

# IMMUNOLOGY2023™

THE 106<sup>TH</sup> ANNUAL MEETING OF  
THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS

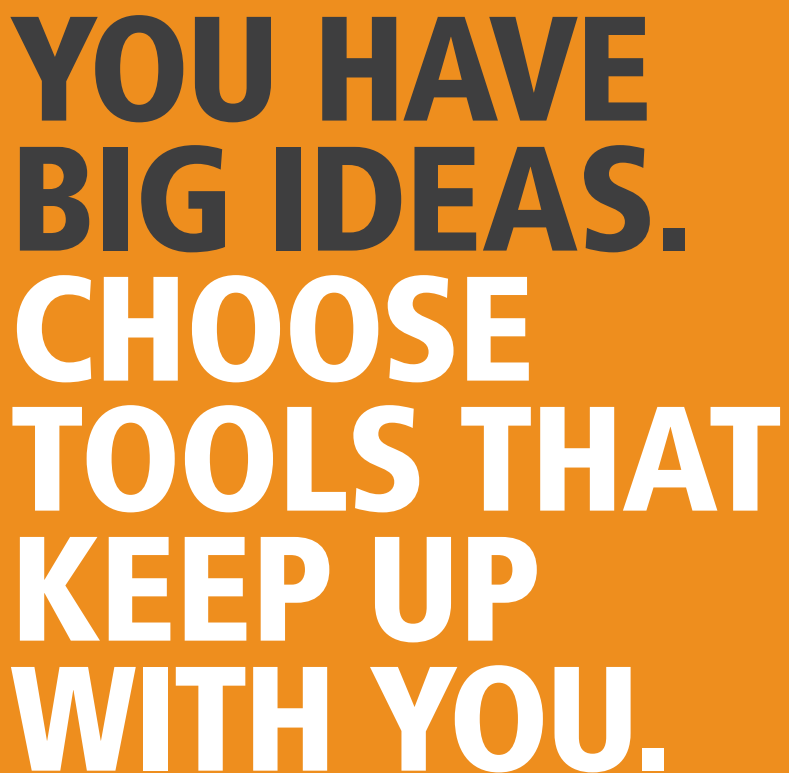


## MEETING GUIDE

THURSDAY, MAY 11 – MONDAY, MAY 15, 2023

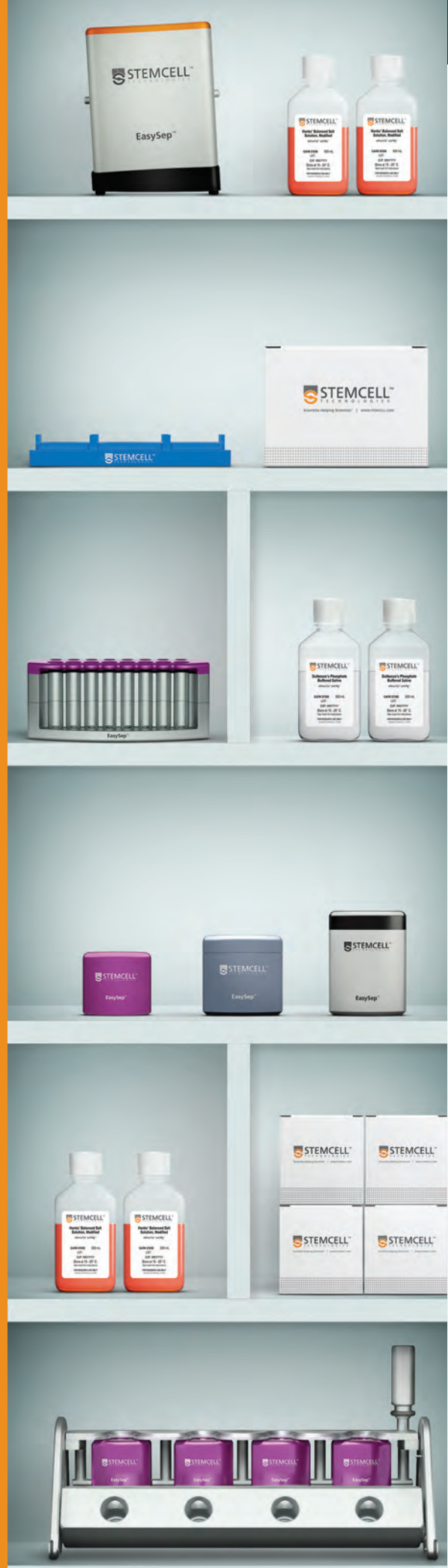
WALTER E. WASHINGTON CONVENTION CENTER | WASHINGTON, DC

[WWW.IMMUNOLOGY2023.ORG](http://WWW.IMMUNOLOGY2023.ORG)



**VISIT BOOTH #4011**

Learn more at [www.stemcell.com/AAI](http://www.stemcell.com/AAI)



## President's Welcome to IMMUNOLOGY2023™



### Dear Colleagues,

As AAI President, it is my honor and privilege to welcome you to the 106<sup>th</sup> annual meeting of The American Association of Immunologists (AAI), **IMMUNOLOGY2023™**, and to Washington, DC! This is not only our nation's beautiful capital city but also a region that is home to

some immunological power houses, including the National Institute of Allergy and Infectious Diseases, the National Cancer Institute, and Johns Hopkins University.

Over the past year, our amazing field of science has continued to be center stage in world news because of the COVID-19 pandemic and outbreaks of measles, polio, and mpox that have occurred. These have resulted in part from the unfortunately effective misinformation campaigns that have been waged against vaccines. Science and research are under attack in a way that we have never witnessed before.

But this also gives us many opportunities to educate the public about science and specifically immunology—and the miraculous ways that our field is making a difference in human lives every single day, thanks to the immunotherapies, new vaccines, and medications that result from the dedicated work of AAI members. This is the impetus for the AAI Public Awareness Campaign, which you will be hearing much more about at the annual meeting and throughout the coming year. As I did in my President's Message last summer, I gratefully acknowledge my predecessor, Gary Koretzky, for launching this very important, long-term AAI initiative to promote and safeguard public health.

The AAI annual meeting is an opportunity for members of the global immunology community to share information with each other about their outstanding work and findings. Thanks to the thoughtful planning carried out by the AAI Program Committee and Chair Cathy Nagler, more than 2,000 abstracts were submitted for this meeting, producing 73 block symposia with almost 600 presenters and 79 poster sessions with more than 2,000 poster presenters covering 23 topic areas. Cutting-edge research will be featured in eight major symposia, three Distinguished Lectures, and eight awards lectures. Additionally, 18 guest scientific societies and NIH institutes have organized special sessions to highlight advances related to their missions, and AAI committees are sponsoring sessions addressing their related specialty areas.

