Excellence in Mentoring Award in 2020. He is a member of the National Academy of Medicine and the American Academy of Arts and Sciences.

Bluestone's service to AAI includes appointments as an associate, section, and deputy editor for *The Journal of Immunology*. He was selected an AAI Distinguished Lecturer in 2018 and has served as a major symposium chair and speaker at AAI meetings. He has also served as a member of the AAI Finance, Nominating, and Publications Committees and as a faculty member for the AAI Introductory Course in Immunology.

DISTINGUISHED LECTURES

Neoantigens as Probes and Targets of Immune Responses to Cancer

SATURDAY, MAY 7 • 6:00 PM

PORTLAND BALLROOM 252-255



Robert D. Schreiber
*Washington Univ. Sch.
 of Med. in St. Louis*

Chair

Cathryn R. Nagler, Univ.
 of Chicago, AAI Program
 Committee Chair

**Robert D. Schreiber, Ph.D.,
 DFAAI (AAI '76)**, is the Andrew

M. and Jane M. Bursky Distinguished Professor in the department of Pathology and Immunology, the Interim Head of the Immunobiology Division, a professor of Molecular Microbiology, director of the Andrew M. and Jane M. Bursky Center for Human Immunology and Immunotherapy Programs, and the program co-leader in Tumor Immunology at the Siteman Cancer Center at the Washington University School of Medicine in St. Louis.

Dr. Schreiber's research focuses on how the immune system responds to cancer. His group has described the concept of—and cytokines, receptors, and signaling pathways involved in—"cancer immunoediting." This phenomenon occurs in three phases when incomplete tumor clearance by the immune system leads to the outgrowth of tumor cells that more easily evade immunological defenses. The first phase is incomplete immune elimination of the tumor cells. This incomplete elimination leads to a second equilibrium phase, in which the immune system prevents overt outgrowth of tumor cells. The last, or escape phase, occurs when the tumor cells have sufficient modifications to subvert immune recognition. This research has also led to the development of cytokine- or receptor-neutralizing monoclonal antibodies that can target specific immunologic steps in the anti-tumor response. More recently, Schreiber's laboratory has worked to identify and therapeutically target tumor-specific neoantigens,

using immunogenomics to identify neoantigens and develop appropriate vaccines.

Schreiber received his Ph.D. in biochemistry from the University at Buffalo, SUNY, where he completed a short postdoctoral fellowship in the Departments of Medicine and Biochemistry. He then completed a second postdoctoral fellowship in the Department of Molecular Immunology at the Research Institute of Scripps Clinic in La Jolla, California. Schreiber held various positions at Scripps and as a visiting assistant professor at Harvard Medical School before assuming an appointment as a professor at the Washington University School of Medicine in St. Louis in 1985. From 2001–2012, he was also an affiliate of the Ludwig Institute for Cancer Research in New York. He is the co-founder of several companies, including BioNTech Therapeutics, Inc.

Schreiber has received numerous awards, including being named a Distinguished Fellow of AAI and a fellow of the American Association for the Advancement of Science, membership in the American Academy of Arts and Sciences and the National Academy of Sciences, serving on the Biden Cancer Moonshot Blue Ribbon Panel, and sharing the Balzan Prize with James Allison for Immunological Approaches in Cancer Therapy.

Regulation, Initiation, and Resolution of Inflammation

SUNDAY, MAY 8 • 6:00 PM

PORTLAND BALLROOM 252-255



**Katherine A.
 Fitzgerald**

*Univ. of Massachusetts
 Chan Med. Sch.*

Chair

Gary A. Koretzky, Cornell
 Univ. and Weill Cornell Med.,
 AAI President

See Dr. Fitzgerald's bio on page 27.

Control of Tissue Immunity and Repair by the Microbiota

MONDAY, MAY 9 • 6:00 PM

PORTLAND BALLROOM 252-255



Yasmine Belkaid

NIAID, NIH

Chair

Cathryn R. Nagler, Univ. of Chicago, AAI Program Committee Chair

Yasmine Belkaid, Ph.D. (AAI '13), is the chief of the Metaorganism Immunity

Section and chief of the Laboratory of Host Immunity and Microbiome at the National Institute of Allergy and Infectious Diseases (NIAID), NIH.

Dr. Belkaid studies how commensal microbiota and pathogens interact with host barriers to result in inflammation or tolerance. The skin and gut are highly specialized environments that are in constant contact with both commensal bacteria and potential pathogenic threats, and aberrant over- or under-activation of the immune response at these sites could be life-threatening. Her laboratory studies this delicate dichotomy: immune tolerance of innocuous microbiota and robust and rapid response to pathogenic challenges. Her group has described the role of commensals in shaping the immune defense of the skin and gut. Focusing on the gut microenvironment, her group has also described how diet and nutrition (and in particular,

Vitamin A) shape effector versus regulatory immune responses and the impact of malnutrition on immunity. Her group has also described the gut compartment itself as a site of regulatory cell induction. Lastly, they have demonstrated the impact of acute infections on tissue immunity. Current areas of research address the function and mechanism of microbiota contributions to tissue immunity and inflammation, how prenatal and early life exposures to microbiota affect longer term immune responses, and tissue-specific strategies to avoid destruction during inflammation.

Belkaid completed her Ph.D. in immunology at the Orsay University at the Pasteur Institute in Paris, France. In 1996, she moved to NIAID, where she was a Fogarty Fellow and staff scientist. After serving as an assistant professor at the Cincinnati Children's Hospital Medical Center and the University of Cincinnati, Belkaid returned to NIAID in 2005. She has since risen through the ranks at NIAID while also serving as an adjunct assistant professor at the University of Pennsylvania since 2007.

Belkaid has received numerous awards, including several NIAID MERIT Awards, the Lurie Prize in Biomedical Sciences, and the AAI-Thermo Fisher Meritorious Career Award. She is an elected member of the American Academy of Arts and Sciences, the National Academy of Medicine, the Henry Kunkel Society, and the National Academy of Sciences, associate member of the European Molecular Biology Organization (EMBO), and fellow of the American Association for the Advancement of Science.

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MAJOR SYMPOSIA

SATURDAY, MAY 7 • 8:00 AM – 11:30 AM

Major Symposium A

Development of the Immune System

PORTLAND BALLROOM 252, 253

Chairs

Avinash Bhandoola, NCI, NIH

Ellen V. Rothenberg, CalTech

Speakers

Ellen V. Rothenberg, CalTech

Transcriptional and epigenetic regulation of single-cell decisions to enter the T cell developmental pathway

Kenneth M. Murphy, Washington Univ. Sch. of Med. in St. Louis

Mechanisms of divergence during dendritic cell development

Albert S. Bendelac, Univ. of Chicago

An ILC2-specific Gata3 enhancer

Gretchen E. Diehl, Mem. Sloan Kettering Cancer Ctr.

Development of microbiota specific T cells

Gay M. Crooks, Univ. of California, Los Angeles

A dish of T: in vitro models of human T cell development

Avinash Bhandoola, NCI, NIH

Transcriptional control of thymic epithelial cell development and its impact on T cell function

Major Symposium B

Macrophage Biology, Diversity, and Inflammation

PORTLAND BALLROOM 254, 255

Chairs

Mireia Guerau-de-Arellano, The Ohio State Univ.

Claudia V. Jakubzick, Geisel Sch. of Med. at Dartmouth

Speakers

Claudia V. Jakubzick, Geisel Sch. of Med. at Dartmouth
Resident macrophage diversity in the lung

Kristin L. Patrick, Texas A&M Univ.

Defining the contribution of RNA-binding proteins to macrophage activation and innate immune gene expression

Gwendalyn J. Randolph, Washington Univ. Sch. of Med. in St. Louis

Diversity, function, and mysteries of peritoneal macrophages

Jian Zhang, Univ. of Iowa

Regulation of innate immunity by E3 ubiquitin ligases

Thirumala-Devi Kanneganti, St. Jude Children's Res. Hosp.

Targeting innate immunity and PANoptosis for the treatment of inflammatory and infectious diseases

Edward B. Thorp, Northwestern Univ.

Coordination of macrophage metabolism with tissue repair

SUNDAY, MAY 8 • 8:00 AM – 11:30 AM

Major Symposium C

Sex Differences in the Immune Response

PORTLAND BALLROOM 252, 253

Chairs

Sabra L. Klein, Johns Hopkins Bloomberg Sch. of Pub. Hlth.

Shannon E. Dunn, Univ. of Toronto, Canada

Speakers

Sabra L. Klein, Johns Hopkins Bloomberg Sch. of Pub. Hlth.

Sex differences in immunity to influenza and SARS-CoV-2

Shannon E. Dunn, Univ. of Toronto, Canada

Sex differences in the effect of obesity on T helper 1 immunity

Dawn C. Newcomb, Vanderbilt Univ. Med. Ctr.

Sex hormones regulate allergic airway inflammation in asthma

Jun R. Huh, Harvard Med. Sch.

Pregnancy plays a major role in dictating viral-induced immune responses

Bérénice A. Benayoun, Univ. of Southern California

Lifelong sex differences in neutrophil phenotypes

Kanakadurga Singer, Univ. of Michigan

Sex differences in obesity-induced meta-inflammation



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SPIN TO WIN



SUNDAY, MAY 8 • 8:00 AM – 11:30 AM

Major Symposium D**Maintaining Tissue Homeostasis during Initiation and Resolution of Inflammation**

PORTLAND BALLROOM 254, 255

Chairs

Daniel J. Campbell, Benaroya Res. Inst.
Keke C. Fairfax, Univ. of Utah

Speakers

Keke C. Fairfax, Univ. of Utah
Influence of bone marrow inflammation on tissue immunity

Sarah L. Gaffen, Univ. of Pittsburgh
IL-17 signaling crosstalk during inflammation

Gudrun F. Debes, Thomas Jefferson Univ.
Skin regulatory B cells: homing and function

Brian S. Kim, Icahn Sch. of Med. at Mount Sinai
Itch paradigms: neuroimmune regulation of somatosensation

Daniel J. Campbell, Benaroya Res. Inst.
Manipulating regulatory T cell activity in tissues to treat autoimmunity

MONDAY, MAY 9 • 8:00 AM – 11:30 AM

Major Symposium E**Tumor Microenvironment**

PORTLAND BALLROOM 252, 253

Chairs

Shannon J. Turley, Genentech
Padmanee Sharma, Univ. of Texas MD Anderson Cancer Ctr.

Speakers

Padmanee Sharma, Univ. of Texas MD Anderson Cancer Ctr.

From the clinic to the lab: investigating mechanisms of response and resistance to immune checkpoint therapy

Nikhil S. Joshi, Yale Univ. Sch. of Med.
Investigating T cell responses in engineered cancer models

Greg M. Delgoffe, UPMC Hillman Cancer Ctr.
Control of T cell differentiation by tumor microenvironment metabolism

Shannon J. Turley, Genentech
Stromal-immune niches in cancer, inflammation, and immunotherapy

Ming O. Li, Mem. Sloan Kettering Cancer Ctr.
Immunological mechanisms of cancer defense

Major Symposium F**B Cell Responses in Non-Lymphoid Tissues**

PORTLAND BALLROOM 254, 255

Chairs

Jennifer L. Gommerman, Univ. of Toronto, Canada
Jeffrey L. Browning, Boston Univ. Sch. of Med.

Speakers

Thomas Korn, Tech. Univ. of Munich, Germany
Building and controlling B cell niches in the CNS

S. Rameeza Allie, Penn State Univ. Col. of Med.
Resident memory B cells in the frontline of respiratory immunity

Brad H. Nelson, BC Cancer–Victoria, Canada
Tumor-infiltrating B cells from diagnosis to end-stage disease in ovarian cancer

Tullia C. Bruno, Univ. of Pittsburgh Sch. of Med.
Exploring differential functions of B cells and tertiary lymphoid structures in human cancer

E. Eun-Hyung Lee, Emory Univ.
The bone marrow microniche and the maturation of human long-lived plasma cells

Jennifer L. Gommerman, Univ. of Toronto, Canada
B cells and grey matter injury in an animal model of multiple sclerosis

TUESDAY, MAY 10 • 8:00 AM – 11:30 AM

Major Symposium G**Immunology of COVID-19: Mechanisms of Pathology and Protection**

PORTLAND BALLROOM 252, 253

Chairs

Ali H. Ellebedy, Washington Univ. Sch. of Med. in St. Louis
Deeptha Bhattacharya, Univ. of Arizona

Speakers

Ali H. Ellebedy, Washington Univ. Sch. of Med. in St. Louis
Germinal center B cell response to SARS-CoV-2

TUESDAY, MAY 10 • 8:00 AM – 11:30 AM

Ivan Zanoni, Harvard Univ.

Interferons: friends or foes in COVID-19?

Michela Locci, Univ. of Pennsylvania Perelman Sch. of Med.

Immunological mechanisms of messenger RNA vaccines

Paul G. Thomas, St. Jude Children's Res. Hosp.

Deconstructing the form and function of T cell responses to SARS-CoV-2

Taia T. Wang, Stanford Univ.

Structurally and functionally distinct antibody responses predict COVID-19 disease trajectory and mRNA vaccine response

Deepta Bhattacharya, Univ. of Arizona

Antibody recall responses to heterologous SARS-CoV-2 infections

Major Symposium H

New Insights into Autoimmunity and Immune Tolerance

PORTLAND BALLROOM 254, 255

Chairs

Hongbo Chi, St. Jude Children's Res. Hosp.

Vijay K. Kuchroo, Brigham and Women's Hosp.

Speakers

Mandy J. McGeachy, Univ. of Pittsburgh

IL-17 from translation to function

Vijay K. Kuchroo, Brigham and Women's Hosp.

Role of gut-resident stem-like Th17 cells in inducing tissue inflammation and autoimmunity

Qizhi Tang, Univ. of California, San Francisco

Human Treg response to inflammation

Hongbo Chi, St. Jude Children's Res. Hosp.

Nutrients: signal 4 for licensing T cell immunity and tolerance

Vanja Lazarevic, NCI, NIH

Transcriptional regulation of CD4⁺ T cells that mediate neuroinflammation

Richard A. Flavell, Yale Univ. Sch. of Med.

Lessons from a humanized mouse model of COVID-19

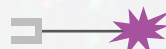
All session information is subject to change.

Illuminating immune function

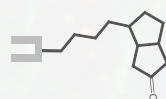
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Versatile Applications

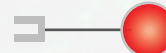
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Drug/probe conjugate



Peptide/protein/other cargo

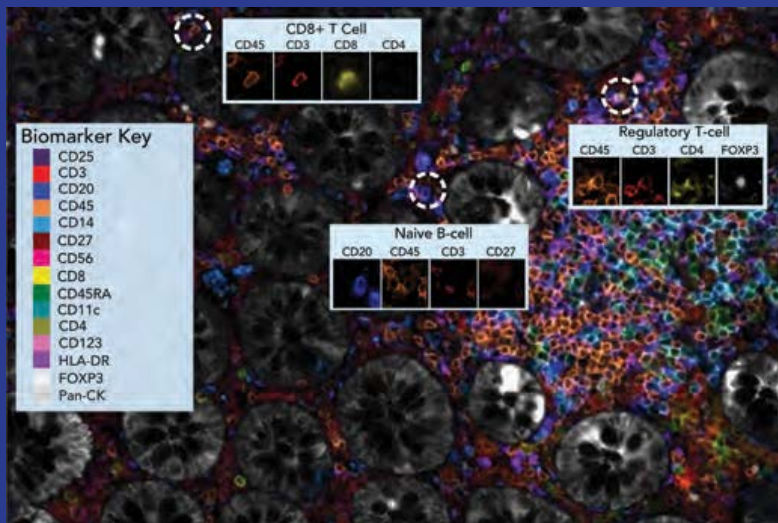
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IMMUNOLOGY2022™

105TH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS

OREGON CONVENTION CENTER | PORTLAND, OR

FRIDAY, MAY 6 – TUESDAY, MAY 10



IMPORTANT DATES

REGISTRATION

Early Registration Discount Ends March 29, 2022

Advance Registration Discount Ends May 5, 2022

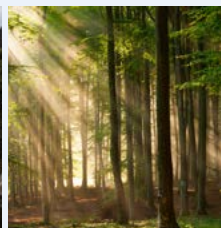
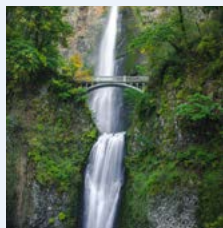
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COMMITTEE-SPONSORED SESSIONS AND EVENTS

CLINICAL IMMUNOLOGY COMMITTEE

SUNDAY, MAY 8 • 8:00 AM – 10:00 AM

NextGen Transformative Immunologic Therapies for Human Disease

ROOM A107-109

Chairs

Jennifer H. Anolik, Univ. of Rochester Med. Ctr., AAI
Clinical Immunology Committee Chair
Erica L. Stone, GigaGen

Speakers

Jeffrey S. Miller, Univ. of Minnesota, Twin Cities
The next generation of NK cell therapeutics to treat cancer

Stephanie K. Dougan, Dana-Farber Cancer Inst.
Inducing and sustaining tumor-specific memory CD8⁺ T cells

Samik Basu, Cabaletta Bio
Adoptive immunotherapy for MuSK subtype myasthenia gravis

S. Alice Long, Benaroya Res. Inst.
Treg modulation by IL-2 mutein therapy

Understanding the underlying mechanisms of pathology for disease states has allowed for both the manipulation and targeting of specific aspects of the immune response to alleviate, or in some instances, cure immune- and non-immune-mediated diseases. But how does basic immunology research evolve into potential therapies, and how do those therapies get developed? What are the new, up-and-coming therapies currently in development? In this session, four speakers will highlight therapies that are in the pipeline for clinical use and tell their stories, from target identification to their use in clinical trials.

COMMITTEE ON PUBLIC AFFAIRS

SATURDAY, MAY 7 • 10:15 AM – 12:15 PM

ARPA-H: What You Need to Know and How It May Impact Federal Funding of Biomedical Research

ROOM A105-106

Chair

Peter E. Jensen, Univ. of Utah Sch. of Med., AAI
Committee on Public Affairs Chair

Speakers

Tara A. Schwetz, Acting Principal Deputy Director, NIH
Amanda M. Jamieson, Brown Univ.

*Additional speakers may be announced.
Visit www.IMMUNOLOGY2022.org for the most up-to-date information.*

President Joe Biden's budget request for fiscal year (FY) 2022 includes the largest one-year funding increase for the National Institutes of Health (NIH) in the history of the agency, for a total budget of about \$52 billion. While \$2.5 billion of this \$9 billion increase would support regular NIH operations, \$6.5 billion would be allocated to the creation of a new entity within NIH, the Advanced Research Projects Agency for Health (ARPA-H). ARPA-H, which is modeled after the Defense Advanced Research Projects Agency (DARPA), would support high-risk, high-reward research and, according to the budget request, "collapse barriers and speed the development, application, and implementation of urgently needed health breakthroughs." Whether this new agency will be created and what its structure will ultimately be is now largely in the hands of Congress. But its creation is broadly supported, and some version of this agency is likely to become part of the biomedical research ecosystem within the next few years.