More than 150 leading companies and institutions are showcasing the newest laboratory research tools, techniques, resources, programs, and services in the AAI Exhibit Hall. Additionally, each day scientists from these organizations will be presenting their most recent results and data in Exhibitor Workshops. Without a doubt, our meeting will again be the year's must-attend event for connecting to the latest innovations, discoveries, and technologies in the field.

The AAI annual meeting offers you unmatched career mentoring and networking opportunities. The program will present a series of sessions and roundtable discussions for attendees to learn about different job settings, ask questions, and receive advice about issues that impact science careers. There will be sessions to meet representatives from funding agencies who can speak about the latest developments in federal funding and grantsmanship advice. The on-site AAI Jobs Board offers information about exciting new job opportunities.

As always, you have a number of unique social events from which to choose that offer both networking opportunities and time to relax with colleagues. The **Opening Night Welcome Reception** immediately following the President's Address in the convention center affords beautiful views of the city lit up at night. New members can attend a special **New Member Reception** just for them, giving them an opportunity to meet AAI Council members and staff. And the week will end with the **IMMUNOLOGY2023™ Gala** at the National Museum of American History, where attendees can explore the exhibits and enjoy music and dancing.

Finally, it will be my distinct pleasure to introduce attendees to the **new AAI Chief Executive Officer, Loretta L. Doan, Ph.D.**, at the President's Address. Dr. Doan has taken the helm as AAI enters a new era that includes public outreach and education, and we could not be more pleased with her thoughtful and creative leadership and vision.

This is an exciting time to be an AAI member—and to be at the AAI annual meeting! I look forward to seeing you this week during **IMMUNOLOGY2023™**!

Sincerely,

**Mark M. Davis, Ph.D.**  
AAI President



## 2022–2023 AAI COUNCIL

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Salk Inst. for Bio. Sts.

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## 2021–2022 AAI PROGRAM COMMITTEE

*AAI gratefully acknowledges the efforts of the Program Committee in planning IMMUNOLOGY2023™.***Cathryn R. Nagler**

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Mayo Clin.

**José Alberola-Ila**

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Univ. of Utah

**Claudia Kemper**

NHLBI, NIH

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**Russell E. Vance**

Univ. of California, Berkeley



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The **IMMUNOLOGY2023™** Speaker and Author Index and Speaker and Author Disclosures are published on [www.immunology2023.org/program](http://www.immunology2023.org/program) and are also viewable in the **IMMUNOLOGY2023™** mobile app (see download instructions on page 18).

## Connect with AAI!

Want to hear the latest from The American Association of Immunologists? You can find AAI on social media:



@ImmunologyAAI



@AAIImmunology



[linkedin.com/company/the-american-association-of-immunologists/](https://www.linkedin.com/company/the-american-association-of-immunologists/)

If you'd like to join the AAI email list, please email [infoaai@aai.org](mailto:infoaai@aai.org).

*AAI use of any social media site/platform does not constitute AAI endorsement or approval of the opinions expressed by the owners, founders, CEOs, leadership, or other users of these sites/platforms.*



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# Empowering you. Empowering science.

## Exhibitor Workshops:

Join our workshops to learn more about the latest tools for your research.

**Friday, May 12, 1:45-2:30 p.m.**

**Exhibitor Workshop Room 2**

Modulating levels of cell surface CD6 regulates effector T cell activity and Treg development

**Jeanette Ampudia**

*Associate Director, Immunology & Research Operations  
at Equillum, Inc.*

**Saturday, May 13, 12:30-1:15 p.m.**

**Exhibitor Workshop Room 2 (Lunch provided)**

Stimulation with a superagonistic anti-CD28 antibody shows Treg expansion and provides an *in vitro* model for immunotherapeutic research

**Rebecca Nickle, PhD**

*Technical Applications Scientist, BioLegend*

## Poster Presentations:

**Fri, May 12, 2:30-3:45 p.m.**

Deep phenotypic and functional characterization of NK cells during NK-mediated cytotoxicity

**Rebecca Nickle, PhD**

*Technical Applications Scientist, BioLegend*

A new antibody for the study of human CD157 expression and function

**Susannah Kassmer**

*Scientist II, Cell Analysis, BioLegend*

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# AAI POLICY STATEMENTS

## NONDISCRIMINATION

The American Association of Immunologists (AAI) is committed to ensuring a safe and welcoming environment at AAI activities for all participants regardless of race, skin color, religion, national origin, sex, gender, gender identity or expression, sexual orientation/preference, age, military or veteran status, marital status, or disability.

## CODE OF CONDUCT

AAI is committed to providing a safe and welcoming environment adhering to the principles of integrity, civility, diversity, and respect. To that end, prohibited behaviors at **IMMUNOLOGY2023™** include, but are not limited to, the following:

- Physical assault (including unwelcome touching or groping)
- Unwelcome or uninvited attention or contact
- Real or implied threat of physical harm
- Real or implied threat of professional or financial damage or harm
- Deliberate intimidation, stalking, or following
- Intimidating, harassing, abusive, discriminatory, derogatory, or demeaning speech or actions
- Verbal or physical abuse of any person working on behalf of the meeting, including convention center, AAI, and contract staff
- Harmful or prejudicial verbal or written comments or visual images related to race, religion, ethnicity, national origin, sex, gender, sexual orientation/preference, age, or disability
- Inappropriate use of nudity and/or sexual images (including in presentation slides)
- Harassing photography or taking identifying photos of someone without their express permission
- Photographing or recording podium presentations and/or posters (except by presenting authors)
- Photographing or recording scientific or other sessions
- Disruption of scientific sessions or other events
- Inebriation or use of illegal substances at the meeting
- Entering the meeting area or sessions without registering or without wearing a meeting badge
- Sharing or borrowing meeting badges
- “Crashing” an “invitation only” event.

AAI reserves the right to remove individuals, without refund, who have engaged in any of the above-described behaviors from all further activities at or associated with **IMMUNOLOGY2023™**. Convention center security and/or police may be asked to intervene as necessary. AAI reserves the right to bar offenders from future AAI-sponsored meetings and events.

## REPORTING MISCONDUCT/SAFE SPACE

Any meeting attendee who has an incident to report or seeks a safe space may go to the AAI Office in the convention center located on Level 1, Room 103A. The office is staffed daily; please see page 11 for office hours and phone number.

Uniformed security guards are stationed at the escalators, in front of the elevators, and will be circulating in the Exhibit Hall and on the session floors. Attendees may ask them for assistance.

## CHILD ATTENDEE POLICY

Children under the age of 13 are not permitted to attend **IMMUNOLOGY2023™** or enter the Exhibit Hall\*, session rooms, or hallways in the meeting area. No children will be allowed entry into social events.

High school students (age 13 and older) are welcome to attend the meeting and will receive complimentary registration if they are accompanied by a registered adult and provide a school ID. Students are expected to behave appropriately.

*\*Non-ambulatory children will be allowed in the Exhibit Hall under the close supervision of their parents or guardians.*

## POSTER PRESENTATION POLICY

Submission of an abstract to the AAI annual meeting constitutes a commitment by the author to present their data in the format assigned (poster, or podium and poster presentation).

- All accepted abstracts, including those selected for a podium presentation in a Block Symposium, are programmed for poster presentation.
- Authors must set up their posters between 7:30 AM and 9:30 AM on their assigned day.
- Posters are to remain up until 3:45 PM on the assigned presentation day and be removed by 4:30 PM on the day of presentation (please note that if the presentation day is Sunday, posters must be removed by 4:00 PM). Posters not removed will be discarded.
- All authors must be present between the hours of 2:30 PM and 3:45 PM during their assigned poster session. Any authors failing to (1) display their poster throughout their assigned day or (2) be present during their assigned poster session **will forfeit publication of their abstracts in *The Journal of Immunology* Special Meeting Abstracts Supplement.**
- Authors who cannot be present at their assigned time(s) must formally withdraw their abstracts.
- AAI Travel Awardees must present their abstracts during their poster presentation time in order to receive award reimbursement.



- Posters are viewable for one day only.
- AAI is not responsible for belongings, poster containers, or other materials or articles left in the poster area. Items left behind may be discarded.
- Posters/poster presentations may not be recorded by any means except by an AAI-authorized agent for official purposes. First authors may photograph their own posters/poster presentations.

For complete presentation details, visit

[www.immunology2023.org/poster-presentation-guidelines](http://www.immunology2023.org/poster-presentation-guidelines).

## PRIVACY POLICY

AAI respects the privacy of meeting attendees and meets the requirements of GDPR. While allowable mailing addresses of meeting registrants are made available to exhibitors for marketing purposes, AAI never divulges email addresses.

Exhibitors may ask to scan the meeting badges of attendees visiting the exhibit booths. Agreeing to such requests is voluntary. If the attendee agrees (gives consent), the scanning process gives the exhibitor full registration information, including the attendee's name, organization, mailing address, phone number, and email.

## RECORDING AND PHOTOGRAPHY

Attendees are strictly prohibited from photographing and recording (audio and/or video) scientific sessions, including posters. Violators will be asked to delete their photographs and recordings and may risk expulsion from the meeting.

*Note: Authors are permitted to photograph their own posters. AAI reserves the right to publish any photographs taken by an AAI-appointed photographer.*

### 录音和摄影

参加会议者是严禁拍摄和录音（音频或视频）科学会议，包括海报。违规者将被要求删除他们的照片和录音，并可能会被驱逐出会议。

注意：AAI允许作者拍摄自己的海报。AAI保留发布由AAI任命的摄影师拍摄的任何照片的权利

### Enregistrement et Photographie

Il est strictement interdit aux participants de photographier et d'enregistrer (audio ou vidéo) des séances scientifiques, y compris des posters. Les contrevenants seront invités à supprimer leurs photographies et enregistrements et risquent d'être expulsés de la conférence.

*Note: Les auteurs sont autorisés à photographier leurs propres posters. AAI se réserve le droit de publier toute photographie prise par un photographe nommé par AAI.*

### 녹화 및 사진촬영

포스터를 포함한 과학적인 세션들의 녹화 및 촬영(녹음/동영상)은 반드시 금지되어 있습니다. 위반자들은 사진 및 동영상 강제 삭제되며 미팅에서도 추방당할 수 있습니다.

비고: 작가들은 본인의 포스터 촬영은 가능합니다. AAI가 고용한 촬영작가들의 모든 사진들은 AAI가 출판할 권리가 있습니다.

## Grabaciones y fotografiar

Los asistentes tienen estrictamente prohibido fotografiar y grabar (audio o video) sesiones científicas, incluyendo carteles. Se les pedirá a los infractores que borren sus fotografías o grabaciones y pueden arriesgar ser expulsados de la junta.

*Nota: Los autores pueden fotografiar sus propios carteles. AAI se reserva el derecho de publicar cualquier fotografía tomada por un fotógrafo designado por AAI.*

### 録音と撮影

会議参加者がポスターを含めた科学的セッションの写真を撮ったり、録音(音声やビデオ)することは固く禁止されています。違反者は撮った写真や録音物を削除するよう求められ、会場からの退去を招く恐れがあります。

注：ポスター提出者が自分のポスターを撮影することはできます。AAIは、AAI選任の写真家が撮影した写真を掲載する権利を留保します。

## SOCIAL MEDIA USER POLICY

AAI encourages you to tweet your experiences @IMMUNOLOGYAAI using the official hashtag #AAI2023.

Please be respectful of the scientific presenters and their presentation content by observing the following social media etiquette when tweeting, blogging, and/or commenting about events and presentations held at **IMMUNOLOGY2023™**.

### Do:

- follow AAI on Twitter @IMMUNOLOGYAAI and use the hashtag #AAI2023 for tweets related to **IMMUNOLOGY2023™**.
- follow *The Journal of Immunology* (@J\_Immunol) and *ImmunoHorizons* (@ImmunoHorizons).
- tweet and blog about the meeting, following standard rules about data sharing.
- discuss topics of interest and/or speakers for next year's meeting and make suggestions for scientific and workshop sessions.
- keep your thoughts constructive and consider that your posts may be distributed widely and will be available for others to see in perpetuity.

### Don't:

- use photographic or other recording devices—these are prohibited in all scientific sessions and the Exhibit Hall.
- capture, transmit, redistribute or otherwise provide details of data presented at the meeting.
- use profanity; graphic or sexual content; or racial, religious, or ethnic slurs.

## IMMUNOLOGY2023™ COVID-19 Policy

AAI has urged all **IMMUNOLOGY2023™** attendees (including registrants, AAI staff, exhibitors, AAI contractors, Walter E. Washington Convention Center staff, and guests) to be fully vaccinated and boosted against SARS-CoV-2 (COVID-19) as per the CDC Guidelines found at [www.cdc.gov/coronavirus/2019-ncov/index.html](http://www.cdc.gov/coronavirus/2019-ncov/index.html). However, no proof of vaccination is required.