This session will feature a distinguished panel of experts who will explain the vision for this new agency. They will also address critical issues about how it might operate, including how immunologists could apply for and use ARPA-H funds, and whether federal investment in ARPA-H could adversely affect funding for the regular NIH budget, including its investigator-initiated basic research portfolio. The formal presentations will be followed by an ample question-and-answer period.

SUNDAY, MAY 8 • 10:15 AM – 12:15 PM

Vaccine Acceptance: Lessons from the Past and Tools for the Future

ROOM A105-106

Chair

Peter E. Jensen, Univ. of Utah Sch. of Med., AAI Committee on Public Affairs Chair

Speakers

Richard M. Carpiano, Professor of Public Policy, Univ. of California, Riverside

Akiko Iwasaki, Yale Univ. Sch. of Med.

Additional speakers may be announced.

Visit www.IMMUNOLOGY2022.org for the most up-to-date information.

Vaccines have long been one of the most effective tools to combat infectious diseases, saving countless lives since the development of the first vaccine against smallpox in the late 18th century. Because of vaccines, smallpox has been eradicated worldwide, polio has been eliminated in the United States, and other deadly diseases including rubella, pertussis, and measles are now preventable. Despite this evidence, concerns about the safety or efficacy of vaccines persist. The problem of waning vaccine acceptance has only been exacerbated by the COVID-19 pandemic. Although scientists have developed remarkably safe and effective vaccines against COVID-19 in record time, and several have been approved by the U.S. Food and Drug Administration, far too many eligible Americans remain unvaccinated. Concerns about vaccine safety and efficacy, widespread misinformation and disinformation about vaccines, and the politicization of public health recommendations have hampered the acceptance of these lifesaving tools, posing an increasingly serious threat to individual lives and global public health.

This session features experts who will discuss lessons learned about vaccine acceptance, the challenges that lie ahead, and how we as members of the broader biomedical research community can effectively communicate with the public. A question-and-answer period will follow the formal presentations.

EDUCATION COMMITTEE

SATURDAY, MAY 7 • 11:00 AM – 1:00 PM

Immunology Teaching Interest Group: Enhancing Your Immunology Teaching

ROOM B117-119

Chairs

William H. Carr, Medgar Evers Col., CUNY

Michelle Snyder, Towson Univ.

Panelists

Sarah B. Redmond, Radford Univ.

To lab or not to lab, that is the question

John K. Cusick, California Northstate Univ.

Improving the effectiveness of combining PowerPoint presentations and review games

Keri C. Smith, Saba Univ. Sch. of Med., Dutch Caribbean

The zombie pirate invasion: an introduction to immunology concepts

Tatiana Barichello, Univ of Texas Hlth. Sci. Ctr., Houston

Problem-Based Learning (PBL) approach as a tool to teach immunology

Breakout Session Leaders

Louis B. Justement, Univ. of Alabama at Birmingham,

Rebekah T. Taylor, Frostburg State Univ., and

Sumali Pandey, Minnesota State Univ., Moorhead

Incorporating immunology into the undergraduate curriculum to promote interdisciplinary science education

Kara R. Lukin, Western Governors Univ., Univ. of Colorado

Leveraging Flipgrid to drive social belonging and more durable learning in immunology courses

Edward J. Moticka, A.T. Still Univ.

Using history to teach immunological concepts

Holly Turula, Western Michigan Univ. Homer Stryker M.D. Sch. of Med.

Using team-based learning to solidify immunology concepts

Are you looking for new ideas to enliven and improve your teaching? If so, please join us for this special interest group, which will focus on strategies that instructors can use to successfully convey immunology concepts to students at the undergraduate and graduate level. The session will explore teaching techniques through talks and structured breakout discussion groups. Current educators, new faculty, and trainees with an interest in teaching are welcome.

SATURDAY, MAY 7 • 7:00 PM – 9:00 PM

Careers in Biotech: Panel Discussion and Networking

ROOM A105-106

Chair**H. Kiyomi Komori**, Arena Pharma.**Panelists****Richard Boismenu**, Independent Consultant**Yi Ting Koh**, Senior Director, Immunology Discovery, Eli Lilly and Co.**Joseph Kuo**, Research Scientist, Arena Pharma.**Erica L. Stone**, Vice President, Oncology, GigaGen

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

**EDUCATION COMMITTEE,
COMMITTEE ON THE STATUS
OF WOMEN**

SUNDAY, MAY 8 • 12:30 PM – 2:00 PM

Careers in Science Lecture and Roundtables*Generously supported by 10x Genomics*

EXHIBIT HALL B

Chairs**Laura A. Solt**, Scripps Res., AAI Committee on the Status of Women Chair**Speaker****Gwendalyn J. Randolph**, Washington Univ. Sch. of Med. in St. Louis*Becoming a confident scientist and embracing your authentic self*

Following the keynote speaker, attendees will have the opportunity to gather in roundtable sessions and meet with experienced scientists for a casual, interactive discussion exploring varied career issues important to today's scientists. Topics include international opportunities in science; succeeding in graduate school; tips on grant writing; considerations for scientists in M.D.-Ph.D. careers; exciting careers beyond the bench; building productive mentor/mentee relationships; overcoming self-doubt; tackling gender biases in recruitment, research, and leadership; and navigating work/life issues, such as balancing careers with family and transitioning from specific career stages, which may be relevant to any work environment (academic research, biotech industry, governmental agencies, non-profit). Don't miss this great opportunity! *Registration Fee: \$30 (lunch included)*

MINORITY AFFAIRS COMMITTEE

SATURDAY, MAY 7 • 12:00 PM – 2:15 PM

Careers Roundtables and Speed Networking Session

EXHIBIT HALL B

Chair**Tonya J. Webb**, Univ. of Maryland Sch. of Med., AAI Minority Affairs Committee Chair

Networking skills have never been more crucial to ensure success for early/mid-career scientists, including those traditionally underrepresented in biomedical research. Take advantage of the opportunity to meet in a small-group format with accomplished senior immunologists and others to hear how they have handled the career challenges you now face and learn what they believe will work for you today. Practice networking in a relaxed environment offering a structured networking exercise and personalized feedback on communicating your scientific interests/objectives most effectively. Scientists and trainees of all backgrounds are encouraged to attend! *Registration Fee: \$30 (lunch included)*

SUNDAY, MAY 8 • 3:45 PM – 5:45 PM

Neonatal Immunity and Neuroimmunology

ROOM C123-124

Co-sponsored by the AAI Minority Affairs Committee and Black in Immuno

Chairs

Michael M. Opata, Appalachian State Univ.; Member, AAI Minority Affairs Committee

Alexis Mobley, Univ. of Texas MD Anderson Cancer Ctr.; President and Co-founder, Black in Immuno

Speakers

Michael M. Opata, Appalachian State Univ.
Neonatal immunity to malaria using a mouse model

Dionna W. Williams, Johns Hopkins Univ. Sch. of Med.
Beyond GPCR recycling: β -arrestin as a neuroprotective modulator of innate immune responses

Alexis Mobley, Univ. of Texas MD Anderson Cancer Ctr.
Aging augments type 2 cytokine responses in ILC2s leading to reparative, M2-like microglia

Olivia Solomon, Univ. of Texas Med. Br.
A window into experimental cerebral malaria reveals dynamics of hyper-coagulation, BBB disruption, and microgliosis

Shevon N. Alexander, Univ. of Texas, Dallas
Sex differences in alcohol-induced behavioral sensitization

E. Evonne Jean, Univ. of Pennsylvania Perelman Sch. of Med.
Understanding the mechanisms of immunity against percutaneous infection by a skin-penetrating helminth

This session will showcase innovative research in neonatal immunity and neuroimmunology being conducted in laboratories led by prominent Black immunologists. Presentations by first authors of recently published studies in these fast-moving fields will highlight the work of rising scientists and trainees from historically underrepresented groups. Given the success of these immunologists, these talks implore us to implement pathways that provide supportive and vibrant environments that continue to foster the efforts of these outstanding young investigators.

MONDAY, MAY 9 • 11:15 AM – 12:15 PM

AAI Vanguard Lecture

ROOM C123-124

Chair

Tonya J. Webb, Univ. of Maryland Sch. of Med., AAI Minority Affairs Committee Chair

Speaker

Cherié L. Butts, Biogen
Concept to approved drug: why immunologists are critical when developing new medicines

This annual scientific lecture is presented by an AAI member selected by the Minority Affairs Committee for their scientific achievement and exemplary career success.

PROGRAM COMMITTEE

FRIDAY, MAY 6 • 2:00 PM – 4:00 PM

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

OREGON BALLROOM 204

Chairs

Cathryn R. Nagler, Univ. of Chicago, AAI Program Committee Chair

Gianna E. Hammer, Duke Univ.

Speakers

Sarah L. Gaffen, Univ. of Pittsburgh
Epitranscriptomics

Shane Crotty, La Jolla Inst. for Immunology
Cellular responses to mRNA vaccines

Ranmik J. Xavier, Massachusetts Gen. Hosp.
Trained immunity

Amber M. Smith, Univ. of Tennessee Hlth. Sci. Ctr.
Modeling: what it can do for you

Hot topics will be presented in short talks at the start of this popular session, which brings the audience up to date on select emerging or rapidly changing fields or areas of technological innovation. Expert lecturers will provide an overview of each trending topic with an emphasis on communicating big picture concepts.

PUBLICATIONS COMMITTEE

SUNDAY, MAY 8 • 12:30 PM – 2:30 PM

Scientific Communication in a Fast-Paced World

ROOM C123-124

Chairs**Daniel J. Campbell**, Benaroya Res. Inst., AAI
Publications Committee Chair**Eugene M. Oltz**, The Ohio State Univ. Col. of Med.,
Editor-in-Chief, *The Journal of Immunology***Speakers****Laurie E. Harrington**, Univ. of Alabama at Birmingham
*Writing manuscripts with trainees***Jessica A. Hamerman**, Benaroya Res. Inst.
*Responding to reviewers***Mark H. Kaplan**, Indiana Univ. Sch. of Med.; Editor-in-
Chief, *ImmunoHorizons*
*Why you should publish in ImmunoHorizons—and
The JI too!*

This session will feature experts in a panel discussion on topics important to successful publishing for trainees new to authorship, mentors assisting trainees, and experienced authors.

VETERINARY IMMUNOLOGY COMMITTEE

SATURDAY, MAY 7 • 12:30 PM – 2:30 PM

Immunomodulation and Immunotherapy: Lessons to Improve Health

ROOM A107-109

Chairs**Janice C. Telfer**, Univ. of Massachusetts, Amherst, AAI
Veterinary Immunology Committee Chair**Renukaradhya J. Gourapura**, The Ohio State Univ.
Col. of Food Agri. & Envrn. Sci.**Speakers****Jacques Robert**, Univ. of Rochester Med. Ctr.
*Xenopus as nonmammalian experimental organism
for investigating host interactions with non-TB
mycobacteria***Alix K. Berglund**, North Carolina State Univ. Col. of
Vet. Med.
*Immunomodulation by mesenchymal stem cells:
mechanisms, clinical implications, and future directions***Duncan Mwangi**, Zoetis
*Immunomodulation and immunotherapy: the dawn of
novel therapies in animal health***Renukaradhya J. Gourapura**, The Ohio State Univ. Col.
of Food Agri. & Envrn. Sci.
*Nature of vaccine delivery vehicle determines the Th1-
and Th2-based immunity to intranasal influenza
vaccine in a pig model*

Approaches to improve health via immunomodulation or immunotherapy cross into both human and veterinary medicine. Non-murine animal models, advances in vaccine formulations, and therapeutic modalities in domestic animals have translational applications for improving human health. This symposium will highlight comparative immunologic models, the clinical implications of using stem cells as immunomodulators, insight on novel therapeutic approaches for animal health, and immunomodulation approaches to decrease infectious disease. Collectively, the talks presented in this symposium will showcase the translational cohesion between veterinary and human health to support the current “One Health” research concept.

GUEST SESSIONS

AAI welcomes the following guest symposia at **IMMUNOLOGY2022™**.

American Society of Transplantation (AST)

SUNDAY, MAY 8 • 12:30 PM – 2:30 PM

Cutting-Edge Research in Transplantation Tolerance, Rejection, and Infection

ROOM A105-106

Chairs

Andrew D. Wells, Univ. of Pennsylvania Perelman Sch. of Med.

Anita S. Chong, Univ. of Chicago

Speakers

Xunrong Luo, Duke Univ. Sch. of Med.
Single-cell transcriptomics of kidney transplants reveals a myeloid cell pathway for transplant rejection

Andrew D. Wells, Univ. of Pennsylvania Perelman Sch. of Med.
Molecular and genetic mechanisms regulating T cell tolerance

Paige M. Porrett, Univ. of Alabama at Birmingham
Exhaustion circuits program maternal CD8⁺ T cell hypofunction in pregnancy and transplantation

Jonathan S. Maltzman, Stanford Univ.
Memory inflation after CMV

Canadian Society for Immunology (CSI) Symposium

SUNDAY, MAY 8 • 10:15 AM – 12:15 PM

Mesenchymal–Immune Crosstalk in Fibrotic Disease

ROOM A107-109

Chairs

Subburaj Ilangumaran, Univ. de Sherbrooke, Canada

Simon A. Hirota, Univ. of Calgary, Canada

Speakers

Subburaj Ilangumaran, Univ. de Sherbrooke, Canada
Requirement of SOCS1 expression in hepatic stellate cells to regulate hepatic fibrogenic response

Simon A. Hirota, Univ. of Calgary, Canada
Microbial metabolite sensing shapes the mesenchyme to restrain intestinal inflammation and fibrosis

Sonya A. MacParland, Univ. of Toronto, Canada
Liver macrophage populations in fibrosis and tissue regeneration

Carolyn J. Baglole, McGill Univ., Canada
Aryl hydrocarbon receptor and fibroblast–neutrophil interactions in chronic obstructive pulmonary disease

Kelly M. McNagny, Univ. of British Columbia, Canada
Innate lymphoid cells in tissue fibrosis

Chinese Society of Immunology, Taiwan (CSIT) Symposium

SATURDAY, MAY 7 • 10:15 AM – 12:15 PM

Metabolic Instruction of Immunity

ROOM A107-109

Chairs

Huey-Kang Sytwu, Nat. Inst. of Infectious Diseases and Vaccinology, Nat. Hlth. Res. Inst., Taiwan

Chia-Lin Hsu, Nat. Yang Ming Chiao Tung Univ., Linkou Branch, Taiwan

Speakers

Huang-Yu Yang, Chang Gung Mem. Hosp., Taiwan
Metabolic immunomodulation for autoimmune disease

Chia-Lin Hsu, Nat. Yang Ming Chiao Tung Univ., Linkou Branch, Taiwan
Multimic analyses reveal the central role of the pentose phosphate pathway in resident thymic macrophages to cope with efferocytosis-associated stress

Huai-Chia Chuang, Immunology Res. Ctr., Nat. Hlth. Res. Inst., Taiwan
BPI overexpression suppresses Treg differentiation and induces exosome-mediated inflammation in systemic lupus erythematosus

Chao-Yuan Hsu, Nat. Defense Med. Ctr., Taiwan
T cell-restricted c-Maf SUMOylation deficiency shapes gut microbiota-modulated metabolomic profiling to ameliorate colitis

German Society for Immunology (DGfI) Symposium

SATURDAY, MAY 7 • 12:30 PM – 2:30 PM

Antigen-Specific T Cell Responses to SARS-CoV-2

ROOM C123-124

Chairs

Christine S. Falk, Hannover Med. Sch., Germany
Martina Sester, Universität des Saarlandes, Germany

Speakers

Claudia Giesecke-Thiel, Max Planck Inst. for Molecular Genetics, Germany
CD4⁺ T cell responses and the role of pre-existing immunity for COVID-19 and SARS-CoV-2 infection

Petra Bacher, Universitätsklinikum Schleswig-Holstein, Germany
The role of pre-existing immunity and age in CD4⁺ T cell responses to SARS-CoV-2 infection and vaccination

Martina Sester, Universität des Saarlandes, Germany
T cell responses to SARS-CoV-2 infection and vaccination

Maike Hofmann, Universitätsklinikum Freiburg, Germany
CD8⁺ T cell responses to SARS-CoV-2 infection

International Complement Society (ICS) Symposium

SUNDAY, MAY 8 • 10:15 AM – 12:15 PM

Complement: The Road Less Traveled

ROOM B110-112

Chairs

Viviana P. Ferreira, Univ. of Toledo
Michael V. Holers, Univ. of Colorado Sch. of Med.

Speakers

Michael V. Holers, Univ. of Colorado Sch. of Med.
Stage- and context-dependent roles for complement in rheumatoid arthritis evolution

Jessy J. Alexander, Univ. at Buffalo, SUNY
Intracellular complement control and kidney disease

Jeanne T. Paz, Gladstone Inst. of Neurological Dis. and Univ. of California, San Francisco
New roles for complement during brain injury

Mihalis S. Lionakis, NIAID, NIH
New insights into complement's role in the control of fungal disease

International Cytokine and Interferon Society (ICIS) Symposium

SUNDAY, MAY 8 • 3:45 PM – 5:45 PM

Rising Stars of Cytokine Biology

ROOM B110-112

Chairs

Sarah L. Gaffen, Univ. of Pittsburgh
Rebecca C. Coll, Queen's Univ. Belfast, United Kingdom

Speakers

Rebecca C. Coll, Queen's Univ. Belfast, United Kingdom
Harnessing the power of NLRP3—pharmacological strategies for inhibition and activation of the inflammasome

Shruti Naik, New York Univ. Grossman Sch. of Med.
Immune-epithelial crosstalk in tissue repair

Fiachra Humphries, Univ. of Massachusetts Chan Med. Sch.
Therapeutic modulation of STING

Jakob von Moltke, Univ. of Washington
Small intestinal tuft cells: sentinels and effectors of type 2 immunity

International Society of Developmental and Comparative Immunology (ISDCI) Symposium

MONDAY, MAY 9 • 3:45 PM – 5:45 PM

Insights into Immune Evolution from Comparative Immune Approaches

ROOM B110-112

Chairs

Ayelet Voskoboynik, Stanford Med. and Hopkins Marine Station
Michael F. Criscitiello, Texas A&M Univ.

Speakers

Ayelet Voskoboynik, Stanford Med. and Hopkins Marine Station
*Transplantation reactions in *Botryllus schlosseri*: co-evolution of stem cells and immunity*

Hanover Matz, Univ. of Maryland, Baltimore
B cell selection sites in the nurse shark spleen may represent evolutionary precursors of mammalian germinal centers

Daniel R. Barreda, Univ. of Alberta, Canada
Fever as an ancient modulator of immune function

Michael F. Criscitiello, Texas A&M Univ.
Natural history of immunoglobulin surrogate light chains and the heavy chain third complementarity determining region

International Society of Neuroimmunology (ISNI) Symposium

SATURDAY, MAY 7 • 8:00 AM – 10:00 AM

Neuroimmune Interactions in the CNS and Beyond

OREGON BALLROOM 204

Chairs

Francisco J. Quintana, Brigham and Women's Hosp. and Harvard Med. Sch.