Although the COVID-19 pandemic is waning, many individuals and/or their family members are still at risk of serious illness. Because COVID-19 can be transmitted prior to the onset of—or in the absence of—any symptoms, AAI strongly encourages masking (wearing a mask that covers the nose and mouth) throughout the convention center, hotels, and other venues in which **IMMUNOLOGY2023™** sessions, events, and activities are occurring. AAI further encourages masking in any other settings in which social distancing is not possible, except when eating or drinking.

AAI has encouraged registrants to test prior to arrival in Washington, DC. AAI asks that **IMMUNOLOGY2023™** participants who test positive for COVID-19 after arriving on-site, who do not feel well, or who are experiencing any COVID-19 symptoms at any point during the meeting refrain from attending the meeting or participating in any meeting-related activities. If you find yourself in this position and are scheduled to present a poster or talk, please immediately alert AAI staff (at [meetings@aa1.org](mailto:meetings@aa1.org)) and your session chair or main contact that you are unable to present. If you have been granted a travel award contingent upon presentation, and you are on-site at the meeting but unable to present due to illness, you will still receive the travel award funds.

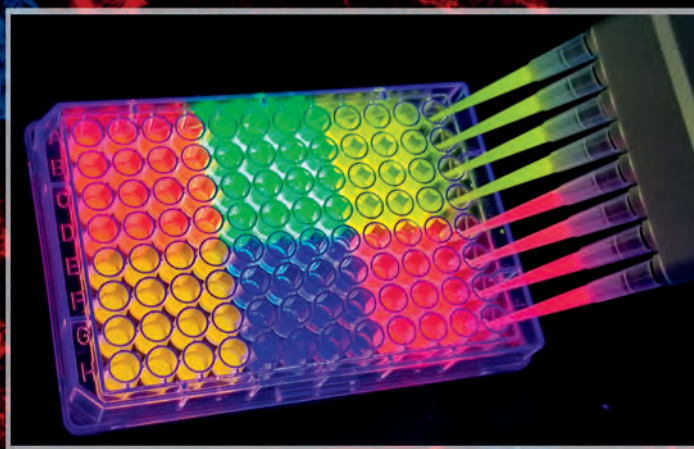
No precautions can entirely eliminate the risk of exposure to COVID-19. While this policy is intended to encourage responsible behavior and minimize the risk of exposure, meeting attendees assume the risk of contracting COVID-19 while at **IMMUNOLOGY2023™**.

AAI reserves the right to revise this policy if local, state, or national conditions warrant a change.

Please check [www.immunology2023.org/covid-policy](http://www.immunology2023.org/covid-policy) regularly for updates.

## ILLUMINATE IMMUNE FUNCTION

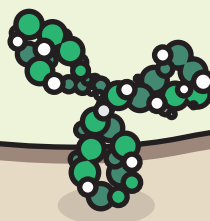
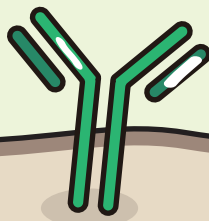
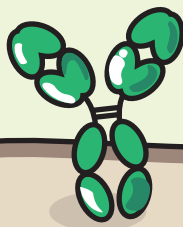
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# GENERAL INFORMATION

Visit <https://bit.ly/42DxjxB> for an interactive map of the convention center.

## ABOUT THE MEETING

### REGISTRATION

#### LEVEL 2, INSIDE EXHIBIT HALL D

Registration will be open:

THURSDAY, MAY 11	9:00 AM – 7:00 PM
FRIDAY, MAY 12	7:00 AM – 6:00 PM
SATURDAY, MAY 13	7:00 AM – 6:00 PM
SUNDAY, MAY 14	7:00 AM – 6:00 PM
MONDAY, MAY 15	7:00 AM – 12:00 PM

### EXHIBITS

#### LEVEL 2, EXHIBIT HALL D

Exhibits will be open:

FRIDAY, MAY 12	9:30 AM – 4:30 PM
SATURDAY, MAY 13	9:30 AM – 4:30 PM
SUNDAY, MAY 14	9:30 AM – 4:00 PM

Exhibiting companies, descriptions, and exhibitors' workshops appear on pages 93–126. Admission to the Exhibit Hall is by official badge only. Badges must be visible for attendees to gain access to the exhibits and posters.

### INFORMATION DESK

#### LEVEL 2, INSIDE EXHIBIT HALL D

The Info Desk is open:

THURSDAY, MAY 11	12:00 PM – 5:00 PM
FRIDAY, MAY 12	7:30 AM – 6:00 PM
SATURDAY, MAY 13	7:30 AM – 6:00 PM
SUNDAY, MAY 14	7:30 AM – 6:00 PM
MONDAY, MAY 15	7:30 AM – 12:00 PM

### AAI STAFF OFFICE

#### LEVEL 1, ROOM 103A

AAI staff will be available at the AAI Staff Office during the hours listed below to assist attendees during the meeting.

THURSDAY, MAY 11	9:00 AM – 7:00 PM
FRIDAY, MAY 12	7:00 AM – 6:00 PM
SATURDAY, MAY 13	7:00 AM – 6:00 PM
SUNDAY, MAY 14	7:00 AM – 6:00 PM
MONDAY, MAY 15	7:00 AM – 12:00 PM

### AAI BOOTH

#### LEVEL 2, EXHIBIT HALL D, BOOTH 5025

Stop by and meet the AAI scientists and staff who work on your behalf. Learn about the benefits of membership and AAI awards and fellowship programs. Visit with the AAI President and the editors-in-chief of *The Journal of Immunology* and *ImmunoHorizons* at dedicated times (see page 70 for details).

The booth will be open:

FRIDAY, MAY 12	9:30 AM – 4:30 PM
SATURDAY, MAY 13	9:30 AM – 4:30 PM
SUNDAY, MAY 14	9:30 AM – 4:00 PM

### NEW! AAI MEMBER LOUNGE

#### LEVEL 2, INSIDE EXHIBIT HALL D

New this year, the AAI Member Lounge is inside the Exhibit Hall across from Registration, offering AAI members a comfortable place to relax, charge devices, and engage with other members and AAI staff.

### AAI STORYBOOTH 2023: COVID-19 STORIES

#### LEVEL 3, ROOM 305

Bring your colleagues, mentors, collaborators, or friends to record your stories, shared experiences, and thoughts on how COVID-19 impacted your research, career, and life.

The StoryBooth will be open:

FRIDAY, MAY 12	9:00 AM – 5:00 PM
SATURDAY, MAY 13	9:00 AM – 5:00 PM
SUNDAY, MAY 14	9:00 AM – 5:00 PM

*Please note that the booth will be closed every day from 12:00 PM – 1:00 PM for lunch.*

### AWARD CHECK DISTRIBUTION TO TRAINEE ABSTRACT AND TRAINEE POSTER AWARDEES

#### LEVEL 2, INSIDE EXHIBIT HALL D

Recipients of Trainee Abstract and Trainee Poster Awards may pick up their award checks at the Information Desk during the following hours:

FRIDAY, MAY 12	9:00 AM – 1:00 PM
SATURDAY, MAY 13	9:00 AM – 1:00 PM
SUNDAY, MAY 14	9:00 AM – 1:00 PM

### ATMs

ATMs are conveniently located in public spaces throughout the convention center.

## BADGE REPLACEMENT

Lost badges may be replaced for a fee of \$65 for the first request, and for the full on-site registration fee for subsequent requests.

## BUSINESS CENTER

The Business Center is located in the first floor lobby of the convention center. The Business Center offers copy and commercial printing services, as well as fast and efficient shipping and receiving services for attendees.

There is also a FedEx Office Print and Ship Center located inside the Marriott Marquis. Agents are able to meet your convention needs, from packing and shipping to signage, copying, and last-minute office supplies.

## CELL PHONE USAGE

Cell phone use in sessions is prohibited. Please turn off all cell phones prior to entering a session room. If using a tablet or laptop for notetaking during a session, please be sure to silence the device prior to entering the session room. If you must leave the session early to take or make a call, please use the rear entrance and exit quietly. Please do not talk on your way out of the session room.

## CHARGING STATIONS

There will be multiple areas throughout the convention center to charge your electronics. Additionally, members will have access to charging stations in the AAI Member Lounge (located by the Registration Desk).

## CHILD CARE

### LEVEL 2, EAST OVERLOOK

Child care will be provided by KiddieCorp at no cost to attendees. For details, visit [www.immunology2023.org/childcare](http://www.immunology2023.org/childcare).

The hours are as follows:

THURSDAY, MAY 11	11:00 AM – 8:30 PM
FRIDAY, MAY 12	7:00 AM – 10:00 PM
SATURDAY, MAY 13	6:30 AM – 10:00 PM
SUNDAY, MAY 14	7:00 AM – 10:00 PM
MONDAY, MAY 15	7:00 AM – 6:00 PM

## CONTINUING MEDICAL EDUCATION

Continuing Medical Education credits are not offered for this meeting. AAI, however, adheres to a high standard in conflict-of-interest policies. AAI requires all speakers at AAI-sponsored meetings or programs to inform their audiences of their academic and professional affiliations.

Speakers are required to disclose any significant financial interests or other relationships they may have with any

commercial entities discussed in their presentations. Speaker disclosures are included in the Scientific Program found at [www.immunology2023.org](http://www.immunology2023.org).

## DINING OPTIONS

Several dining options are available during **IMMUNOLOGY2023™**, including permanent and portable retail food choices.

## DISABILITY ASSISTANCE

Registered meeting attendees with a disability or special need that may have an impact on their participation at the meeting should contact [meetings@aai.org](mailto:meetings@aai.org) or visit the AAI Staff Office, Level 1, Room 103A, to inquire about available accommodations.

AAI cannot ensure the availability of reasonable accommodations without sufficient advance notification.

All service animals must be accompanied by appropriate medical and veterinary documentation. Service animals must be on a leash or harness, under the control of the handler, and must be housebroken. Handlers will be responsible for service animals' sanitary needs.

## EXHIBITOR WORKSHOPS

### LEVEL 2, EXHIBIT HALL D

Take advantage of the opportunities provided by the Exhibitor Workshops to explore exhibitors' latest technologies, products, and services. A complete listing of exhibitor workshops with descriptions begins on page 119.

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

## FIRST AID CENTER

### LEVEL 2, INSIDE EXHIBIT HALL D

The First Aid Center is located next to the Registration Desk and will be managed throughout the meeting by an EMT. Additionally, all security services staff are trained and certified by the Red Cross in basic first aid and CPR practices and are trained to use automatic external defibrillators (AEDs). AEDs are located throughout the convention center, and one is issued to all contracted medical providers on duty.

## INTERNET ACCESS

### INTERNET KIOSKS

Two Internet kiosks that provide access for checking email and surfing the web are located in the Grand Lobby, South Building, next to the lounge areas. Internet access at the kiosks is available at a nominal charge. The kiosks accept major credit cards. Wired Internet connections can be found

in the L Street Lobby, South Building, outside of Meeting Room 103A. Up to eight users can be accommodated at one time. Internet access from these connections is at no cost.

## WIRELESS INTERNET

Guests who have a laptop or handheld device that is 802.11b-g-n compatible can use wireless Internet service to perform basic functions at prevailing rates anywhere in the convention center. Free service is available only in certain locations. Hotspots are designated by Wi-Fi signage.

## LOST AND FOUND

### LEVEL 1, ROOM 103A

If you have lost a personal item, please check with the AAI Staff Office or the convention center information desk. At the completion of the event, any unclaimed items may be submitted to the convention center's Public Safety Division, where inventory is held for 90 days. After 90 days, items are disposed of in accordance with the convention center's DC Property Disposal Guidelines. Contact the Events DC Public Safety Division at (202) 249-4111 for assistance with lost items.

## LUGGAGE STORAGE

### LEVEL 1, WEST SALON H

For a fee of \$5/bag, luggage storage will be available at the convention center during the following times:

SUNDAY, MAY 14	8:00 AM – 6:00 PM
MONDAY, MAY 15	7:00 AM – 6:00 PM

*AAI is not responsible for lost, stolen, or damaged belongings.*

## NURSING MOTHERS' LOUNGES

There are two Mamava pods. The first is located on Level 1, outside of Room 103AB, South Building. The second is on the street level of Middle Building, to the right of the multi-colored spiral staircase. **NOTE:** The code to access the Mamava Pods is 8008.

## POSTER SESSIONS

### LEVEL 2, EXHIBIT HALL D

The poster sessions are the most interactive part of the meeting! Discuss data and research issues directly with authors. There are NO scientific sessions scheduled during dedicated poster hours.