Anna V. Molofsky, Univ. of California, San Francisco

Speakers

Francisco J. Quintana, Brigham and Women's Hosp. and Harvard Med. Sch.

Metabolic control of CNS inflammation and neurodegeneration

Anna V. Molofsky, Univ. of California, San Francisco
Type I interferon-responsive microglia in brain development

Gregory Sonnenberg, Weill Cornell Med.
Innate lymphoid cell regulation of neuroinflammation

Marco Colonna, Washington Univ. Sch. of Med. in St. Louis

The lymphopoietic niche at the CNS border

Carla Rothlin, Yale Univ.
TAMpering with memories

Korean Association of Immunologists (KAI) and Association of Korean Immunologists in America (AKIA) Symposium

MONDAY, MAY 9 • 3:45 PM – 5:45 PM

Driving Forces of Humoral Immunity and Pathology

ROOM A107-109

Chairs

Sang-Il Lee, Gyeongsang Nat. Univ. Hosp., South Korea

Woong-Kyung Suh, Montreal Clin. Res. Inst., Canada

Speakers

You Jeong Lee, Seoul Nat. Univ., South Korea
Thymic plasma cells secrete natural IgE and promote food anaphylaxis by enhancing mast cell survival

Cheong-Hee Chang, Univ. of Michigan
The role of iron homeostasis for naïve T cell survival and maintenance

Sun Jung Kim, Feinstein Inst. of Med. Res.
Increased mitochondrial metabolism is required for immunologic function in age-associated B cells

Ji Eun Oh, Korea Advanced Inst. of Sci. and Tech., South Korea
Humoral immunity in different mucosal systems

National Institute of Allergy and Infectious Diseases (NIAID), NIH Symposium

MONDAY, MAY 9 • 10:15 AM – 12:15 PM

Computational Modeling: Novel Insights into Immunity to Infections or Vaccines

OREGON BALLROOM 204

Chairs

Joseph J. Breen, NIAID, NIH

Veronika I. Zarnitsyna, Emory Univ.

Speakers

Veronika I. Zarnitsyna, Emory Univ.
Waning of protective immunity after viral infection and vaccination

Frederick A. Matsen IV, Fred Hutchinson Cancer Res. Ctr.
Mechanistic insights about V(D)J recombination from statistical inference on high-throughput T cell receptor data

Emily R. Miraldi, Cincinnati Children's Hosp. Med. Ctr.
Dynamic gene regulatory network models of human response to influenza virus

Shannon M. Miller, Inimmune Corp. and Univ. of Montana
Vaccine adjuvant comparison: building a functional response database for computational modeling

National Institute on Aging (NIA), NIH Symposium

SUNDAY, MAY 8 • 8:00 AM – 10:00 AM

Role of the Immune System in Neuroinflammation and Neurodegenerative Diseases

OREGON BALLROOM 204

Chairs

Rebecca Fuldner, NIA, NIH

Katrin I. Andreasson, Stanford Med.

Speakers

Jonathan Kipnis, Washington Univ. Sch. of Med. in
St. Louis

Surprising immune activities at brain's borders

Katrin I. Andreasson, Stanford Med.

*Immune-metabolic mechanisms of cognitive decline
in aging*

Adrian Liston, Cambridge Univ., United Kingdom

Using brain regulatory T cells to prevent neurodegeneration

Elizabeth M. Bradshaw, Columbia Univ.

Genetics of late-onset Alzheimer's disease: a microglia story

Society for Immunotherapy of Cancer (SITC) Symposium

SATURDAY, MAY 7 • 12:30 PM – 2:30 PM

Understanding the Tumor-Reactive T Cell Repertoire in Cancer Patients

OREGON BALLROOM 204

Chairs

Andrew D. Weinberg, Earle A. Chiles Res. Inst.,
Providence Portland Med. Ctr.

Paul F. Robbins, NCI, NIH

Speakers

Andrew D. Weinberg, Earle A. Chiles Res. Inst.,
Providence Portland Med. Ctr.

*Identifying tumor-reactive CD8⁺ TIL in patients with
solid malignancies: clinical implications*

Kathryn E. Yost, Whitehead Inst.

*Clonal dynamics of tumor-infiltrating T cells in response
to checkpoint blockade immunotherapy*

Alena Gros, Vall d'Hebron Inst. of Oncology, Spain

*Harnessing the personalized antitumor T cell response to
treat cancer*

Paul F. Robbins, NCI, NIH

*Isolating and characterizing neo-antigen reactive T cells
in patients with solid tumors*

Society for Mucosal Immunology (SMI) Symposium

MONDAY, MAY 9 • 10:15 AM – 12:15 PM

Host-Microbiota Interactions at Mucosal Barriers

ROOM B110-112

Chairs

Theresa Alenghat, Cincinnati Children's Hosp. Med. Ctr.

Lauren A. Zenewicz, Univ. of Oklahoma Hlth. Sci. Ctr.

Speakers

Irene Salinas, Univ. of New Mexico

*From water to land: evolution of mucosal immune systems
in vertebrates*

Timothy W. Hand, UPMC Children's Hosp. of Pittsburgh

*Immune responses to microbiota colonization of
the intestine*

Theresa Alenghat, Cincinnati Children's Hosp. Med. Ctr.

Regulation of the host-microbiota relationship

Mariana X. Byndloss, Vanderbilt Univ. Med. Ctr.

*Disruption of microbiota and intestinal epithelial
interactions as a key driver of noncommunicable diseases*

Society for Natural Immunity (SNI) Symposium

SATURDAY, MAY 7 • 3:45 PM – 5:45 PM

NK Cells in Infection—New Developments

ROOM A107-109

Chairs

Andreas Diefenbach, Charité – Universitätsmedizin
Berlin, Germany

Aimee M. Beaulieu, Rutgers New Jersey Med. Sch.

Speakers

Cynthia E. Dunbar, NHLBI, NIH

NK cell dynamics during CMV infection in primates

Quirin Hammer, Karolinska Inst., Sweden

Missing self responses of NK cells against SARS-CoV-2

Aimee M. Beaulieu, Rutgers New Jersey Med. Sch.

*Epigenetic regulation of NK cell development and
function in mice*

Andreas Diefenbach, Charité – Universitätsmedizin

Berlin, Germany

Regulation of NK cell responses during COVID-19

CAREER DEVELOPMENT SESSIONS

In addition to committee-sponsored sessions, IMMUNOLOGY2022™ will provide the following career development programs. AAI will also sponsor a Jobs Board during the meeting.

SATURDAY, MAY 7 • 9:00 AM – 10:00 AM

How to Convert Your CV into a Résumé

ROOM B117-119

Chair

Mary T. Litzinger, AAI

Speaker

Derek Haseltine, Hertz Fndn.

Are you seeking guidance on how to develop a résumé that will make you stand out to potential employers? Derek Haseltine, director of Fellowship Programs for the Hertz Foundation, will share the insights he has gained from more than 15 years in academic career development. In addition to currently overseeing the annual interview and fellowship selection process as well as professional development initiatives for STEM graduate fellows, he has also led career development initiatives for Baylor College of Medicine, Johns Hopkins University School of Medicine, and the University of Maryland School of Medicine.

Mr. Haseltine will teach you about the important elements of a résumé, the differences between a résumé and the standard academic curriculum vitae, and the information needed to make a good impression. Small breakout sessions for individual consulting will follow. Bring your CV!

SATURDAY, MAY 7 • 11:00 AM – 1:00 PM

Immunology Teaching Interest Group: Enhancing Your Immunology Teaching

ROOM B117-119

See page 42 for details.

SATURDAY, MAY 7 • 12:00 PM – 2:15 PM

Careers Roundtables and Speed Networking Session

EXHIBIT HALL B

See page 43 for details.

SATURDAY, MAY 7 • 7:00 PM – 9:00 PM

Careers in Biotech: Panel Discussion and Networking

ROOM A105-106

See page 43 for details.

SUNDAY, MAY 8 • 10:15 AM – 11:15 AM

Interviewing for a Job

ROOM B117-119

Chair

Mary T. Litzinger, AAI

Speaker

Derek Haseltine, Hertz Fndn.

Are you looking for tips and techniques to help you successfully navigate the interview process? Derek Haseltine, director of Fellowship Programs for the Hertz Foundation, will share the insights he has gained from more than 15 years in academic career development. In addition to currently overseeing the annual interview and fellowship selection process as well as professional development initiatives for STEM graduate fellows, he has also led career development initiatives for Baylor College of Medicine, Johns Hopkins University School of Medicine, and the University of Maryland School of Medicine.

Mr. Haseltine will teach you how to present yourself in the best possible light, respond to unexpected or challenging questions, address salary expectations, and more!

SUNDAY, MAY 8 • 12:30 PM – 2:30 PM

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

ROOM A107-109

Chair

Deborah L. Hodge, CSR, NIH

Panelists

Joseph J. Breen, NIAID, NIH
Deborah L. Hodge, CSR, NIH
Michelle M. Arnold, CSR, NIH

This workshop, being offered by the NIH Center for Scientific Review, will provide participants with an overview of NIH grant submission, assignment, review, and funding opportunities. Emphasis will be given to identification of the most appropriate funding agencies and mechanisms available through NIH, how to make an application “reviewer friendly,” and other strategies that contribute to applications that succeed in obtaining research funding.

The workshop will also provide information on how to understand the peer review system, which is essential to competing successfully for funding, with a focus on recent changes to the review process. NIH review and program staff will provide a broad array of expertise and encourage questions from seminar participants. This workshop is open to anyone interested in learning more about preparing an NIH grant application and obtaining NIH funding. Trainees and independent investigators are welcome.

SUNDAY, MAY 8 • 12:30 PM – 2:00 PM

Careers in Science Lecture and Roundtables

EXHIBIT HALL B

See page 43 for details.

MONDAY, MAY 9 • 9:00 AM – 10:30 AM

Chalking Up Success: The All-Important Chalk Talk and Preparing for a Faculty Interview

ROOM B117-119

Chairs

Leslie J. Berg, Univ. of Colorado Sch. of Med.
Bethany B. Moore, Univ. of Michigan

Speaker

Bethany B. Moore, Univ. of Michigan

Panelists

Adam H. Courtney, Univ. of Michigan
Jenna Guthmiller, Univ. of Colorado Sch. of Med.
Brina S. Lopez, Northwestern Univ.

This session, chaired by two experienced and senior academic leaders, will focus on strategies to help trainees and early career scientists successfully navigate the faculty application process. Attendees will hear how to develop teaching and research statements, tailor their applications to the openings, and prepare for an interview and “chalk talk.” Dr. Bethany Moore, chair, Department of Microbiology and Immunology, University of Michigan, will address the process. She will be followed by early career faculty who will present their recent application experiences, give advice for success, and engage the audience in a panel discussion. This session is open to anyone but is especially intended for trainees and early career scientists interested in faculty positions.

MONDAY, MAY 9 • 10:45 AM – 11:45 AM

How to Have a Successful Postdoctoral Experience

ROOM B117-119

Chair

Mary T. Litzinger, AAI

Speaker

Sofie R. Kleppner, Stanford Univ.

A postdoctoral fellowship is the time to develop research skills you will need to succeed as an independent scientist. It is also an important opportunity to prepare for a career path at the same time.

Sofie Kleppner, Ph.D., associate vice provost and associate dean of the Office of Postdoctoral Affairs (OPA) at Stanford University, knows this well because the OPA supports postdoctoral fellows in all aspects of their career development and serves over 2,400 postdoctoral fellows at Stanford.

Dr. Kleppner will highlight ways of getting the most out of your postdoctoral fellowship, how to successfully relate with your mentor, and how to use the resources available to you to ensure that your training prepares you adequately for a seamless transition into the next phase of your career.

SOCIAL EVENTS

New Member Reception (By Invitation Only)

Sponsored by the AAI Membership Committee

FRIDAY, MAY 6 • 4:00 PM – 5:00 PM

BADGE AND INVITATION REQUIRED

AAI welcomes new Regular, Associate, and Postdoctoral Fellow members to meet each other at a relaxed gathering. Members of the AAI Membership Committee, AAI President Gary Koretzky, fellow Council members, and chairs from many of our committees will join new members for casual conversation and light refreshments.

WELCOME BACK! RECEPTION

FRIDAY, MAY 6 • 6:00 PM – 7:30 PM

*OREGON CONVENTION CENTER,
NORTH PLAZA*

BADGE REQUIRED

Join us at the opening night Welcome Back! Reception to celebrate the start of **IMMUNOLOGY2022™**! Come directly from the President's Address to a lineup of Portland's world-famous food trucks just outside the convention center, featuring cuisines for every taste. Reunite with friends, make new acquaintances, and plan your week. One complimentary drink ticket is included in your registration. Delicious and different!

Registered attendees only. Attendees must be 21 years of age or older.

AAI Minority Affairs Committee (MAC) Social Hour (By Invitation Only)

SATURDAY, MAY 7 • 7:00 PM – 8:30 PM

BADGE AND INVITATION REQUIRED

One of the most important and meaningful aspects of the annual meeting is connection! The AAI MAC Social Hour is an evening gathering during which participants in the annual MAC Careers Roundtables session reconvene for relaxed, informal networking. This event brings attendees together to make career-changing connections (and new friends) with peers, mentors, and senior scientists representing the diversity of AAI and the meeting. Soft drinks and hors d'oeuvres will be served.

IMMUNOLOGY2022™ GALA

MONDAY, MAY 9 • 7:00 PM – 9:30 PM

PORTLAND ART MUSEUM

BADGE AND TICKET REQUIRED

The **IMMUNOLOGY2022™** Gala will be held at the Portland Art Museum. The Portland Art Museum features outstanding exhibits ranging from modern trends to historic art periods. Take part in interactive exhibits, view films, or gaze at classic pieces. The museum shop will also be open. Uniquely, the Portland Art Museum recognizes and honors the Indigenous communities—past, present, and future—of the region on whose ancestral lands it stands. Attendees will have access to the full museum. Food and drinks will be available, and as is the Gala's tradition, you will have the opportunity to express yourself on the Grand Ballroom dance floor!

Tickets are available for purchase through the online registration process.



IMMUNOLOGY2022™

GALA

PORTLAND ART MUSEUM

MONDAY, MAY 9 • 7:00 PM – 9:30 PM

PORTLAND ART MUSEUM
1219 SW Park Ave, Portland, OR

JOIN US

at a truly unique Pacific Northwest venue: the Portland Art Museum recognizes and honors the Indigenous communities—past, present, and future—of the region on whose ancestral lands it stands.

- Explore the largest art collection in the region, with exhibits ranging from modern trends to historic art periods.
- Take part in interactive exhibits, view films, or gaze at classic pieces.
- Visit the museum shop for one-of-a-kind gifts.
- As always, enjoy refreshments and express yourself on the dance floor!

Tickets are available for purchase through the online registration process. Attendees must be 21 years of age or older.



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POSTER SESSIONS AND BLOCK SYMPOSIA

Abstracts of unpublished, original research are slated for presentation at **IMMUNOLOGY2022™** during Poster Sessions and Block Symposia (podium presentations of poster data). All abstracts are reviewed by committees of experts in their respective areas and scheduled for presentation in Poster Sessions. Additionally, outstanding abstracts are selected and scheduled for podium presentation in Block Symposia.

Poster Session presentations represent perhaps the most dynamic aspect of the AAI annual meetings. Take part in face-to-face discussions with abstract authors and learn about their most recent unpublished research. Poster Sessions will be held daily (unopposed by any other session) in the Exhibit Hall. More than 1,600 authors will be present at **IMMUNOLOGY2022™** to discuss their most recent work, network with colleagues, and explore the latest developments in their field.

Daily Unopposed Poster Session Hours

SATURDAY, MAY 7 – MONDAY, MAY 9

2:30 PM – 3:45 PM

EXHIBIT HALL

Leading scientific companies and organizations will showcase their products and services. Attendees will be able to visit booths, engage with exhibitors, and attend workshops. Plan which exhibits you wish to visit and learn more by viewing the interactive Exhibit Hall at

www.IMMUNOLOGY2022.org/exhibitors.

Exhibit Hall Hours

SATURDAY, MAY 7

9:30 AM – 4:30 PM

SUNDAY, MAY 8

9:30 AM – 4:30 PM

MONDAY, MAY 9

9:30 AM – 4:30 PM

EXHIBIT HALL PASSPORT PROGRAM

Returning this year is the “AAI Passport to Prizes Raffle” for attendees visiting the Exhibit Hall. Three lucky winners will receive a \$250 gift card! Entries must be received by Monday, May 9, at 2:30 PM. The drawing will be held during the Poster Sessions on Monday, May 9, from 2:30 PM – 3:45 PM. You can find your Passport in your meeting bag or you may pick one up at AAI Booth 401.

EXHIBITOR WORKSHOPS

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

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

www.immunology2022.org/exhibitor-workshops/

SPECIAL ACTIVITIES AT THE AAI BOOTH

Visit AAI Booth 401 for the following activities throughout **IMMUNOLOGY2022™**.

SATURDAY, MAY 7 • 2:30 PM – 3:45 PM

- Meet *ImmunoHorizons* Editor-in-Chief Mark H. Kaplan.
- Meet the AAI Public Policy Fellows and discover why YOU should be our next Fellow!

SUNDAY, MAY 8 • 2:30 PM – 3:45 PM

- Meet *The Journal of Immunology* Editor-in-Chief Eugene M. Oltz.

MONDAY, MAY 9 • 2:30 PM – 3:45 PM

- Meet the AAI Public Policy Fellows and discover why YOU should be our next Fellow!



IMMUNOLOGY2022™

VISIT AAI AT BOOTH 401

Visit AAI at Booth 401 in the Exhibit Hall to:

- learn about exciting new AAI programs that support you in your profession
- meet with AAI staff and other members to explore career advancement and service opportunities
- participate in special activities (see the schedule below)
- pick up your AAI swag!

Schedule of Special Activities

SATURDAY, MAY 7 • 2:30 PM - 3:45 PM

- Meet *ImmunoHorizons* Editor-in-Chief Mark H. Kaplan.
- Meet the AAI Public Policy Fellows and discover why YOU should be our next Fellow!

SUNDAY, MAY 8 • 2:30 PM - 3:45 PM

- Meet *The Journal of Immunology* Editor-in-Chief Eugene M. Oltz.

MONDAY, MAY 9 • 2:30 PM - 3:45 PM

- Meet the AAI Public Policy Fellows and discover why YOU should be our next Fellow!





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VISIT THE AAI JOBS BOARD

**A FREE RECRUITING SERVICE FOR IMMUNOLOGY2022™ REGISTRANTS AND EXHIBITORS.
POST ONLINE AND MEET ON-SITE! WWW.IMMUNOLOGY2022.ORG/JOBS-BOARD**

For Job Seekers

Whatever your career stage, use this career service to enhance your professional development.

■ JOB POSTINGS

Review the online AAI Jobs Board to identify postings you wish to pursue. View postings through April 22, 2022. Watch for additional on-site postings in the Exhibit Hall.

■ DIRECT ACCESS TO RECRUITERS

Job postings will include recruiters' email addresses so that you can contact them directly.

For Employers

Advertise your position on the virtual Jobs Board located on the IMMUNOLOGY2022™ website. Include a contact email to receive inquiries directly.

■ ADVANCE POSTINGS

Postings are being accepted via a web submission form and will remain online until the end of the meeting. Employers must be registered participants or exhibitors of IMMUNOLOGY2022™ at the time of submission.

Advance postings must be submitted to AAI by April 22, 2022.

■ ON-SITE POSTINGS

After **April 22, 2022**, employers may still advertise a job on the IMMUNOLOGY2022™ Jobs Board by visiting the AAI Office in the Oregon Convention Center between 9:00 AM and 5:00 PM. Ads submitted on-site will be posted on the Jobs Board in the Exhibit Hall.

REACH THE MOST QUALIFIED CANDIDATES AND SAVE ON RECRUITING COSTS

Take advantage of this complimentary hiring opportunity.

ABSTRACT PROGRAMMING CHAIRS

AAI gratefully acknowledges the efforts of the Abstract Programming Chairs for **IMMUNOLOGY2022™**.

Antigen Processing and Presentation

Kannan Natarajan

Staff Scientist
NIAID, NIH

Laura Santambrogio

Associate Director, Precision Immunology
Weill Cornell Med. Col.

Basic Autoimmunity

Brian T. Fife

Associate Professor
Univ. of Minnesota

Ziaur S.M. Rahman

Associate Professor
Penn State Univ. Col. of Med.

Cellular Adhesion, Migration, and Inflammation

Gudrun F. Debes

Associate Professor
Thomas Jefferson Univ.

S. Celeste Morley

Associate Professor
Washington Univ. Sch. of Med. in St. Louis

Cytokines and Chemokines and Their Receptors

Laurie E. Harrington

Professor
Univ. of Alabama at Birmingham

Nevil J. Singh

Assistant Professor
Univ. of Maryland

Hematopoiesis and Immune System Development

Jarrold A. Dudakov

Associate Professor
Fred Hutchinson Cancer Res. Ctr.

Kay L. Medina

Associate Professor
Mayo Clinic

Immediate Hypersensitivity, Asthma, and Allergic Responses

Joan M. Cook-Mills

Professor
Indiana Univ. Sch. of Med.

Mitchell H. Grayson

Professor
The Ohio State Univ.

Immune Mechanisms of Human Disease

Emily M. Mace

Assistant Professor
Columbia Univ.

Veena Taneja

Associate Professor
Mayo Clinic

Immunology Education

Mary T. Litzinger

Director of Educational and Career Development
AAI

Innate Immune Responses and Host Defense: Cellular Mechanisms

Jonathan C. Kagan

Associate Professor
Boston Children's Hosp. and Harvard Med. Sch.

Sunny Shin

Associate Professor
Univ. of Pennsylvania Perelman Sch. of Med.

Innate Immune Responses and Host Defense: Molecular Mechanisms

Grace Y. Chen

Associate Professor
Univ. of Michigan

Derek B. Sant'Angelo

Professor
Rutgers Robert Wood Johnson Med. Sch.

Immune Response Regulation: Cellular Mechanisms

Omid Akbari

Professor
Univ. of Southern California Keck Sch. of Med.

Bonnie N. Dittel

Senior Investigator
Versiti Blood Res. Inst.

Immune Response Regulation: Molecular Mechanisms

Lee Ann Garrett-Sinha

Professor
Univ. at Buffalo, SUNY

Jie Sun

Professor
Univ. of Virginia

Elizabeth A. Wohlfert

Assistant Professor
Univ. at Buffalo, SUNY

Lymphocyte Differentiation and Peripheral Maintenance

R. Lee Reinhardt

Associate Professor
Nat. Jewish Hlth.

Taia T. Wang

Assistant Professor
Stanford Univ.

Microbial, Parasitic, and Fungal Immunology

Amariliz Rivera

Associate Professor
Rutgers Biomed. and Hlth. Sci.

Bolaji N. Thomas

Professor
Rochester Inst. of Tech.

Mucosal and Regional Immunology

Kathryn A. Knoop

Assistant Professor
Mayo Clinic

Craig L. Maynard

Assistant Professor
Univ. of Alabama at Birmingham

Technological Innovations in Immunology

Amanda M. Burkhardt

Assistant Professor
Univ. of Southern California

Yuri Sykulev

Professor
Thomas Jefferson Univ.

Therapeutic Approaches to Autoimmunity

Robert C. Axtell

Associate Member
Oklahoma Med. Res. Fndn.

Qizhi Tang

Professor
Univ. of California, San Francisco

Transplantation Immunology

Megan K. Levings

Professor
Univ. of British Columbia, Canada

William J. Murphy

Distinguished Professor
Univ. of California, Davis

Giorgio Raimondi

Assistant Professor
Johns Hopkins Univ. Sch. of Med.

Tumor Immunology

Eduardo Davila

Professor
Univ. of Colorado

Ming O. Li

Member
Mem. Sloan Kettering Cancer Ctr.

Paulo C. Rodriguez

Professor
Moffitt Cancer Ctr.

Melanie R. Rutkowski

Assistant Professor
Univ. of Virginia

Vaccines and Immunotherapy

Catarina E. Hioe

Professor
Ichan Sch. of Med. at Mount Sinai

Michelle Krogsgaard

Associate Professor
New York Univ. Grossman Sch. of Med.

Veterinary and Comparative Immunology

Waithaka Mwangi

Professor
Kansas State Univ.

Janice C. Telfer

Professor
Univ. of Massachusetts, Amherst

Viral Immunology

Marta Catalfamo

Associate Professor
Georgetown Univ. Sch. of Med.

Sara R. Cherry

Professor
Univ. of Pennsylvania





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The complete scientific program can also be viewed online at www.IMMUNOLOGY2022.org

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The mobile app has been generously supported by Sony.

AAI Member Dr. Anthony Fauci Featured Guest at AAI Council Fall Meeting

Members of the 2021–2022 AAI Council convened virtually over three days (November 29, November 30, and December 7, 2021) for the group's annual fall meeting. The December 7 session featured a presentation from National Institute of Allergy and Infectious Diseases (NIAID) Director, and Chief Medical Advisor to the President of the United States, Anthony S. Fauci, M.D., DFAAI (AAI '73).



Officials of NIAID, NIH, including NIAID Director Tony Fauci, appear during their December 7 presentation to AAI Council members and staff in conjunction with the Fall 2021 virtual Council meeting.

During the November 30 session, Committee on Public Affairs (CPA) Chair Peter Jensen, M.D., DFAAI (AAI '87), and public affairs staff updated Council on AAI public affairs activities, including actions related to advocating for an increase in the NIH budget, and on the proposed creation of the Advanced Research Projects Agency for Health (ARPA-H). Council was also provided with a thorough review of recent and upcoming NIH policy changes in advance of Council members' slated meetings with a number of NIH officials, including Dr. Fauci.

Fauci's December 7 presentation, which CPA members also attended, was the most recent in his years-long tradition of updating the AAI Council each fall on NIAID initiatives and funding and hearing about the valuable role of AAI in advocating for immunological research and increased federal science funding. His presentation this year reflected his key role leading the federal response to the COVID-19 pandemic since January 2020.

He highlighted the coronavirus and vaccine research carried out at NIAID and by NIH-funded researchers around the country in response to the pandemic, predicated on decades of coronavirus-related research undertaken by NIH in response to the SARS outbreak of 2003 and MERS outbreak of 2012. Fauci emphasized how past NIH investments in coronavirus research and research infrastructure, together with breakthroughs in vaccine delivery platforms, proved critical in jump-starting and accelerating the development of

the vaccines deployed nationally and internationally against COVID-19 since late 2020.

He acknowledged the efforts of his AAI member colleagues and other scientists to counter COVID-19 vaccine hesitancy by spreading the message about the years of research and groundwork that made the new vaccines possible.

Fauci and Council members also discussed the disturbing anti-science trend that is prevalent in many parts of society and how AAI members may be more effective in countering it. He expressed deep concern about the enormous impact that scientific disinformation is having and his belief that scientists must not hesitate to dispel untruths whenever and wherever they appear.

AAI Council members also met with the following NIH officials in conjunction with the fall Council meeting: NIH Acting Director Lawrence Tabak, D.D.S., Ph.D., and NIH Acting Principal Deputy Director Tara Schwetz, Ph.D.; Deputy Director for Extramural Research Michael Lauer, M.D.; Center for Scientific Review Director Noni Byrnes, Ph.D.; National Institute on Aging Director Richard Hodes, M.D., DFAAI (AAI '75); National Institute of Arthritis and Musculoskeletal and Skin Diseases Director Lindsey Criswell, M.D., M.P.H., D.Sc.; National Cancer Institute Deputy Director for Scientific Strategy and Development Dinah Singer, Ph.D. (AAI '86); and National Heart, Lung, and Blood Institute Director of the Division of Lung Diseases James Kiley, Ph.D.



Dr. Lawrence Tabak Named Acting NIH Director

Secretary of Health and Human Services Xavier Becerra announced the appointment of NIH Principal Deputy Director Lawrence Tabak, D.D.S., Ph.D., as acting NIH director, effective December 20, 2021. Dr. Tabak succeeded longtime NIH Director Francis Collins, M.D., Ph.D., who stepped down from that role on December 19.

AAI President Gary Koretzky, M.D., Ph.D. (AAI '92), sent a congratulatory letter to Dr. Tabak expressing confidence that, under Dr. Tabak's leadership, "NIH will be in extraordinarily capable hands at this challenging time," and offering AAI assistance "in advancing both scientific opportunities and policy initiatives that will benefit the American people, the biomedical research enterprise, and global public health."

Tabak had served as the NIH principal deputy director and deputy ethics counselor since 2010 and was previously director of the National Institute of Dental and Craniofacial Research (2000–2010). Over the years, he has generously participated in several AAI activities, most recently speaking at a policy session sponsored by the AAI Committee on Public Affairs (CPA) at IMMUNOLOGY2018™ entitled "Town Hall Meeting on NIH Efforts to Fund the Next Generation: Progress, Challenges, and Future Directions."

Tabak's previous position of NIH principal deputy director is being filled by Tara Schwetz, Ph.D., who assumed the role in an acting capacity. Dr. Schwetz was the associate deputy director at NIH and spent much of this year on detail to the White House Office of Science and Technology Policy, where she has played a leading role in advancing the development of President Joe Biden's proposed new entity, the Advanced Research Projects Agency for Health (ARPA-H).

President Biden is expected to nominate a permanent replacement for Dr. Collins in the coming months. That nomination will require confirmation by the Senate.

Congress Approves Short-Term Funding Bill, Lays Groundwork for Possible Year-Long Bill

The House of Representatives and the Senate approved a continuing resolution (CR) in early February that funds federal government departments and agencies at last year's levels through March 11, 2022. President Biden signed the CR into law just before the previous one expired on February 18. The enactment of the CR averts a possible federal government shutdown and gives legislators additional time to develop full-year appropriations bills for fiscal year (FY) 2022.

While a CR is often a sign that Members of Congress are having difficulty reaching agreement on full-year funding bills, that does not seem to be the case in this instance. On February 9, following weeks of negotiations, key appropriators announced that they had reached a framework agreement on an FY 2022 omnibus appropriations bill, a package that will include all 12 of the annual funding bills. Though the framework has not been released to the public, appropriators reportedly reached agreement on key pillars of the omnibus, including the total funding levels for defense and nondefense programs and how to handle some of the most controversial policy provisions.

Under the new CR, the FY 2022 NIH budget remains at its FY 2021 level of ~\$42.9 billion. In an October notice outlining its operating plan under a CR, NIH announced that, per its usual practice, it would fund noncompeting research grant awards at "generally up to 90% of the previously committed level." Additionally, NIH Institutes and Centers often set conservative interim paylines until a final funding bill has been approved.

Enacting a full-year appropriations bill is particularly important for NIH this year as the agency stands to receive a large funding increase. President Biden's proposed \$52 billion budget for NIH for FY 2022, the House's approved \$49 billion budget for NIH, and a Senate Appropriations Committee draft bill with a \$47.9 billion budget for NIH, all represent a generous increase over the FY 2021 budget. In each of these bills/proposals, funds would be allocated to support both the regular operations of NIH and to establish the president's proposed new entity, ARPA-H.

FASEB has created an e-action alert (see www.faseb.org/partnerships-and-outreach/legislative-action-center) that allows individuals to easily contact their Members of Congress and urge them to finish the annual appropriations bills and provide robust funding increases for NIH and other federal sciences agencies. AAI encourages all AAI members to use this alert to contact their federal legislators.

AAI Endorses Legislation to Strengthen Public Safety on Domestic Flights

Late last year, AAI issued a statement (see <https://bit.ly/3tCkK6h>) endorsing S.2888, the U.S. Air Travel Public Safety Act. This legislation, which was introduced by Senator Dianne Feinstein (D-CA), requires passengers on domestic flights to either 1) be fully vaccinated against COVID-19, 2) provide proof of a negative pre-departure COVID-19 test (within three days of the flight's departure), or 3) provide documentation of recent

recovery from COVID-19 (within the last 90 days). Additionally, the legislation requires the Centers for Disease Control and Prevention’s Advisory Committee on Immunization Practices to “review data on the transmission of COVID-19 in health care settings and among health care personnel in other settings, and to develop and make recommendations for COVID-19 vaccine use” based on its findings.

A press release (see <https://bit.ly/357IKEj>) issued by Senator Feinstein includes more details about the bill, including background information that led to its development. Other organizations supporting the bill include the American Public Health Association, the American Society for Microbiology, and the Infectious Diseases Society of America.

On November 11, Senator Feinstein co-authored a letter to President Biden with Representatives Don Beyer (D-VA, 8th) and Ritchie Torres (D-NY, 15th), urging him “to put in place requirements for airline passengers to provide proof of full vaccination against COVID-19 or a negative test to board a domestic flight.” The letter was also signed by 33 Democratic members of the House of Representatives.

AAI will closely monitor this legislation as it moves forward.

AAI President Koretzky Issues Statement Urging COVID-19 Vaccines and Booster Shots

AAI President Koretzky issued a statement in December on behalf of AAI urging all Americans to get fully vaccinated against COVID-19 and stressing the importance of booster shots for those who are eligible. The full text of Dr. Koretzky’s statement appears below:

The American Association of Immunologists (AAI)* urges all Americans to get fully vaccinated,** and once eligible, to receive a booster shot against COVID-19. Vaccination

significantly reduces your chance of being hospitalized for, or dying from, COVID-19, and will help protect the lives and health of your family, friends, and community. As immunologists and other scientists work to understand the threat of new variants, including omicron, our existing vaccines remain our best—and an extraordinarily effective—tool against a disease that has already claimed the lives of more than 780,000 Americans and more than 5.2 million people globally.

* AAI (www.aai.org) is the nation’s largest professional association of research scientists and physicians who study the immune system.

** Currently, the *Centers for Disease Control and Prevention (CDC)* considers people fully vaccinated “2 weeks after their second dose in a 2-dose series, such as the Pfizer or Moderna vaccines, or 2 weeks after a single-dose vaccine, such as Johnson & Johnson’s Janssen vaccine.”

CPA to Host Policy Sessions on ARPA-H and Vaccine Acceptance at IMMUNOLOGY2022™

The AAI CPA will host two policy sessions at IMMUNOLOGY2022™. The first, which will be held on Saturday, May 7, from 10:15 a.m. – 12:15 p.m., is entitled “ARPA-H: What You Need to Know and How It May Impact Federal Funding of Biomedical Research.” The following day, from 10:15 a.m. – 12:15 p.m., the CPA will sponsor a session entitled “Vaccine Acceptance: Lessons from the Past and Tools for the Future.” Both sessions will be chaired by CPA Chair Peter Jensen, M.D. (AAI ’87).

Each of these important sessions will feature a distinguished panel of experts followed by a question-and-answer period. Please see pages 41–42 for detailed descriptions of these sessions and a list of speakers. Additional speakers may be announced on www.IMMUNOLOGY2022.org.



The American Association of Immunologists, Inc. (AAI) seeks applicants for the position of

EDITOR-IN-CHIEF (EIC)

for its publication, *The Journal of Immunology (The JI)*.

The EIC is responsible for maintaining *The JI* as a definitive resource within the research community by ensuring the scientific excellence of the content and the integrity of the peer-review process. To that end, the EIC will recommend an editorial board, oversee editorial conduct and the peer-review process, address authors concerns, and approve manuscript publication. The EIC will address allegations of author misconduct and act in accordance with *The JI* Editorial Policies and Practices and AAI policy.

Applicants should have an accomplished scientific career with a significant publication record and appropriate editorial experience. Candidates should possess strong

leadership qualities, intellectual vision, and outstanding interpersonal skills. Applicants must be active members of AAI in good standing. Candidates should understand the competitive nature of publishing in the current open-access environment.

The term of service is from July 1, 2023, to June 30, 2028.

To apply send a *curriculum vitae*, a succinct letter of interest and qualifications, and a statement on the possible conceptual direction of *The JI* in its pursuit of scientific excellence and innovation to EICsearch@aai.org. Applications will be accepted through **July 11, 2022**.

Belkaid Is Robert Koch Award Honoree

Yasmine Belkaid, Ph.D. (AAI '13), is a 2021 co-recipient, along with Andreas Baumler, of the Robert Koch Award, given annually by Germany's Robert Koch Foundation to recognize scientific researchers noted for outstanding and internationally recognized achievements. The award honors this year's recipients for their groundbreaking research on the importance of microflora for the human immune system.



Dr. Belkaid is the chief of the Laboratory of Host Immunity and Microbiome at the National Institute of Allergy and Infectious Diseases (NIAID), NIH, and chief of the laboratory's Metaorganism Immunity Section. Her early work identified interleukin (IL)-10 and regulatory T cells (Tregs) as major determinants of microbial

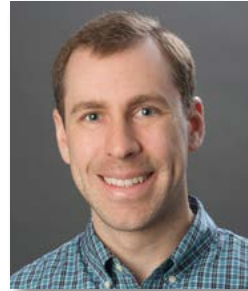
persistence in the tissues and later demonstrated that the gut was the primary site of peripheral induction of Tregs. In addition to exploring the long-term consequences of nutrient deprivation on tissue immunity, Belkaid's lab examines how infections can alter host immune homeostasis. More recently, her lab has been working to understand the interactions between the microbiota and the immune system and has demonstrated that commensal bacteria in the gut are required for effective mucosal vaccines and that skin microbes can control skin immunity.

Belkaid has been selected as a 2022 AAI Distinguished Lecturer. She will present her lecture at **IMMUNOLOGY2022™** on Monday, May 9, and her extended profile as an AAI Distinguished Lecturer appears on page 33 of this newsletter. In 2017, she was the recipient of the AAI-Thermo Fisher Meritorious Career Award. She subsequently served as a

member of the AAI Awards Committee and as an ad hoc reviewer for *The Journal of Immunology (The JI)*. She has participated as a major symposium chair and speaker at AAI annual meetings, where she has also served as a table leader at the AAI Education Committee/AAI Committee on the Status of Women-sponsored Careers in Science Lecture and Roundtables.