*The unopposed, dedicated poster hours are:*

FRIDAY, MAY 12	2:30 PM – 3:45 PM
SATURDAY, MAY 13	2:30 PM – 3:45 PM
SUNDAY, MAY 14	2:30 PM – 3:45 PM

## PUBLICATIONS

### ABSTRACT CITATION

The proper manner for citing an abstract after it has been accepted but **before** it is posted online as part of *The Journal of Immunology* website/AAI Annual Meeting archive is:

Kuhns, M.S., M. Lee, C. Glassman, N.R. Deshpande, and H. Parrish. 2015. Evidence for a pivot upon TCR engagement. Presented at: *IMMUNOLOGY2015™, Annual Meeting of The American Association of Immunologists, MAY 6–12, The American Association of Immunologists, Inc., New Orleans, Abstract 61.1*

The proper manner for citing an abstract **after** it is posted online as part of *The Journal of Immunology* website/AAI Annual Meeting archive is:

Kuhns, M.S., M. Lee, C. Glassman, N.R. Deshpande, and H. Parrish. 2015. Evidence for a pivot upon TCR engagement. *J. Immunol.* 194: 61.1 (Abstr.)

## PUBLIC RESTROOMS

There are gender neutral restrooms on both the second and third floors of the convention center. The convention center restrooms are accessible to persons with disabilities and are equipped with stalls, sinks, and mirrors that are wheelchair accessible.

## SPEAKER READY ROOM (SRR)

### LEVEL 2, ROOM 203A

All speakers are required to go to the SRR at least 4 hours prior to the start of their session to ensure their presentation is properly uploaded and displays correctly.

To upload a presentation, whether you are using a PC or a MAC, presentations should be brought to the SRR on a flash drive. *Please note that speakers are not permitted to use personal laptops for their presentation, though exceptions will be considered for those using a Mac. Please be sure to speak with the staff in the SRR in regards to the use of your Mac.*

The Speaker Ready Room will be open as follows:

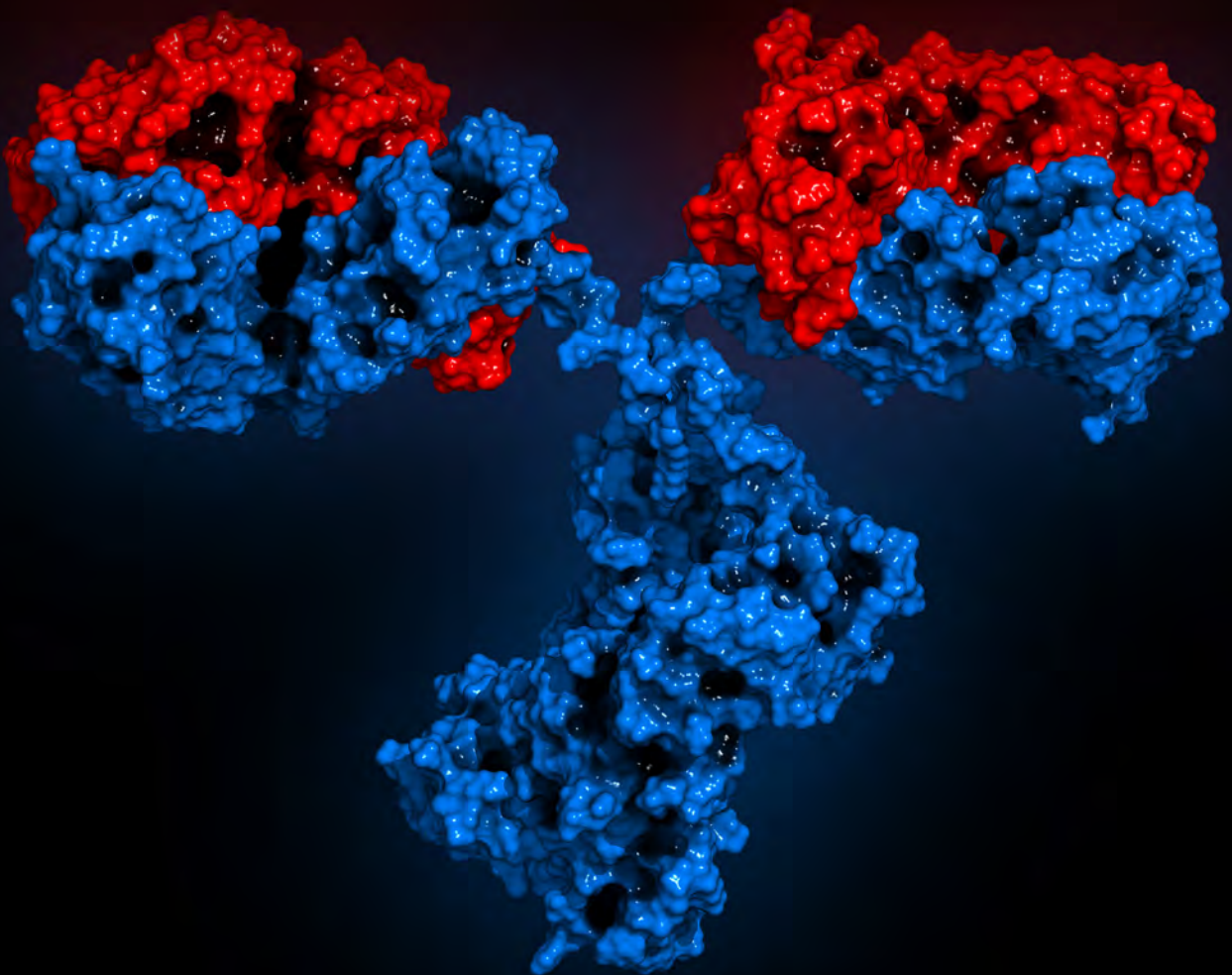
THURSDAY, MAY 11	9:00 AM – 7:00 PM
FRIDAY, MAY 12	7:00 AM – 6:00 PM
SATURDAY, MAY 13	7:00 AM – 6:00 PM
SUNDAY, MAY 14	7:00 AM – 6:00 PM
MONDAY, MAY 15	7:00 AM – 12:00 PM



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## SPEAKER PRESENTATIONS

*All speakers are required to be in their assigned session rooms at least 15 minutes prior to the start of the session to check in with the AV technician.*

Each session room is equipped with an HD data projector, a PC and a Mac, a confidence monitor, a laser pointer, a microphone, and a screen.

## SPEAKER RECORDINGS

All speakers have been asked to give permission to record their talks. If you haven't received or completed the form, please check in with the AAI Office (Level 1, Room 103A) or the Speaker Ready Room (Level 2, Room 203A) prior to your presentation to complete the form. Most presentations will automatically be recorded. If you do not wish for us to post your presentation, it is important that you let us know.