Biering Wins Michelson Prize Finalist Award

Scott B. Biering, Ph.D. (AAI '18), is the recipient of a \$10,000 award in recognition of his selection as a finalist for the Michelson Medical Research Foundation & Science Prize for Immunology. The award recognizes Dr. Biering's research demonstrating that an antibody targeting the non-structural protein 1 (NS1) of flaviviruses could protect against the pathogenic function of multiple flavivirus NS1 proteins, suggesting that a single antibody or therapeutic targeting NS1 may protect from severe infection from multiple flaviviruses.



Biering is a postdoctoral scholar at the University of California, Berkeley, in the laboratory of Dr. Eva Harris. His research focuses on the role of viral proteins from flaviviruses and SARS-CoV-2 in viral pathogenesis and dissemination. Recently, he demonstrated that an antibody targeting the flavivirus non-structural protein 1 protected

against severe infection and pathogenesis caused by flaviviruses such as dengue and Zika virus.

Biering is a past recipient of an AAI Young Investigator Award, provided by the AAI Outreach Program in support and recognition of his presentation at the Autumn Immunology Conference.

Graham and Collaborators Named *Time Magazine* Heroes of 2021; Graham Also Named NAS Carty Award Honoree

Barney S. Graham, M.D., Ph.D. (AAI '00), along with collaborators Kizzmekia Corbett, Katalin Kariko, and Drew Weissman, were named *Time Magazine's* Heroes of the Year for 2021 for their critical role in accelerating the development of multiple innovative COVID-19 vaccines highly effective in countering the spread and severity of infections during the pandemic. Their contributions to vaccine development were made possible in large part by Dr. Graham's and others' decades of basic research in viral immunology. The group's *Time* recognition cited not only their achievement in helping provide the world a defense against a pathogen, but also the manner of that achievement—i.e., the scientists “channeled their ambitions to the common good, talked to one another, and trusted in facts.”

Additionally, Graham has been selected to receive the 2022 National Academy of Sciences' John J. Carty Award for the Advancement of Science in recognition of his work in pioneering new strategies in structure-guided coronavirus vaccine design using nanoparticle and mRNA vaccine technologies. The work elucidated optimal viral glycoprotein structures that elicit superior vaccine-induced protective immunity, which became the foundation for several successful COVID-19 vaccines.



Graham is an independent consultant and the recent past deputy director of the Vaccine Research Center at NIAID, NIH, where he also served as chief of the Viral Pathogenesis Laboratory and Translational Science Core. In collaboration with his NIAID colleagues and others, his research focused over many years on the

development of experimental vaccines against emerging viral pathogens, including the coronaviruses SARS and MERS. Their work positioned Graham and his collaborators to quickly pivot to generating a vaccine candidate targeting SARS-CoV-2, the virus that causes COVID-19, soon after the viral genome was sequenced in January 2020 by other scientists. Leveraging existing vaccine platforms and prior research on the structure of MERS-CoV, Graham and his colleagues rapidly identified and worked to better understand the SARS-CoV-2 spike protein as a promising vaccine target. Their prior validation of relevant animal models and ongoing evaluation of MERS vaccine candidates also facilitated rapid preclinical testing. Due to the

collaborative work of these researchers, several vaccine candidates were in late-stage clinical trials by December 2020 and subsequently approved and deployed nationally and internationally in 2021 based on their effectiveness in preventing COVID-19 infection in humans. The innovations in vaccine design pioneered by Graham and his colleagues are adaptable, offering the prospect of effective countermeasures against other high-threat human viruses.

Graham has served as a faculty member for the AAI Introductory Course in Immunology.

Hedrick and Ley to Be Co-directors of New Medical College of Georgia Immunology Center

Catherine C. “Lynn” Hedrick, Ph.D. (AAI '10), and Klaus Ley, M.D., (AAI '00), have been named by the Georgia Research Alliance as eminent scholars at Augusta University (AU), where they will be co-directors of the new Center for Immunology at the university's Medical College of Georgia (MCG). The husband-and-wife team will join the MCG faculty on October 1, focusing in large part on recruiting other eminent immunologists to the new center and laying the groundwork for eventually offering a graduate program in immunology. Dr. Hedrick also will serve as director of the Cancer Immunology, Inflammation and Toleration Program at AU's Georgia Cancer Center.



Hedrick is a professor in the Center for Autoimmunity and Inflammation and the Center for Cancer Immunotherapy at the La Jolla Institute for Immunology and a member of the Program in Immunology faculty at the University of California, San Diego. Her research uses mass cytometry and single-cell RNA sequencing to

describe the immune response orchestrated by neutrophils and monocytes in response to viral infections, tumor metastasis, and cardiovascular disease. Her laboratory has recently focused on describing the roles of nonclassical monocytes in development and maintenance of the tumor microenvironment and vascular disease.

Hedrick is currently serving as a section editor for *The Journal of Immunology (The JI)*. She is a past member of the AAI Committee on the Status of Women (CSOW) and a CSOW Career Advisory Board mentor. She has served at AAI annual meetings as a major symposium chair and speaker and has participated as a table leader at the AAI Education Committee/CSOW Careers in Science Roundtables.



Dr. Ley is a professor and head of the Division of Inflammation Biology at the La Jolla Institute for Immunology and an adjunct professor of bioengineering at the University of California, San Diego. His research focuses on basic and clinical implications of immune cell migration in response to inflammatory signals.

The goals of his research include understanding the etiology of atherosclerosis and developing a vaccine to protect against this vascular disease. The Ley laboratory applies single-cell RNA sequencing to catalogue the heterogeneity of immune cells at the site of pathological inflammation and various imaging techniques to monitor immune cell biomechanics within the vascular system.

Ley has served as a major symposium chair and speaker at AAI annual meetings, where he has also participated as a table leader at the AAI Education Committee/CSOW Careers in Science Roundtables. He has also served as an associate and section editor for *The JI*.

Schumacher Receives Lloyd Old Award

Ton N. Schumacher, Ph.D. (AAI '15), is the recipient of the 2021 American Association for Cancer Research – Cancer Research Institute Lloyd J. Old Award in Cancer Immunology in recognition of his research regarding T cell recognition of normal versus cancerous cells. This award honors an active scientist whose outstanding and innovative research has had a major impact on the cancer field and has the potential to stimulate new directions in cancer immunology.



Dr. Schumacher is a senior member, and the Molecular Oncology and Immunology group leader, at the Netherlands Cancer Institute and a professor by special appointment in immune technology at Leiden University and Leiden University Medical Center, the Netherlands. His work has described CD8⁺ and CD4⁺ T cells recognizing

neoantigens that are introduced as a result of DNA damage to highly mutated cancerous cells. Further research demonstrated that this recognition can be augmented by both immune checkpoint blockade and Tumor Infiltrating Lymphocyte (TIL) therapy. These findings have implications for increasing the efficacy of cancer therapies, as the number and degree of DNA mutations have been demonstrated to be related to immune checkpoint blockade response.

Schumacher has served as an ad hoc reviewer for *The JI*.

Twenty-Two AAI Members Elected Fellows of AAAS

The AAI members listed below were recently elected *2021 Fellows of the American Association for the Advancement of Science (AAAS)*, in recognition of their achievements in advancing science or its application in service to society. AAI congratulates them on this honor!

Biological Sciences: Maria-Luisa Alegre, M.D., Ph.D. (AAI '97), Lee-Ann H. Allen, Ph.D. (AAI '05), Jeffrey Bluestone, Ph.D. (AAI '82), Santanu Bose, Ph.D. (AAI '12), Sara Cherry, Ph.D. (AAI '08), Patricia Fitzgerald-Bocarsly, Ph.D. (AAI '84), Ming Li, Ph.D., (AAI '10), Zihai Li, M.D., Ph.D. (AAI '01), Pramod Srivastava, Ph.D. (AAI '90), Yasuhiro Suzuki, Ph.D., D.M.Sc. (AAI '87)

Medical Sciences: Gary S. Firestein, M.D. (AAI '86), Sarah L. Gaffen, Ph.D. (AAI '00), William C. Gause, Ph.D. (AAI '89), Douglas R. Green, Ph.D. (AAI '84), Neil S. Greenspan, M.D., Ph.D. (AAI '87), Richard Heller, Ph.D. (AAI '16), Elizabeth Marion Jaffee, M.D., (AAI '97), Sabra L. Klein, Ph.D., (AAI '21), Michail S. Lionakis, D.Sc., M.D. (AAI '15), Joseph Anthony Lorenzo, M.D. (AAI '18), E. John Wherry III, Ph.D. (AAI '05)

Pharmaceutical Sciences: James W. Lillard Jr., Ph.D. (AAI '97).



Matthew F. Mescher, Ph.D. (AAI '79)

March 22, 1948 – December 21, 2021

AAI extends condolences to the family, friends, and colleagues of Matthew F. Mescher, Ph.D. (AAI '79), an active and dedicated AAI member for over four decades who died on December 21.

Dr. Mescher was an emeritus professor of the University of Minnesota (UMN) Medical School where he was a faculty member for 22 years. He held an endowed professorship in the Department of Laboratory Medicine and Pathology and was the founding director of the UMN Center for Immunology.

Mescher served as a member of the AAI Finance Committee and was an invited speaker in the AAI President's Symposium at IMMUNOLOGY2015™. He also served as a member of the AAI Fellowship Committee and as a lecturer for the AAI Advanced Course in Immunology, including the years it was held on the UMN campus. Additionally, Mescher held successive

terms on the editorial board of The Journal of Immunology as an associate, section, and deputy editor.

The following remembrance was co-authored by former by Marc K. Jenkins, Ph.D. (AAI '88; AAI President, 2013–2014), Regents and Distinguished McKnight University Professor, Department of Microbiology and Immunology, and director of the Center for Immunology, UMN; and Harry T. Orr, Ph.D., professor and James Schindler and Bob Allison Translational Research Chair in Genetics in the Department of Laboratory Medicine and Pathology at UMN. AAI gratefully acknowledges their submission.

Matthew F. Mescher, Ph.D., a longtime member of The American Association of Immunologists (AAI) and icon of immunology at the University of Minnesota (UMN), died on December 21, 2021, after a battle with cancer.

Matt was born and raised in Michigan. He earned a B.A. in chemistry from Hope College in Michigan and a Ph.D. in biochemistry and molecular biology from Harvard University. He bypassed postdoctoral training and stayed on at Harvard as a faculty member before moving to the Molecular Biology Institute in La Jolla, CA. In 1993, he moved to UMN where he held the Professorship for the Virginia and David C. Utz Land Grant Chair in Fundamental Immunobiology in the Department of Laboratory Medicine and Pathology for 22 years.

Matt started his research career at Harvard as a microbial biochemist. According to Matt's Ph.D. advisor, Jack Strominger (AAI '78), "Matt was an outstanding student. He came to the lab looking for an original problem. While everyone else in my lab was working on MHC class I structure, he chose to work on halobacteria surface structure. He soon found that no peptidoglycan was present, and the surface structure was dependent on the presence of a novel glycoprotein." Matt went on to show that these bacteria, which turned out to be archaeobacteria, use this protein to retain their shape in high-salt environments.

But Matt's long-term research interest ended up being immunology. He was fascinated by the problem of how T lymphocytes detect and destroy tumors and virally infected cells. His early work sought to define the minimal signals needed to activate CD8⁺ T cells. Matt approached the problem by producing artificial antigen-presenting cells (APC) consisting of liposomes or latex beads coated with purified MHC class I molecules, and later, adhesion and costimulatory molecules. He worked stepwise to assess the role of each ligand in the capacity of APCs to stimulate T cell receptor signaling, cytokine production, cell proliferation, cell survival, cytotoxicity, and tumor control. He began with cell culture systems and moved to studying these processes in mice. His research culminated in a principle known as the three-signal model of T cell activation that inspired much research in the field and is now taught in immunology courses around the world. His research achievements were recognized by his election to the UMN Academy of Excellence in Health Research and an invited lecture in the President's Symposium at the 2015 annual meeting of the AAI.

Matt also contributed to immunology by serving on the AAI Finance and Fellowship Committees. He taught in the AAI Advanced Course and served as an associate, section, and deputy editor for *The Journal of Immunology*.

Matt was a transformational leader in immunology at the UMN. When he was recruited to Minnesota, he was charged with revitalizing the UMN immunology community which lacked a national identity and was dispersed across a large campus. Matt gathered a small group of faculty members from several departments who worked to organize the discipline. They succeeded in forming a new graduate program and the Center for Immunology with Matt as the director. Under Matt's leadership, the center acquired contiguous laboratory space for a multidepartmental group of investigators working on the immune system. In his calm and confident way, Matt led the UMN Center for Immunology over several decades to become one of the strongest academic units at the UMN and one of the best immunology programs in the country. The UMN Center for Immunology continues today as a testament to Matt's vision and leadership.

Matt's legacy extends to his trainees, who continue in his footsteps and remember well his calm demeanor and wisdom. Michael Gerner, one of Matt's Ph.D. students and now an assistant professor at the University of Washington, remembers Matt as "an outstanding mentor who provided a strong foundation of scientific rigor and critical thinking while helping students identify exciting

and creative research directions. Most importantly, he built a wonderful home for all the graduate students in the Center for Immunology, where we all felt part of one united family." Ross Kedl, another of Matt's Ph.D. students and now a professor at the University of Colorado, credits his mentoring skills to Matt: "Almost everything I say as a mentor I can track back to Matt at some level." Matt was also a mentor to many of the UMN's future leaders, including former and future AAI presidents, Marc Jenkins and Stephen Jameson.

Matt's colleagues at the UMN owe him a great debt of gratitude and will remember him as a leader, mentor, and friend. We will miss his sense of humor, love of golf and fast cars, and friendship in and out of the lab. We will marvel at his life well lived.

* * * * *

Those wishing to honor Dr. Mescher's memory are invited to consider a donation in support of the Mescher Trainee Enhancement Fund. For details, see "The Center for Immunology mourns the passing of Dr. Matthew Mescher" at www.immunology.umn.edu/about-us/memorial-dr-matthew-mescher.

Connect with AAI!

Want to hear the latest from The American Association of Immunologists? You can find AAI and its journals, *The Journal of Immunology* and *ImmunoHorizons*, through your favorite social media channels:



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If you'd like to join the AAI email list, please email infoaai@aai.org.

AAI Announces Fall 2021 Travel for Techniques Awardee

AAI is pleased to announce the most recent **AAI Travel for Techniques Award** recipient, selected from among applicants during the program’s Fall 2021 application cycle.

The AAI Travel for Techniques Program assists member principal investigators (regular or associate) in their efforts to expand their skill sets to benefit their research. Selected applicants may choose to use the award to travel themselves, assign the award to a trainee in their labs, or may assign the award to another lab member. AAI reimburses award recipients as much as \$1,500 in travel expenses incurred on a trip to another laboratory to learn a technique. Travel for Techniques Award applications are reviewed in three cycles annually—winter, spring, and fall.

AAI extends congratulations to:



Mohamed S. Abdel-Hakeem, Ph.D. (AAI '21)

Assistant professor
Emory University

Destination: The laboratory of Dr. Garry P. Nolan (AAI '06), Stanford University School of Medicine

Technique: CODEX imaging system and data analysis

Application: To enhance understanding of the dynamics of spatial interactions of immune cells during chronic infections

Details on applying for the AAI Travel for Techniques Award are available at www.aai.org/TravelforTechniques.



The American Association of Immunologists

Future AAI Annual Meetings

Mark your calendar for the premier annual all-immunology event!

<p style="font-size: 2em; color: white; background-color: #f0f0f0; padding: 5px;">2022</p>  <p>IMMUNOLOGY2022™ May 6 – 10 Portland, Oregon</p>	<p style="font-size: 2em; color: white; background-color: #f0f0f0; padding: 5px;">2023</p>  <p>IMMUNOLOGY2023™ May 11 – 15 Washington, DC</p>	<p style="font-size: 2em; color: white; background-color: #f0f0f0; padding: 5px;">2024</p>  <p>IMMUNOLOGY2024™ May 3 – 7 Phoenix, Arizona</p>
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AAI Congratulates Recipients of 2022 Career Reentry Fellowships

AAI congratulates five AAI members who were selected for 2022 AAI Career Reentry Fellowships.

The program provides support for qualified immunologists to reenter the workforce after a lapse of research or research training due to unforeseen circumstances. The fellowship program provides one year of salary support to postdoctoral trainees who have taken a leave of absence of one year or more.

The 2022 AAI Career Reentry Fellows are:



Fernanda E. Ana-Sosa-Batiz, Ph.D. (AAI '21)

Mentor: Sujan Shresta, Ph.D. (AAI '10), associate professor, La Jolla Institute for Immunology

Project: Protective efficacy of different COVID-19 vaccines against SARS-CoV-2 variants of concern and the effect of prior natural infection on responses



Sunitha Pulikkot, Ph.D. (AAI '21)

Mentor: Zhichao Fan, Ph.D. (AAI '18), assistant professor, UConn Health

Project: Inhibition of β 2 integrin activation by small molecular drugs for psoriasis treatment



Christine A. Herne, Ph.D. (AAI '21)

Mentor: Charles C. Chu, Ph.D. (AAI '98), associate professor, University of Rochester Medical Center

Project: Effect of tumor microenvironment on fates of splenic lymphomas



Amanda Stefanson, Ph.D. (AAI '17)

Mentor: Francis Lin, Ph.D. (AAI '09), professor, University of Manitoba, Canada

Project: Developing a specialized lung-on-chip microfluidic device to examine the activation and invasion of immune cells into lung tissue in response to stimuli



Jisun Kim, Ph.D. (AAI '22)

Mentor: Dane Parker, Ph.D. (AAI '11), assistant professor, Rutgers New Jersey Medical School

Project: Signaling requirements for trained immunity to *Staphylococcus aureus*

Applications for the 2023 AAI Fellowship Program for Career Reentry will be accepted beginning June 1, 2022. For complete program information, including application and eligibility requirements, and to view past recipients, visit www.aai.org/ReentryFellowship.

AAI Congratulates Recipients of 2022 Intersect Fellowships for Computational Scientists and Immunologists

AAI congratulates 10 members selected to receive AAI Intersect Fellowships in 2022. The AAI Intersect Fellowship Program for Computational Scientists and Immunologists provides independent research scientists with one year of salary support for postdoctoral fellows trained in basic bench research to undertake one year of training in computational science, or postdoctoral fellows trained in computational science to spend one year in an immunology research lab to learn basic immunological principles and laboratory techniques. To learn more about this program, visit www.aai.org/IntersectFellowship.

The 2022 Intersect Fellows are:



From left: Christiano, Sezin, and Korem

Angela M. Christiano, Ph.D. (AAI '21)

Professor, Columbia University

Postdoctoral Fellow: Tatiana Sezin, Ph.D. (AAI '22)

Co-PI: Tal Korem, Ph.D., assistant professor, Columbia University

Project Title: Investigating the immunomodulatory role of *L. murinus* in the pathogenesis of alopecia areata



From left: Feeney, Levan, and Fragiadakis

Margaret E. Feeney, M.D. (AAI '19)

Professor of pediatrics, University of California, San Francisco

Postdoctoral Fellow: Justine Levan, Ph.D. (AAI '21)

Co-PI: Gabriela Fragiadakis, Ph.D., assistant professor, University of California, San Francisco

Project Title: Single-cell analysis of the $\gamma\delta$ T cell response to pathogens *in utero*



From left: Drechsler, Ng, and Hawkins

Yvonne Drechsler, Ph.D. (AAI '12)

Associate professor, Western University of Health Sciences

Postdoctoral Fellow: Theros T. Ng, Ph.D. (AAI '20)

Co-PI: R. David Hawkins, Ph.D., associate professor, University of Washington School of Medicine

Project Title: Characterizing the role of immune cell populations and KIRs in the reproductive tract of chickens



From left: Hoyer, Zhao, and Sindi

Katrina K. Hoyer, Ph.D. (AAI '11)

Associate professor, University of California, Merced

Postdoctoral Fellow: Lihong Zhao, Ph.D. (AAI '21)

Co-PI: Suzanne Sindi, Ph.D., professor and chair of Applied Mathematics, University of California, Merced

Project Title: Delineating the interplay between lung microbiome and *Coccidioides*



From left: Milner, Green, and Cao

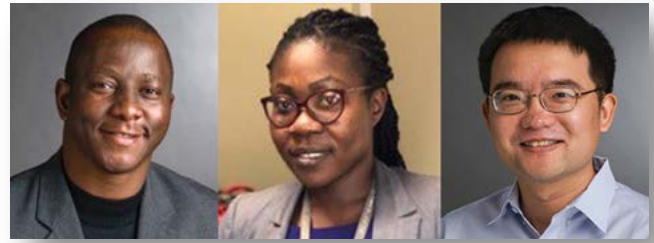
Justin J. Milner, Ph.D. (AAI '20)

Assistant professor, University of North Carolina at Chapel Hill

Postdoctoral Fellow: William D. Green, Ph.D. (AAI '22)

Co-PI: Yanguang Cao, Ph.D., assistant professor, University of North Carolina at Chapel Hill

Project Title: Enhancing T cell function and persistence in pancreatic cancer



From left: Thomas, Oboh, and Cui

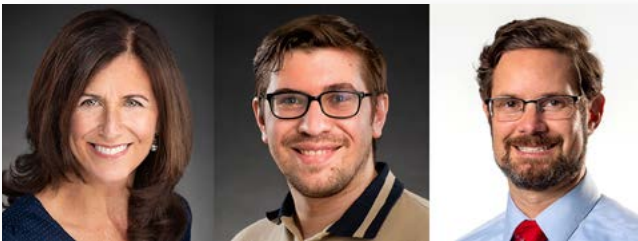
Bolaji N. Thomas, Ph.D. (AAI '08)

Professor, Rochester Institute of Technology

Postdoctoral Fellow: Mary A. Oboh, Ph.D. (AAI '21)

Co-PI: Feng Cui, Ph.D., associate professor, Rochester Institute of Technology

Project Title: Network analysis of non-coding RNAs and target genes associated with immune regulation in malaria



From left: McGargill, Brice, and Thomas

Maureen A. McGargill, Ph.D. (AAI '07)

Associate member, St. Jude Children's Research Hospital

Postdoctoral Fellow: David C. Brice, Ph.D. (AAI '20)

Co-PI: Paul G. Thomas, Ph.D. (AAI '09), member, St. Jude Children's Research Hospital

Project Title: T cell receptor revision as a novel mechanism of action of immune checkpoint blockade



From left: Thomas, McNitt, and Georgiev

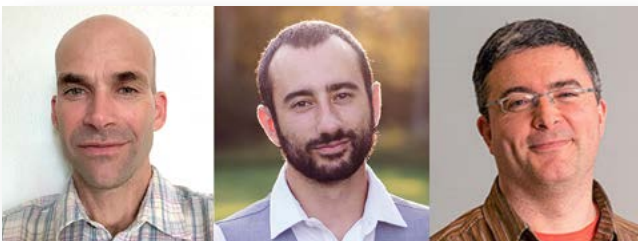
James W. Thomas, M.D. (AAI '83)

Professor of medicine, Vanderbilt University Medical Center

Postdoctoral Fellow: Dudley H. McNitt, Ph.D. (AAI '20)

Co-PI: Ivelin S. Georgiev, Ph.D., associate professor, Vanderbilt University Medical Center

Project Title: Transcriptomic profiling of pathogenic versus benign T follicular helper cells in type 1 diabetes



From left: Rudd, Hilt, and Grimson

Brian D. Rudd, M.P.H., Ph.D. (AAI '14)

Associate professor, Cornell University

Postdoctoral Fellow: Zachary T. Hilt, Ph.D. (AAI '21)

Co-PI: Andrew W. Grimson, Ph.D., associate professor, Cornell University

Project Title: Multimodal dissection of novel memory CD8⁺ T cells during chronic infection



From left: Wherry, Mathew, and Zhang

E. John Wherry, Ph.D. (AAI '05)

Chair and professor, University of Pennsylvania

Postdoctoral Fellow: Divij Mathew, Ph.D. (AAI '21)

Co-PI: Nancy R. Zhang, Ph.D., professor, University of Pennsylvania

Project Title: Pembrolizumab with delayed itacitinib pulse for first-line treatment of metastatic lung cancer



AAI Outreach Program Update

The AAI Outreach Program provides career development opportunities for young investigators by supporting podium and poster presentation awards at member-organized immunology meetings throughout the United States. The program most recently provided sponsorship at the conferences highlighted in this section.

New York Immunology Conference

The 2021 Upstate New York Immunology Conference (NYIC) was held on October 18–21 at the Otesaga Resort Hotel in Cooperstown, New York. The goal of the meeting is to foster collaboration and interaction among participants and their institutions, as well as provide opportunities for postdoctoral fellows and graduate students to present their research.

The meeting, which drew about 100 attendees, was organized by Dennis W. Metzger, Ph.D. (AAI '82), professor and Theobald Smith Alumni Chair, Albany Medical College; James R. Drake, Ph.D. (AAI '01), professor, Albany Medical College; and Katherine C. MacNamara, Ph.D. (AAI '11), associate professor, Albany Medical College.

The conference keynote addresses were delivered by two AAI members: Jonathan Kagan, Ph.D. (AAI '11), professor of pediatrics, Harvard Medical School, whose talk was entitled “Initiation and Regulation of Innate Immunity”; and Jeffrey Rathmell, Ph.D. (AAI '04), professor, Vanderbilt University, who spoke on “Immunometabolic Checkpoints in Cancer and Inflammation.”

AAI supported 10 **AAI Young Investigator Awards** at NYIC, which were given to trainees for outstanding poster presentations. Congratulations go to the following recipients:

- Noor Bala, graduate student, Cornell University
- Karla Garcia-Martinez, graduate student, Cornell University
- Alicia M. Healey (AAI '19), graduate student, University of Rochester
- Sydney Herring, graduate student, University at Buffalo, SUNY
- Ko-Wei Liu (AAI '21), graduate student, Dartmouth College
- Princess D. Rodriguez, graduate student, University of Vermont
- Bristy Sabikunnahar, graduate student, University of Vermont
- Mohd Saqib, Ph.D., postdoctoral fellow, Albany Medical College
- Shaunna R. Simmons, graduate student, University at Buffalo, SUNY
- Adam D. Wegman, graduate student, SUNY Upstate Medical University

New England Immunology Conference

More than 150 conference attendees participated in person and virtually at the 2021 New England Immunology Conference (NEIC), held on November 13–14 at the Marine Biological Laboratory in Woods Hole, Massachusetts. The meeting promotes the interaction between graduate students and postdoctoral fellows with established investigators.

NEIC was organized by Ann Marshak-Rothstein, Ph.D., DFAAI (AAI '85), professor, University of Massachusetts Chan Medical School; João Pereira, Ph.D. (AAI '12), associate professor, Yale University; and Susan Swain, Ph.D., DFAAI (AAI '77), professor, University of Massachusetts Chan Medical School.



At NYIC, AAI Young Investigator Awardees (pictured from left) Sabunnahar, Rodriguez, Wegman, Saqib, Bala, Liu, Healey, Garcia-Martinez, Herring, and Simmons



At NEIC, Janeway Awardee Snyder with award presenter Priyadharshini Devarajan



At NEIC, AAI Young Investigator Awardees (pictured from left) Shenoy and Honce with award presenter Devarajan



At NEIC, AAI Young Investigator Awardees (pictured from left) Lanahan, Bucklin, and Karginov with award presenter Devarajan

Keynote lectures were delivered by Facundo Batista, Ph.D. (AAI '17), professor and associate director, Harvard Medical School and Ragon Institute of MGH, MIT, and Harvard, whose talk was entitled “Informing Vaccine Design by Defining the Rules of Antibody Responses”; and Galit Alter, Ph.D., professor, Ragon Institute of MGH, MIT and Harvard, who spoke on “Bioinformatic Antibody Function.”

AAI supported the Janeway Award for best poster and five **AAI Young Investigator Awards** for excellent poster presentations. Congratulations goes to the following awardees:

Janeway Awardee

- Megan Snyder (AAI '22), graduate student, Boston University

AAI Young Investigator Awardees

- Molly Bucklin, graduate student, Yale University
- Rebekah Honce, Ph.D., postdoctoral fellow, University of Vermont
- Timofey Karginov (AAI '21), graduate student, UConn Health
- Stephen Lanahan, graduate student, Yale University
- Anukul T. Shenoy (AAI '18), Ph.D., postdoctoral fellow, Boston University

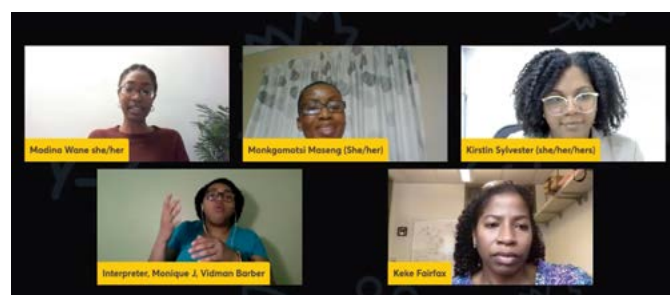
Black in Immuno Week

Black in Immuno Week 2021: “From Bench to Bedside” was held virtually on November 14–20 and drew 300 attendees. Black in Immuno was established by a collective of Black immunologists and supporters aimed at amplifying, celebrating, and supporting Black people in immunology. Through Black in Immuno Week, the long-term objectives are to highlight the scientific contribution of Black immunologists; encourage connections among Black researchers and science professionals in immunology and related fields; create a supportive and inclusive community for Black scientists around the world; and connect Black students and professionals with resources and job opportunities in immunology and related fields.

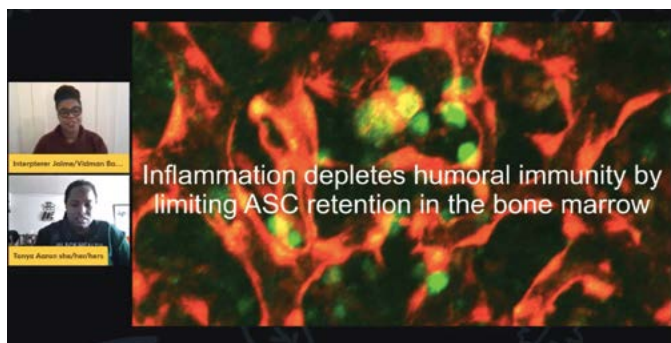
The conference was organized in part by AAI member Irene Salinas, Ph.D. (AAI '17), associate professor, University of New Mexico, on behalf of the Black in Immuno Collective. The keynote address, entitled “Making Malaria History,” was delivered by Faith Osier, Ph.D. (AAI '18), executive director, IAVI Human Immunology Laboratory, Imperial College London, United Kingdom. Dr. Osier was introduced by session moderator and AAI Minority Affairs Committee member Michael Opat, Ph.D. (AAI '17).



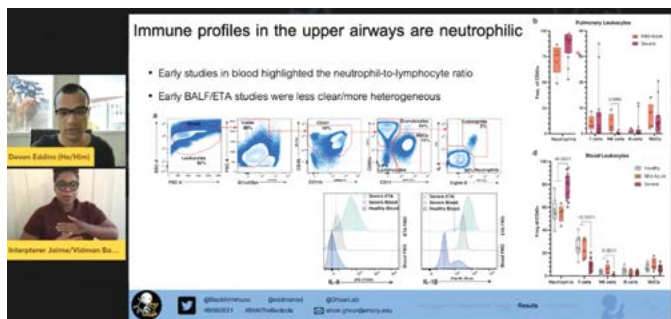
Black in Immuno Week 2021 keynote speaker Osier (pictured top left) with session moderator Opat (top right)



Dr. Keke Fairfax (pictured bottom right) with other speakers on the Black in Immuno Week 2021 Gender Equity Panel



At Black in Immuno Week 2021, Aaron (shown second at left) presents a Translational Immunology Talk.



Eddins (shown first at left) presents a Translational Immunology Talk at Black in Immuno Week 2021.

AAI provided funding to support eight speakers who presented on diverse topics, including translational science, public mistrust in science, and gender equity. Congratulations go to the following presenters:

- Tonya Aaron (AAI '20), graduate student, Albert Einstein College of Medicine
- Christopher Bourne, graduate student, Memorial Sloan Kettering Cancer Center
- Devon Eddins (AAI '17), graduate student, Emory University
- Yassin Elfaki, Ph.D., postdoctoral fellow, University College London, United Kingdom
- Keke Fairfax, Ph.D. (AAI '14), assistant professor, University of Utah, AAI Committee on the Status of Women member
- Makeda Robinson, M.D., Ph.D., postdoctoral fellow, Stanford University
- Shayla Shorter, Ph.D., assistant professor, Hofstra University
- Cornelius Taabazuing, Ph.D., postdoctoral fellow, Memorial Sloan-Kettering Cancer Center

Autumn Immunology Conference



Conference Chair Norian welcomes attendees on the first night of the AIC.

The 49th Annual Autumn Immunology Conference (AIC) took place on November 19–22, 2021, at the Chicago Marriott in downtown Chicago, Illinois. The more than 400 attendees included established investigators from academia and industry. The AIC has a strong focus on trainee education

with high participation from graduate students and postdoctoral fellows. The Carl Waltenbaugh Keynote Address featured Gwendalyn Randolph, Ph.D. (AAI '01), professor, Washington University School of Medicine in St. Louis, whose presentation was entitled “Mechanisms That Limit Dissemination of Inflammatory Signals from the Intestines.”

The meeting was organized by Lyse Norian, Ph.D. (AAI '92), associate professor, University of Alabama; Gerald Buldak, Ph.D. (AAI '08), senior lecturer, Loyola University Chicago; Richard DiPaolo, Ph.D. (AAI '09), professor, Saint Louis University; Sarah D’Orazio, Ph.D., associate professor, University of Kentucky; Kerry Empey, Pharm.D., Ph.D. (AAI '12), associate professor, University of Pittsburgh; Mallery GreenLee-Wacker, Ph.D., assistant professor, Central Michigan University; Ryan Langlois, Ph.D. (AAI '15), associate professor, University

of Minnesota; Ian Lewkowich, Ph.D., assistant professor, Cincinnati Children’s Hospital; David Lubaroff, Ph.D. (AAI '73), professor emeritus, University of Iowa; Kevin Legge, Ph.D. (AAI '05), professor, University of Iowa; Ivan Maillard, M.D., Ph.D. (AAI '13), professor, University of Pennsylvania; Joseph Qualls, Ph.D. (AAI '13), associate professor, Cincinnati Children’s Hospital; E. Charles Snow, Ph.D. (AAI '84), professor, University of Kentucky; Michelle Anne Swanson-Mungerson, Ph.D. (AAI '11), professor, Midwestern University; Charlotte Vines, Ph.D. (AAI '05), associate professor, University of Texas; Scott Weber, Ph.D. (AAI '06), associate professor, Brigham Young University; and Michael Zimmer, Ph.D., associate professor, Purdue University Northwest.

AAI participated as an exhibitor and sponsored the Undergraduate Careers in Immunology Workshop, an event designed for undergraduate students to learn about scientific career opportunities in immunology from scientists working in diverse settings. The panel featured Josalyn Cho, M.D. (AAI '22), assistant professor, University of Iowa; David Hildeman, Ph.D. (AAI '02), professor, Cincinnati Children’s Hospital, University of Cincinnati; Madeline Lipp (AAI '20), graduate student, University of Pittsburgh; John Hackett, Ph.D., divisional vice president, Applied Research and Technology, Abbott Laboratories; and Andrea Henle, Ph.D., associate professor, Carthage



At AIC, AAI Young Investigator Awardees (pictured in back row from left) Giese, Stephens, Burke, Custodio, Nelson, Noto, Druffner, Titcombe, Yan, and Piening; and (pictured in front row from left) Topchyan, Okpasuo, Hanslik, Lensing, Doshi, Morgun, Hoft, Thomas, and Crowther (not pictured: Lipp)



At AIC, AAI Undergraduate Awardees (pictured from left) Antonetti, Lehmann, Onyeador, Lecea, and Van Dijk

College. The panelists answered undergraduate student questions about their motivations for a research career, how to select a graduate program, how to strengthen a graduate school application, pursuing research with an M.D. vs. an M.D.-Ph.D., the differences between industry and academia, and more.

The AIC continued its commitment to career development through its workshop blocks and the “Meet the Speakers” Roundtable, which was also supported by AAI. This event provided an opportunity to current graduate students and postdoctoral fellows to interact with senior scientists. Topics included effective grant-writing strategies, traits for a successful postdoctoral application, applying/ interviewing for faculty positions, surviving the first years of the tenure track, networking strategies, and careers outside of U.S. academia.