## VENUE

### WALTER E. WASHINGTON CONVENTION CENTER

801 Mt. Vernon Place NW, Washington, DC 20001

[eventsdc.com/venue/walter-e-washington-convention-center](https://eventsdc.com/venue/walter-e-washington-convention-center)

### PARKING

**Nearby public parking.** More than 3,000 parking spaces are located within a three-block radius of the convention center, including surface lots and garages. Exhibitors and attendees are encouraged to use these public parking facilities. Parking regulations are heavily enforced in the convention center's surrounding residential areas. There is no public parking at the convention center.

**Accessible parking.** Twelve metered public parking spaces that are designated for vehicles displaying disability permits or tags are located on 9th Street:

- Three spaces on the east side of 9th Street, between Mt. Vernon Place & L Street
- Three spaces on the east side of 9th Street, between L & M Streets
- Three spaces on the east side of 9th Street, between M & N Streets
- Three metered, public parking spaces on 7th Street, between Mt. Vernon Place and L Street.

Parking signs are posted, indicating a two-hour parking limit, from 7:00 AM to 6:30 PM daily.

## DISTRICT OF COLUMBIA LOCAL INFORMATION

### SALES TAX

Washington, DC, has a sales tax of 6%.

### TEMPERATURE

In Washington, DC, the average high temperature for May is 76°F and the average low is 54°F.

### TIME ZONE

Washington, DC, is in the Eastern Standard Time zone, which is one hour ahead of Central Standard Time, two hours ahead of Mountain Standard Time, and three hours ahead of Pacific Standard Time.

### TIPPING GUIDELINES

Tipping is voluntary. Below are some guidelines:

#### Waiters/Waitresses

Average 15–20% of the bill (Occasionally the tip is automatically added to your bill—check first!)

#### Housekeepers

Average \$3–5/room/day (We recommend that you leave this tip daily because you may have a different housekeeper each day)

#### Taxi drivers

Average 15–20% of the fare

#### Doormen, skycaps, and porters

Average \$5/bag

### TRANSPORTATION

Attendees can get to the convention center by car, taxi, metro, train, and on foot. For more information about the different options, visit [eventsdc.com/venue/walter-e-washington-convention-center/getting-there](https://eventsdc.com/venue/walter-e-washington-convention-center/getting-there).

Washington, DC, is also served by many taxi, shuttle, car rental, and on-street carsharing and ridesharing services. Please search online for your preferred option.

## SERVICE LOCATIONS AND HOURS

All locations listed are within the Washington Convention Center.

### AAI OFFICE

LEVEL 1, ROOM 103A

THURSDAY, MAY 11	9:00 AM – 7:00 PM
FRIDAY, MAY 12	7:00 AM – 6:00 PM
SATURDAY, MAY 13	7:00 AM – 6:00 PM
SUNDAY, MAY 14	7:00 AM – 6:00 PM
MONDAY, MAY 15	7:00 AM – 12:00 PM

### AWARD CHECK DISTRIBUTION TO TRAINEE ABSTRACT AND TRAINEE POSTER AWARDEES

LEVEL 2, INSIDE EXHIBIT HALL D  
AT INFORMATION DESK

FRIDAY, MAY 12	9:00 AM – 1:00 PM
SATURDAY, MAY 13	9:00 AM – 1:00 PM
SUNDAY, MAY 14	9:00 AM – 1:00 PM

### EXHIBITOR LOUNGE

LEVEL 2, INSIDE EXHIBIT HALL D

FRIDAY, MAY 12	8:30 AM – 4:30 PM
SATURDAY, MAY 13	8:30 AM – 4:30 PM
SUNDAY, MAY 14	8:30 AM – 4:00 PM

### EXHIBIT SALES OFFICE

LEVEL 2, INSIDE EXHIBIT HALL D

FRIDAY, MAY 12	9:30 AM – 4:30 PM
SATURDAY, MAY 13	9:30 AM – 4:30 PM
SUNDAY, MAY 14	9:30 AM – 4:00 PM

Please note that these hours are subject to change.

### EXHIBITOR REGISTRATION

LEVEL 2, INSIDE EXHIBIT HALL D

WEDNESDAY, MAY 10	12:00 PM – 5:00 PM
THURSDAY, MAY 11	9:00 AM – 7:00 PM
FRIDAY, MAY 12	7:00 AM – 6:00 PM
SATURDAY, MAY 13	7:00 AM – 6:00 PM
SUNDAY, MAY 14	7:00 AM – 6:00 PM

### EXHIBITOR SERVICES DESK (THE EXPO GROUP AND LEAD RETRIEVAL)

LEVEL 2, INSIDE EXHIBIT HALL D

WEDNESDAY, MAY 10	12:00 PM – 5:00 PM
THURSDAY, MAY 11	8:00 AM – 5:00 PM
FRIDAY, MAY 12	8:00 AM – 5:00 PM
SATURDAY, MAY 13	9:00 AM – 5:00 PM
SUNDAY, MAY 14	9:00 AM – 8:00 PM

### INFORMATION DESK

LEVEL 2, INSIDE EXHIBIT HALL D,  
NEAR REGISTRATION

THURSDAY, MAY 11	12:00 PM – 5:00 PM
FRIDAY, MAY 12	7:30 AM – 6:00 PM
SATURDAY, MAY 13	7:30 AM – 6:00 PM
SUNDAY, MAY 14	7:30 AM – 6:00 PM
MONDAY, MAY 15	7:30 AM – 12:00 PM

### LUGGAGE STORAGE (STAFFED)

LEVEL 1, SALON H

SUNDAY, MAY 14	8:00 AM – 6:00 PM
MONDAY, MAY 15	7:00 AM – 6:00 PM

### SCIENTIFIC REGISTRATION

LEVEL 2, INSIDE EXHIBIT HALL D

THURSDAY, MAY 11	9:00 AM – 7:00 PM
FRIDAY, MAY 12	7:00 AM – 6:00 PM
SATURDAY, MAY 13	7:00 AM – 6:00 PM
SUNDAY, MAY 14	7:00 AM – 6:00 PM
MONDAY, MAY 15	7:00 AM – 12:00 PM

### SPEAKER READY ROOM

LEVEL 2, ROOM 203A

THURSDAY, MAY 11	9:00 AM – 7:00 PM
FRIDAY, MAY 12	7:00 AM – 6:00 PM
SATURDAY, MAY 13	7:00 AM – 6:00 PM
SUNDAY, MAY 14	7:00 AM – 6:00 PM
MONDAY, MAY 15	7:00 AM – 12:00 PM



Abstract Submission

**Deadline**  
**15 May, 2023**

**Divani Caravel**  
**Athens / Greece**  
**15 - 18 October**  
**2023**

[athens.cytokinesociety.org](https://athens.cytokinesociety.org)

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**Abstract Submission Deadline: 15 May, 2023**