Additionally, AAI supported 20 **AAI Young Investigator Awards** for graduate students and five **AAI Undergraduate Awards**. Congratulations goes to the following recipients:

AAI Young Investigator Awardees

- Jacqueline Burke, Northwestern University
- Jean Custodio, University of Notre Dame

- Rebecca Crowther (AAI '21), Cincinnati Children's Hospital
- Sonali Doshi, University of Cincinnati
- Sara Druffner, West Virginia University
- Morgan Giese, University of Wisconsin, Madison
- Kendra Hanslik, University of Wisconsin, Madison
- Stella Hoft (AAI '20), Saint Louis University
- Maddison Lensing (AAI '21), University of Iowa
- Madeline Lipp, Pharm.D. (AAI '20), University of Pittsburgh
- Eva Morgun (AAI '22), Northwestern University
- Alexander Nelson (AAI '19), Loyola University Chicago
- Christine Noto (AAI '17), Saint Louis University
- Onyekachi J. Okpasuo, University of Missouri, Columbia
- Alexander Piening, St. Louis University
- Laura Stephens (AAI '19), University of Iowa
- Philip Titcombe (AAI '21), University of Minnesota
- Paytsar Topchyan, Medical College of Wisconsin
- Alyssa Thomas, Cincinnati Children's Hospital
- Bingyu Yan, Purdue University

AAI Undergraduate Awardees

- Regina Antonetti, Mayo Clinic
- Emily Lecea, West Virginia University
- Leigh-Anne Lehmann, University of Nebraska, Kearney
- Onyinyechi Onyeador, Washington University in St. Louis
- Sarah Van Dijk, Mayo Clinic

Annual Biomedical Research Conference for Minority Students (ABRCMS) 2021

For the fifth year in succession, AAI provided support for early career trainees in immunology research, including recognition of outstanding undergraduate and postbaccalaureate immunology abstract presenters, at the Annual Biomedical Research Conference for Minority Students (ABRCMS) 2021. AAI support for ABRCMS 2021, held virtually from November 10–13, was coordinated by AAI Minority Affairs Committee (MAC) Chair Tonya Webb, Ph.D. (AAI '10).

Chaired since 2015 by current AAI Council member Avery August (AAI '99), the ABRCMS meeting annually fosters minority students' pursuit of advanced training in the biomedical sciences and related fields, drawing scientific attendees that include more than 2,000 undergraduate and postbaccalaureate students and over 400 graduate students and postdoctoral trainees. Attendees participate in virtual poster and oral presentations in 12 scientific disciplines, including immunology, cell biology, microbiology, developmental biology, and cancer biology.

This year, AAI participated as a returning co-sponsor of ABRCMS immunology presentation awards. The awards, supported by AAI since 2016, are given to outstanding undergraduate and postbaccalaureate presenters in immunology. Seventeen immunology students at ABRCMS 2021 were selected for presentation awards co-sponsored by AAI:

Postbaccalaureate Presenters

- Kelly Lozano Ortiz, postbaccalaureate trainee, Louisiana State University Health Sciences Center
- Likem Boney, postbaccalaureate trainee, Virginia Commonwealth University
- McKella Sylvester, postbaccalaureate trainee, National Institutes of Health

Undergraduate Senior Presenters

- Melanie Ayala Ceja, undergraduate senior, University of California, Los Angeles
- Noor Nader, undergraduate senior, University of Pittsburgh



Irene Hulede, ABRCMS director of education, announced the recipients of AAI co-sponsored immunology presentation awards during the ABRCMS awards ceremony on November 13.

- Elisa Kodama, undergraduate senior, Northeastern University
- Benjamin Nieves, undergraduate senior, University of Puerto Rico-Carolina
- Yasmine Elmi, undergraduate senior, University of Ottawa
- Dorothy Estrada, undergraduate senior, University of California, Riverside

Undergraduate Junior Presenters

- Nicole Pagan Torres, undergraduate junior, University Ana G. Mendez, San Juan, Puerto Rico
- Saphira Cherfils, undergraduate junior, Hunter College, City University of New York
- Kiara Vazquez Narvaez, undergraduate junior, Emory University
- Nathalie Vieux-Gresham, undergraduate junior, Brandeis University
- Malik McRae, undergraduate junior, Morehouse College
- Nelly Escalante, undergraduate junior, University of California, Davis

Undergraduate Sophomore Presenter

- Jake Shapira, undergraduate sophomore, University of Pittsburgh

Community College Student Presenter

- Joel Gutierrez Estupiñan, community college student, Bunker Hill Community College

AAI Young Scholars Travel Awards

Additionally, three of these immunology presentation awardees have also received special recognition as recipients of AAI Young Scholars Awards for 2022. Established in 2016, the AAI Young Scholars Award was initiated by the AAI MAC to provide selected student immunology presenters at ABRCMS with support to attend the AAI annual meeting.

In addition to receiving travel awards to attend IMMUNOLOGY2022™, this year's Young Scholars Awardees will receive dedicated mentoring from MAC members in connection with awardees' attendance at the MAC Careers Roundtables and Networking Reception, MAC-sponsored AAI Vanguard Lecture, scientific session jointly sponsored by the MAC and Black in Immuno, and through mentors' feedback on awardee abstract presentations.

AAI congratulates the following recipients of the **2022 AAI Young Scholars Awards**.



Melanie Ayala Ceja
University of California,
Los Angeles

Ms. Ayala Ceja is an undergraduate senior majoring in microbiology, immunology, and molecular genetics and minoring in biomedical research; she anticipates graduating this May.

She has participated in research projects in the Manuel Penichet lab, UCLA David Geffen School of Medicine, Department of Surgery; Summer Undergraduate Medical Scientist Training Program, University of Iowa Carver College of Medicine, Department of Pathology; and the UCLA Biomedical Sciences Enrichment Program.

"I would like to thank Dr. Ashutosh Mangalam and Dr. Shailesh Shahi for their invaluable mentorship throughout the summer, as well as Dr. Daniels-Wells and Dr. Penichet for their joint support at UCLA," Ceja said. "Additionally, I would like to thank Dr. Megan McEvoy and Dr. Gina Poe for continually encouraging me throughout my academic and scientific career!"



Joel Gutierrez Estupiñan
(AAI Undergrad '22)
Bunker Hill Community College,
Boston, Massachusetts

Mr. Gutierrez Estupiñan anticipates receiving his associate's degree this May in biomedical engineering. His research experiences include

participation in a comprehensive cancer research training program as a Summer Program to Advance Research Careers (SPARC) student research intern in the David Mooney lab at Harvard University and the Dana Farber/Harvard Cancer Center and earlier research evaluating cancer incidence data to understand population disparities in melanoma, their associated risk factors, and their national incidence trends.

"I would like to thank my primary mentor Alex Najibi, Ph.D. candidate, and principal investigator Dr. David Mooney for providing me with invaluable research, hands-on lab, and professional skills during my research training experience at Harvard University," said Gutierrez Estupiñan.



Nicole Pagan Torres
University Ana G. Mendez,
San Juan, Puerto Rico

Ms. Pagan Torres is an undergraduate junior majoring in microbiology. Her research experience includes participation as an NSF-Puerto Rico Louis Stokes Alliance for Minority

Participation student researcher in toxicology and as a Summer Undergraduate Research Experience student researcher in toxicology, both with mentor Loyda Méndez. She has also participated as a peer mentor and peer leader at her institution through the Hispanic-Serving Institutions: Science, Technology, Engineering, or Mathematics and Articulation Programs administered by the U.S. Department of Education.

"I am grateful for my mentor, Dr. Loyda Mendez, who has helped me progress exponentially and develop character and responsibility," said Pagan Torres. "I would also like to acknowledge the lab technician, Karla Casillas, and my lab partners for their guidance, support, and encouragement throughout every step."

OUTREACH

The following AAI members participated as immunology presentation judges for ABRCMS 2021:

- Tesfaye Belay, Ph.D. (AAI '16), Professor, Bluefield State College
- Robert Binder, Ph.D. (AAI '02), Professor, University of Pittsburgh (*past MAC member and chair*)
- Cherié Butts, Ph.D. (AAI '10), Medical Director, Therapeutics Development Unit, Biogen (*past MAC member and chair; current member, AAI Committee on Public Affairs*)
- Nadeem Fazal, M.D., Ph.D. (AAI '09), Professor, Chicago State University
- Timothy Gondre-Lewis, Ph.D. (AAI '21), Program Officer, DAIT, NIAID, NIH
- Laurel Lenz, Ph.D., (AAI '05), Professor, University of Colorado School of Medicine
- Robin Lorenz, M.D., Ph.D. (AAI '96), Executive Director, Research Management/Research Pathology, Genentech
- Manoj Mishra, Ph.D. (AAI '10), Professor and Director, Alabama State University
- Faten Okda, Ph.D., M.S., D.V.M. (AAI '21), Postdoc Research Associate, St. Jude Children's Research Hospital
- Felix Rivera-Mariani, Ph.D. (AAI '17), Assistant Professor, College of Biomedical Sciences, Larkin University
- Michelle Snyder, Ph.D. (AAI '08), Associate Professor, Towson University (*current member, AAI Education Committee*)
- Robin Stephens, Ph.D., M.S. (AAI '10), Professor, University of Texas Medical Branch, Galveston
- Selvakumar Subbian, Ph.D. (AAI '20), Associate Professor, Rutgers University
- Elia Tait Wojno, Ph.D. (AAI '15), Assistant Professor, University of Washington
- Henry Wortis, M.D. (AAI '82), Professor, Tufts University School of Medicine (*past MAC member*)

ABRCMS 2022 is scheduled to be held November 9–12, 2022, in Anaheim, CA.

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*Based on JCR 2020 Citation Reports.



AAI Education Committee Highlight: Teaching Tools

In 2016, the AAI Education Committee initiated a new session focused on improving immunology education: the Immunology Teaching Interest Group (ITIG). The ITIG is an informal group comprised of past speakers and attendees of the ITIG sessions, including current immunology educators spanning a range of institutions and levels. It serves as a resource for novel teaching tools and practices that can be implemented in courses to enhance immunology education. The session has grown from an audience of 20 in 2016 to more than 100 participants in 2019 (the last time the session was held in person due to the cancellation of IMMUNOLOGY2020™). Because of the great interest in this topic, the AAI Newsletter features “Teaching Tools” articles highlighting ITIG presentations.

Avoiding the “Can’t See the Forest for the Trees” Problem in Teaching Immunology



Pierette M. Appasamy, Ph.D. (AAI '13),
associate professor of biology,
Chatham University, Pittsburgh, PA

Chatham University offers an elective immunology course, BIO419, for undergraduate biology majors and biomedical (MS and MA) graduate students. The average class has 40 students meeting twice a week without a

lab. The first half of the course covers basic immunology, while the second half covers clinical immunology. The required textbook is Parham's *The Immune System (Fourth edition)*; readings are supplemented with videos, class activities, and case studies.

Due to the complexity of vocabulary and molecular processes, students of immunology often lose “the forest for the trees” when studying how these details contribute to the dynamic, interrelated functions of the immune system. Research points to the necessity for learners, especially in STEM disciplines, to be able to sort through ideas and construct cohesive models of specific phenomena for authentic learning to occur.¹ For students to construct models, it is necessary for them to understand “big picture” events of immune responses. The methods that I have used to stimulate this type of learning have evolved over the 14 years that I have taught this course.

Overview

I have found great value in spending initial class meetings on an overview of immune responses. This mainly occurs through assigned book chapter readings, student self-reflection, and in-class discussion supplemented with open-access videos.

Define Critical Concepts with Images

“Critical concepts” are defined and tied to specific textbook figures and highlighted on the course management system. Students discuss critical concepts in groups and complete reinforcing activities. An example of a critical concept is the distinction between primary and secondary immune responses. The students graph antibody concentration data, identify the distinctions between the primary and secondary immune responses, and discuss the reasons for the differences. Students develop a “library” of critical concepts and can begin to link concepts together.

Analogies and Role Playing

Since immunology concepts are new to students, there is considerable benefit in providing memorable analogies for immunologic processes, like icing on a cake for opsonization. A final valuable tool that requires students to synthesize information is group role-playing. Groups of five to eight students develop an activity related to an assigned concept and use props that they develop to model key events. For example, T cell development has been role-

played by students dressed as double negative progenitors who interact with other students acting as cortical epithelial cells expressing either MHC Class I or Class II, and the students move to a different location in the classroom depending on the MHC with which they interact. CD4, CD8, and TCRs are represented by cardboard cutouts held by the students. Presenting groups also develop an engaging supplemental activity or game to reinforce concepts.

I have observed that students are more engaged when these approaches are used, compared to years when the course was taught solely by lecture, although the average course grades are not markedly different. While some activities seem overly simplistic, their benefit cannot be overstated since they form a bank of concepts that students can use to build more complex models of the immune response.

Reference

- ¹ Hallström, J., Schönborn, K.J. Models and Modelling for Authentic STEM Education: Reinforcing the Argument. *IJ STEM Ed* 6, 22 (2019). <https://doi.org/10.1186/s40594-019-0178-z>



AAI Courses in Immunology

Introductory Course in Immunology

July 12–17, 2022

UCLA Luskin Conference Center, Los Angeles, California

Course Director: Helen S. Goodridge, Ph.D.,
Cedars-Sinai Medical Center

Advanced Course in Immunology

July 24–29, 2022

The Westin Copley Place, Boston, Massachusetts

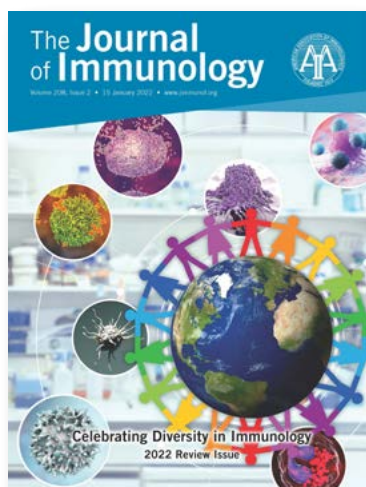
Course Director: Wayne M. Yokoyama, M.D., DFAAI,
Washington University School of Medicine

Visit www.aai.org/ImmunologyCourses
for more information.

Diversity Makes an Impact in Immunology

Marissa C. Locke, Ph.D., science associate, AAI

The Journal of Immunology (*The JI*) celebrates diversity, equity, and inclusion (DEI) in the January 15, 2022, special issue of Brief Reviews, showcasing a broad spectrum of



immunology topics and author autobiographies. De'Broski R. Herbert, Ph.D. (AAI '00), and Irene Salinas, Ph.D. (AAI '17), took on the roles of guest editors for this unique project, contributing their own impassioned statements about the importance of DEI today.

Both Dr. Herbert and Dr. Salinas developed a love for science at a very young age but in very different environments

and corners of the globe. Herbert grew up in Southern Mississippi, while Salinas was raised near the Mediterranean Sea in Zaragoza, Spain. As children, they both enjoyed exploring the outdoors.



Herbert

As a young boy, Herbert was always told by his great-grandmother never to go outside without shoes on his feet. Only later, when Herbert sat in a parasitology class at the historically black Xavier University of Louisiana, did he realize the reason for his great-grandmother's warning: she had been trying to protect him from soil-borne parasites such

as hookworms. This realization had a tremendous impact on the trajectory of Herbert's life and career. "After taking parasitology, I became curious about the basic biology of parasites and how they interact with a host," Herbert said. "Once I took immunology, I was sold."

He went on to pursue his Ph.D. in immunology at Thomas Jefferson University, studying the role of IL-5, B-1 lymphocytes, and eosinophils during threadworm infection. He pursued his postdoctoral work at the University of Cape Town in South Africa in a similar area of study. Herbert is now

an associate professor of infectious diseases at the University of Pennsylvania and has served in various volunteer roles for AAI, including currently acting as an annual meeting abstract programming chair. Herbert was named the AAI Vanguard Lecturer in 2020 and delivered his lecture at Virtual IMMUNOLOGY2021™.



Salinas with her family

Salinas's love for science was borne out of fishing trips with her father and sisters. Her father taught her about fish anatomy, and at the young age of 15, she knew she wanted to be a fish biologist.

Salinas pursued her undergraduate degree in marine biology at the University of Alicante, Spain, a master of research degree in applied fish biology at the

University of Plymouth, England, and a Ph.D. in cell biology at the University of Murcia, Spain. She completed two postdoctoral fellowships at the University of Pennsylvania School of Veterinary Medicine and at the National Institute of Water and Atmospheric Research in New Zealand. She is now an associate professor at the University of New Mexico and has served on a number of AAI committees, including currently acting as a member of the AAI Committee on the Status of Women.

Salinas grew up in a diverse family, with a Venezuelan mother and a father of Eastern European descent. She first came to terms with the extreme inequalities that exist in the United States during her initial postdoctoral fellowship.

"I first started thinking deeply about inequalities when I moved to the United States and the University of Pennsylvania," Salinas said. "We had amazing resources [at the University], but I was living in the middle of West Philadelphia, far away from the university, in the cheapest apartment I could find. I was surrounded by poverty, and that sharply contrasted with being at a very rich institution with amazing resources."

The two scientists came together as guest editors for this special issue of *The JI* to raise awareness about the lack of diversity in scientific publishing. Each has their own personal definition and connection to DEI, and they collaborated with *The JI* Editor-in-Chief Eugene Oltz to assemble a collection of Brief Reviews composed by authors representing diverse career stages, gender identities, ethnicities, racial identities, and disciplines in immunology. Herbert and Salinas insist, however, that one special issue is not enough to achieve the changes that must be made to provide opportunity for all.

“We must move beyond the idea that diversity is only important because diverse minds come up with diverse solutions,” Salinas said. “That [idea] is not enough anymore.”

Salinas believes that we must make an effort to give students from underrepresented groups a chance to experience working in the laboratory as early as possible. She also advocates that high school and undergraduate students should always be paid for their work.

To Herbert, making DEI a foundational value of science and academia is as logical as biology itself. “DEI is transcendental and is the fundamental principle guiding how we have evolved,” Herbert said.

He believes that diversity is a conserved biological phenomenon and that equity and inclusion are the very principles that guide immunity. “It is only when immune cells, such as T lymphocytes, gain access to specific environments that they can differentiate and find their cognate antigen,” Herbert said. “We must make sure there is equal opportunity for all to reach their full potential.”

Both Salinas and Herbert have taken initiative to further the DEI mission by devoting their professional and personal time to mentoring young scientists. Salinas’s desire to help underrepresented and disadvantaged students has guided many of her career decisions.

“When I interviewed in New Mexico, it became obvious to me straight away that I would be able to do a lot of good for the community here,” Salinas said. “I felt I could give many people opportunities and contribute to the community while doing great science, and all of that would give me meaning in my life.”

During her time at the University of New Mexico, Salinas has mentored more than 25 undergraduates, many of whom come from disadvantaged backgrounds. She asserts it is essential to give these students a blank page of opportunity no matter where they come from.

Salinas also dedicates her time to co-organize and support Black in Immuno, a group of Black immunologists and allies dedicated to amplifying, celebrating, and supporting Black scientists.

Herbert is also involved in many outreach activities. Specifically, he is actively building educational programs linking research institutions and historically Black colleges to give students access to summer research programs. He is also working to bridge research institutions within the United States to colleges in African countries, such as Nigeria and Ghana. Herbert regularly speaks to African students about a range of topics, including Ph.D. program applications, CVs, and more. His goal with these programs is to ensure that the scientific community is comprised of well-trained individuals from all walks of life.

The efforts of Herbert and Salinas have impacted hundreds of lives. However, there is more work to be done. They call upon all of us to be advocates and allies through action.

“The day that diversity, equity, and inclusion are no longer special issues, but rather part of the fabric of biomedical research, will be the day that [we] will have advanced as a society,” Herbert said.

Read The JI 2022 special issue, “Celebrating Diversity in Immunology,” now! Access it at www.jimmunol.org.



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2022: Celebrating Diversity in Immunology

A collection of Brief Reviews by guest editors De'Broski R. Herbert, Ph.D., University of Pennsylvania, and Irene Salinas, Ph.D., University of New Mexico, that celebrates diversity, equity, and inclusion and showcases authors representing diverse career stages, gender identities, ethnicities, racial identities, and disciplines in immunology.

www.jimmunol.org/cc/diversity



A Brief History of Immunology in Portland

Aerial view of Willamette River with Morrison, Burnside, and Steel Bridges, 1915
Portland City Archives

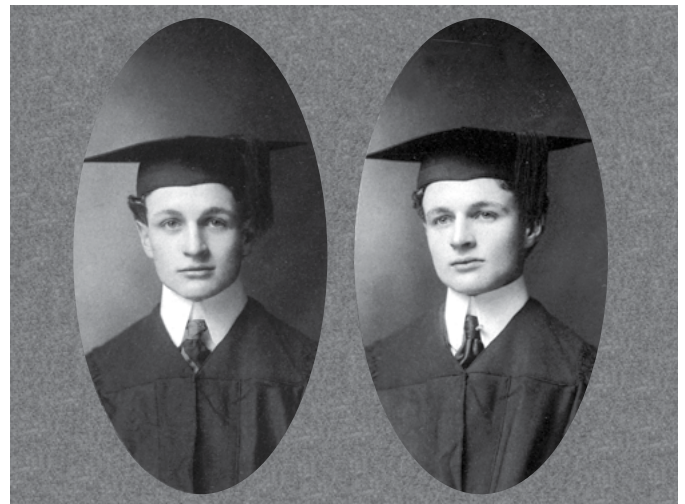
When AAI was founded in 1913, the city of Portland, Oregon, was experiencing rapid growth—the population had doubled in the previous 10 years, making it the fifth largest city in the West behind San Francisco, Los Angeles, Seattle, and Denver.¹ Founded 16 years before the outbreak of the American Civil War, its growth was owed to its strategic proximity at the confluence of the Columbia and Willamette Rivers to the agricultural Tualatin Valley and easy access to the Pacific Ocean via the Columbia River.

For hundreds of years prior to European exploration and settlement of the area, the location proved beneficial for the native communities. It served as the site of villages of the Multnomah, Kathlamet, Clackamas, bands of Chinook, Tualatin Kalapuya, Molalla and other tribes and bands of native peoples. By the mid-19th century, most Native Americans in Oregon were forced onto reservations. Following the forced relocation, a series of federal laws, notably the General Allotment Act of 1887 (referred to as the Dawes Act), were designed to permanently remove and/or assimilate Native people.²

In the first decade of the 20th century, Portland was endeavoring to shake its reputation as a filthy, dangerous town that still possessed a significant amount of Old West miner character. It hosted the 1905 Lewis and Clark Centennial Exposition; three of the bridges across the Willamette River that connected the city and gave it the nickname of “Bridgetown” had been built; and visitors could take a two-and-a-half-hour trolley tour around all the latest, most modern sights.

The Matson Twins

In this booming port city, one physician scientist joined AAI as a charter member. Ralph C. Matson (AAI 1913) and



Ralph (left) and Ray (right) Matson's graduation photos, UO Medical College, 1902

OHSU Digital Collections

his twin brother, Ray W. Matson, were born in Brookville, Pennsylvania, in 1880 and moved as children to Oregon. The twins lived parallel lives, both graduating from the University of Oregon Department of Medicine in 1902 and interning at Portland's Good Samaritan Hospital until 1905. They both did postgraduate studies at various European hospitals and universities, as was common at the time.³ At St. Mary's Hospital in London, Ralph worked under Almroth Wright (AAI 1914) and alongside Alexander Fleming (AAI 1914) in the bacteriology laboratory.

In 1909, the Matson brothers began positions at the first tuberculosis facility in the Pacific Northwest, the Portland Open Air Sanatorium. Ralph served as a bacteriologist, and Ray worked as a pathologist. Within three years, the twins were made co-directors of the sanatorium, just as the state was



Ralph Matson prepping for surgery
OHSU Digital Collections

pushing to make all tuberculosis sanatoria public. They advised the state on a comprehensive public health plan to fight the “white plague” with a combination of public and private institutions.⁴ The brothers were liberal in their use of x-ray technology before the dangers of radiation were fully known; one surgeon could only tell the twins apart by the distinctive patterns of x-ray scars on their hands.⁵

Ralph Matson was a logical candidate to be a charter member of AAI: he was a pioneer in the clinical treatment of tuberculosis, which was in its infancy. Other tuberculosis researchers among the charter group included the first president of AAI, Gerald B. Webb (AAI 1913, president 1913–15), and Karl von Ruck (AAI 1913).⁶

Like other early AAI members, including future AAI president Stanhope Bayne-Jones (AAI 1917, president 1930–31), Matson went to France in 1916 to join the British Expeditionary Forces (BEF) prior to American involvement in the First World War. He was reunited with Wright, now the consulting physician for the BEF, who requested his service at the research laboratory established at Boulogne-sur-Mer, France.⁷

After the war, the Matson brothers returned to the sanatorium. Ralph lectured to crowds of thousands about his experience in the war. He became one of the greatest thoracic surgeons of his era and remained active both in private practice and as a teacher at the University of Oregon Medical School until his death in 1945. Ray died in a spectacular manner in 1934 when his sports car, driven by fur coat model Jeanne Ingalls, crashed into a concrete barricade on Portland’s Burnside bridge at 2:30 a.m.⁸

Growth of Portland Medical Research

Since the earliest days of the city, biomedical research in Portland has centered on the Oregon Health & Science University (OHSU). Established in 1887 as the University of Oregon (UO) Medical Department, it was the first medical school in the Pacific Northwest. A merger with the medical education program of Willamette University formed the University of Oregon Medical School, and in 1974 it became an independent institution.

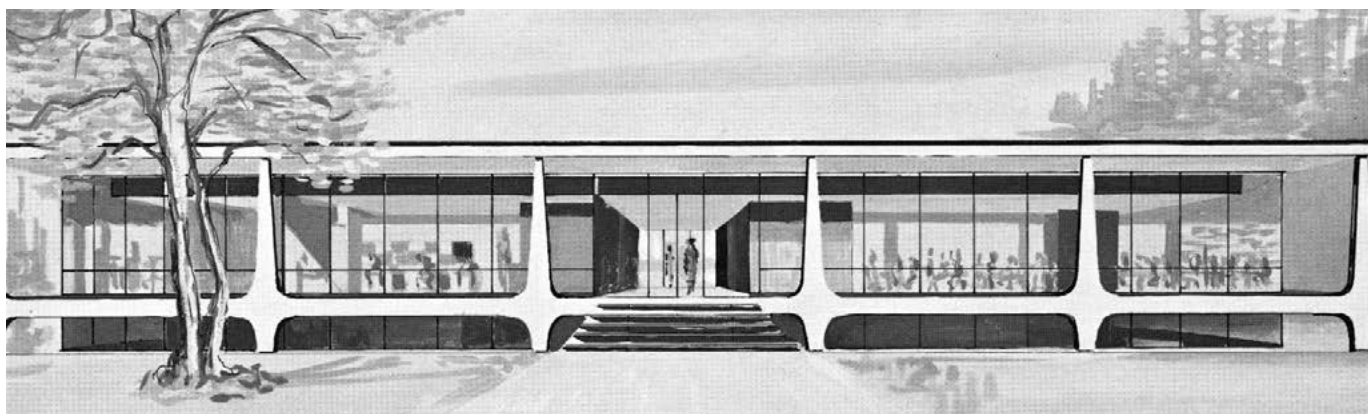
After Matson, there were no AAI members in Portland until Arthur W. Frisch (AAI 1956), who joined the faculty of UO Medical School as professor of bacteriology in 1946 from Wayne State University.⁹ He became chair of the Department of Bacteriology in 1956 and served in that capacity until 1972. Frisch’s main research interests were serotyping and the legal aspects of blood groups. He was known as an immunologist to his coworkers in the bacteriology department.¹⁰

In 1962, with a \$1.9 million grant from the National Institutes of Health, the Oregon National Primate Research Center began operations outside Portland with the OU Medical School as its host institution.¹¹ There, the hundreds of monkeys, apes, and other primate specimens were used in a wide range of research in four major areas: reproductive biology, cardiovascular and metabolic disease, cutaneous biology, and immune diseases. Arthur Malley (AAI 1969) joined the staff in 1964 and conducted research in immunology and biochemistry until his retirement in 1995. In addition to his research at the primate center, Malley taught immunology at Reed College for a number of years.

The Oregon state legislature changed the name of the UO Medical School to Oregon Health Sciences University in 1981.¹² By that time, AAI members were represented there in several specialties, including pathology, ophthalmology, and dermatology, in addition to the Department of Microbiology and Immunology. In 2001, the university merged with the Oregon Graduate Institute and the new institution was named the Oregon Health & Science University.



Aerial view of the University of Oregon Medical School, c. 1940–48
OHSU Digital Collections



Architectural rendering of the Central Services Building, Oregon National Primate Research Center
 OHSU Digital Collections

Independent Research in Immunotherapy

Of the many independent research institutions in the Portland area, the one that has had the largest AAI representation is the Earl A. Chiles Research Institute, today part of the Providence Cancer Institute in Portland. Established in 1987 for general medical research, it became primarily focused on cancer research in 1993 when Walter J. Urba (AAI 1988) was recruited from the National Cancer Institute to become its director—a position he still holds today.

By 1996, an early human trial of a breast cancer immunotherapy using an alleogenic cell line and CD80 was conducted by Urba and Deric Schoof (AAI 1990).

While no vaccine was developed from that trial, the study did show immunizing effects that would inform later studies.¹³ The Chiles Research Institute continues to conduct important basic research and develop promising cancer immunotherapies.



Front Avenue, Portland, 1910
 Portland City Archives

IMMUNOLOGY2022™ in Portland

At the 105th annual meeting in Portland, you will have the opportunity to learn much more about the history of immunology in Oregon and the surrounding region. We hope you will visit the AAI History Exhibit to learn more about the significant contributions made to the field by AAI members living in the West!

References

- ¹ In 1910, Portland had a population of 207,214, which ranked it as the 28th largest city in the United States. In 1910, the city had a population of 90,426 and was the 42nd most populous city in the United States.
- ² Ann Curry-Stevens, Amanda Cross-Hemmer, and Coalition of Communities of Color, *The Native American Community in Multnomah County: An Unsettling Profile* (Portland, OR: Portland State University), 5–6.
- ³ “Obituary—Ralph C. Matson, 1880–1945,” *American Review of Tuberculosis* 53 no. 5: 508–10; “Matson, Ralph Charles (21 January 1880–26 October 1945),” *American National Biography Online*, www.anb.org/articles/12/12-01512.html
- ⁴ “Object to West Plans,” *Salem Statesman Journal*, October 22, 1912.
- ⁵ John E. Tuhy, *Annals of the Thoracic Clinic* (Portland, OR, Multnomah County Medical Society: 1978), 12.
- ⁶ For more on tuberculosis research and sanatoria in the early years of AAI, see “Industry Representation in Early AAI,” *AAI Newsletter*, March 2015.
- ⁷ “Dr. Ralph C. Matson to Leave for France,” *Oregon Daily Journal*, May 7, 1916. For more on what the war was like for AAI members, see “Stanhope Bayne-Jones: One Soldier-Scientist’s Experience during WWI” in the *AAI Newsletter*, December 2012.
- ⁸ “Dr. Ray W. Matson and Jeanne Ingalls Killed in Auto Crash,” *Salem Capital Journal*, September 12, 1934.
- ⁹ “Medical News,” *Journal of the American Medical Association* 161, no. 9: 887.
- ¹⁰ Ernest Alan Meyer, interview by Lesley Hallick, 10 February 2010, transcript, Oral History Program, Historical Collections & Archives, Oregon Health & Science University, 12.
- ¹¹ “\$1,917,275 Grant for Study of Rhesus-Monkey Traits,” *Louisville Courier-Journal*, April 27, 1960.
- ¹² “10 corrections measures breeze through House,” *Corvallis Gazette-Times*, April 30, 1981.
- ¹³ D. D. Schoof, et al., “Immunization of metastatic breast cancer patients with CD80-modified breast cancer cells and GM-GSE” *Advances in Experimental Medicine and Biology* 451: 511–8; Karen S. Anderson, “Tumor Vaccines for Breast Cancer,” *Cancer Investigation* 27, no 4: 361–8.

AAI Welcomes New Members

AAI is very pleased to welcome all new members who joined AAI during the 2021 membership year through October 31, 2021. Listed below are the 413 new regular and associate members. New members appear in the list in alphabetical order by U.S. state and by country (international).

Also joining AAI in 2021 (through October 31, 2021) were 726 new trainee members. To view the new trainee members list, visit www.aai.org/2021NewMemberList.pdf.

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AAI Grants and Awards

June 15

AAI Travel for Techniques Awards

Summer application cycle opens April 15

- **Prize/Award:** Multiple awards providing up to \$1,500 each in reimbursement of travel expenses for a visit to another laboratory specifically to learn a technique beneficial to award applicant's research
- **Eligibility:** AAI regular and associate member scientists with independent research programs; awarded travel may be that of the applicant, applicant's trainee, or applicant's lab member (traveler must be an AAI member); award selection is based on relevance of the technique to the applicant's program and financial need
- **Details:** www.aai.org/TravelForTechniques
- **Contact:** awards@aai.org

September 1

AAI Fellowship Program for Career Reentry

2022 application cycle opens June 1

- **Prize/Award:** In support of immunologists' reentry into the workforce after a qualifying lapse of research or research training, multiple awards providing one year of salary support to postdoctoral trainees who have taken a leave of absence of one year or more for family-related issues, medical absences, or military obligations
- **Eligibility:** Applicants with a tentative written offer of appointment as a postdoctoral fellow in immunology or a related field; trainees funded under this program may not be supported concomitantly by other fellowships that provide salary compensation
- **Details:** www.aai.org/ReentryFellowship
- **Contact:** fellowships@aai.org

September 1

AAI Intersect Fellowship Program for Computational Scientists and Immunologists

2022 application cycle opens June 1

- **Prize/Award:** Multiple postdoctoral fellowship awards providing one year of salary support affording immunology researchers the opportunity to train in computational science and/or computational scientists to train in immunology
- **Eligibility:** At least one of the collaborating PIs seeking support must be an AAI member in good standing; application may be for support of a postdoctoral fellow trained in basic bench research to undertake one year of training in computational science, or a postdoctoral fellow trained in computational science to spend one year in an immunology research lab to learn basic immunological principles and laboratory techniques; reciprocal six-month exchanges between labs will also be considered; trainees must be in years 1–5 of postdoctoral training in the physical/mathematical/computational sciences, immunology, or related fields (those who have completed five years of training and transitioned into a second postdoctoral position will be considered on a case-by-case basis); trainees funded under this program may not be supported concomitantly by other fellowships that provide salary compensation
- **Details:** www.aai.org/IntersectFellowship
- **Contact:** fellowships@aai.org

Non-AAI Grants and Awards

Visit the AAI website at www.aai.org/GrantsAwardsDeadlines for information about non-AAI grants and awards programs.

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Mark Your Calendar for These Important Dates!

Dear readers, please note that the meetings listed on these pages were still scheduled at press time, but due to the global COVID-19 pandemic, cancellations may occur. Please check an individual meeting's website to confirm that it is still scheduled.

2022

VIRTUAL MEETINGS

May 20–21

Neuroimmune Foundation Inflammatory Brain Disorders Conference 2022

<https://med.stanford.edu/pans/events/inflammatory-brain-disorders-conference-2022.html>

ON-SITE MEETINGS

April 2–5

Experimental Biology 2022

Philadelphia, PA

www.experimentalbiology.org

May 6–10

IMMUNOLOGY2022™ AAI Annual Meeting

Oregon Convention Center, Portland, OR

www.immunology2022.org



May 14–17

NK2022, 19th Meeting of the Society for Natural Immunity (SNI)

Hyatt Coconut Point, Bonita Springs, FL

www.nk2022.org/

May 22–26

ASRI 2022: Meeting of the American Society for Reproductive Immunology

Nashville, TN

<https://theasri.org/2022-meeting>

June 10–13

Autoimmunity 2022: 13th International Congress on Autoimmunity

Athens, Greece

<https://autoimmunity2022.kenes.com/>

July 10–15

2022 Gordon Research Conference for Immunoengineering

Ventura, CA

www.grc.org/immunoengineering-conference/2022/

August 25–29

18th European Meeting on Complement in Human Disease

Bern, Switzerland

www.emchd2022.com/

September 20–23

Special Joint Meeting: Cytokines 2022 Hybrid and ILC4 2022

Hilton Waikoloa Village, Big Island, HI

Cytokines 2022 Hybrid: 10th Annual Meeting of the International Cytokine and Interferon Society (ICIS)

<https://hawaii.cytokinesociety.org/>

4th International Conference on Innate Lymphoid Cells (ILC4 2022)

www.ilc2020.org

October 26–29

SLB 2022, the 55th Annual Meeting of the Society for Leukocyte Biology: Leukocytes on the Wave for Translating Medicine

Hilton Waikoloa, Hawai'i

www.leukocytebiology.org/meetings

2023

ON-SITE MEETINGS

May 11–15

IMMUNOLOGY2023™ AAI Annual Meeting

Walter E. Washington Convention Center,
Washington, DC

www.aai.org/FutureMeetings



Fall 2023 (Exact Dates TBD)

17th International Workshop on Langerhans Cells and Related Myeloid Cells of the Skin

Jerusalem, Israel

www.lc2021.org

September 1–5

29th International Complement Workshop 2023

New Castle, United Kingdom

www.complement.org/

November 27–December 2

IUIS 2023: 18th International Congress of Immunology

Cape Town, South Africa

<https://iuis2023.org/>

MycoStrip™

Mycoplasma

NEW

A new way to detect mycoplasma in your cell culture

- ❖ Fast and easy-to-use
- ❖ No special equipment needed
- ❖ Highly sensitive and reliable
- ❖ No false positives

Mycoplasma contamination is a major problem in cell culture that can cause unwanted effects leading to unreliable experimental results. Due to their small size, mycoplasmas are not detectable by visual inspection and thus, the only way to confirm mycoplasma contamination is by routine testing using specifically designed methods. With over 40 years of experience in developing mycoplasma solutions for the scientific community, InvivoGen's MycoStrip™ detects mycoplasma contamination using isothermal PCR and the results are rapidly visualized using a lateral flow detection cassette within 5 minutes.





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At Sony, we strive to bring you the latest innovations and deliver the highest quality flow cytometers to accelerate your research. Our ID7000™ Spectral Cell Analyzer offers the most expanded performance yet, providing state-of-the-art, streamlined multicolor cell analysis to detect even the dimmest fluorochromes and rare cell populations.

The ID7000 incorporates our cutting-edge spectral technology to enable unrivaled flexibility in high parameter flow cytometry. Designed for ease of use at every step, with an intuitive interface and support for walkaway operation, it enables you to run your multicolor experiments with complete confidence of obtaining the best quality data from your cells.

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