**Young Investigator Careers Event & Awards**

Please join us at the ICIS Guest Symposium

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Structural Knowledge“**

**Saturday, May 13; 10:15 AM – 12:15 PM;  
Room 102AB to learn more!**

**Visit the ICIS booth #5105**  
**in the exhibit hall**  
**for more information**



# IMMUNOLOGY2023™

THURSDAY, MAY 11 – MONDAY, MAY 15, 2023 | WASHINGTON, DC



## DOWNLOAD THE APP!

### NAVIGATE THE MEETING WITH EASE

**Download the IMMUNOLOGY2023™ mobile app today!**

**Features:**

- View all abstracts, search the program, and create a personalized schedule.
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*The IMMUNOLOGY2023™ app works best with devices using either Android v4x+ or iOSv7x+.*

The complete scientific program can also be viewed online at [www.IMMUNOLOGY2023.org](http://www.IMMUNOLOGY2023.org)

## SONY

*The mobile app has been generously supported by Sony.*

# IMMUNOLOGY2023™

## PROGRAM PREVIEW

All listings in the meeting program are subject to change. Please visit [www.immunology2023.org](http://www.immunology2023.org) or the mobile app for the most up-to-date information.

## AAI PRESIDENT'S PROGRAM

### President's Address

*Generously supported by GSK*

**THURSDAY, MAY 11 • 5:00 PM**

*LEVEL 3, BALLROOM AB*

### *My Immunology Adventures*

*Presentation of AAI Lifetime Achievement Award prior to President's Address and acknowledgment of Distinguished Fellows of AAI Class of 2023*

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

### Introduction

**Leslie J. Berg**, Univ. of Colorado Sch. of Med.

### President's Symposium

*Generously supported by BD Biosciences*

**SUNDAY, MAY 14 • 12:30 PM**

*LEVEL 3, BALLROOM AB*

### *Frontiers of Human Immunology*

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

### Chair

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

### Speakers

**Pamela J. Bjorkman**, Caltech

*Mosaic RBD nanoparticles protect against diverse sarbecovirus challenges in animal models*

**Akiko Iwasaki**, HHMI, Yale Sch. of Med.

*Immune responses to SARS-CoV-2*

**Bali Pulendran**, Stanford Univ.

*Systems biological analysis of immunity to infection and vaccination*

**Petter Brodin**, Imperial Col. London, England, and Karolinska Inst., Sweden  
*Human immune system development*



Mark M. Davis



Leslie J. Berg



Pamela J. Bjorkman



Akiko Iwasaki



Bali Pulendran



Petter Brodin



## 2023 President's Symposium Preview

### Frontiers of Human Immunology



While it has been absolutely necessary to use inbred mice to understand the basics of the immune system, and there is much more that can be learned in the decades to come, I think of human immunology in particular as the next major frontier of the field. Difficult for sure, but no longer impossible, it offers the prospect of both a more complete

understanding of immunology's complexities in the real world of genetic and environmental influences and the opportunity to fulfill the promise of our discipline to fully realize the potential of the field to impact human health. Despite huge translational successes in vaccines and cancer immunotherapies, there has not been much progress in other areas. Even vaccination has had many failures.

One indicator of how little basic immunology has impacted general medicine is that complete blood cell counts, or CBCs, were introduced in 1959 and measure five white cell types, with lymphocytes comprising one of the five. It is hard not to be embarrassed by the fact that, while immunology may be the most "happening" field in biology (in my opinion), its formidably diverse cell profile isn't evident in basic medical practice.

While that remains a challenge to be overcome, in this symposium I want to celebrate some of the key immunologists who have thrown caution to the wind and tackled challenges that are among the most daunting in human immunology.

**Pamela J. Bjorkman, Ph.D. (AAI '95)**, is the David Baltimore Professor of Biology and Biological Engineering at the California Institute of Technology (Caltech). She had an epic debut in immunology with the 1987 publication of two papers solving the crystal structure of the first MHC molecule. As a graduate student and then postdoc in the lab of Don Wiley at Harvard, Dr. Bjorkman showed a peptide in the groove of a human class I MHC molecule, revealing in a glance how the previously mysterious process of MHC-restricted T cell recognition worked. She was also among the first structural biologists to realize that mastering recombinant methods for protein production were key to both having enough material for crystallography and being able to focus on a particular set of questions. This has been a guiding principle of her own lab at Caltech, where she has led the field in understanding the structural aspects of antibodies that drive immune responses to multiple pathogens, particularly HIV and SARS-CoV-2. Bjorkman has received many honors and awards, including the AAI-PharMingen (now AAI-BD Biosciences) Investigator Award, the Paul Ehrlich and Ludwig Darmstaedter Prize, and the National Institutes of Health Director's Pioneer Award. She has been elected to several prestigious scientific bodies,

such as the U.S. National Academy of Sciences and the American Academy of Arts and Sciences.

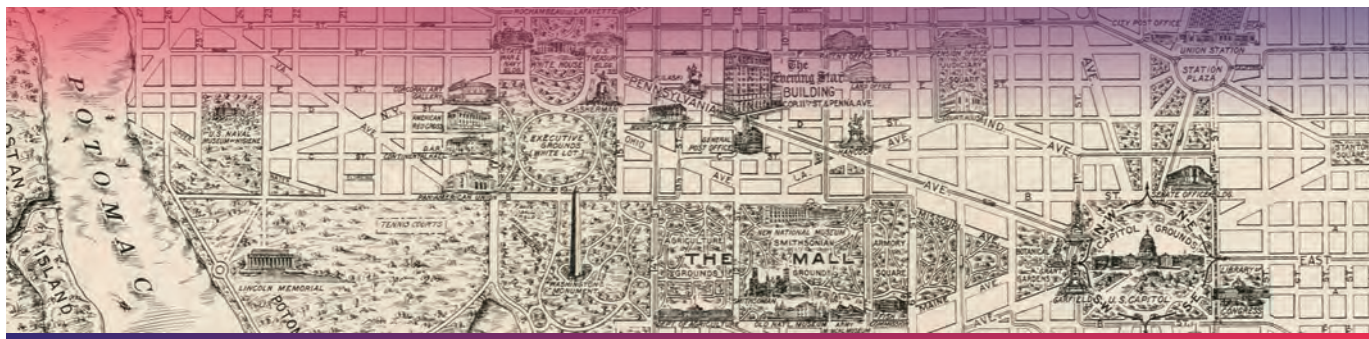
**Akiko Iwasaki, Ph.D. (AAI '00)**, is a Sterling Professor of Immunobiology and Dermatology and of Molecular, Cellular, and Developmental Biology and of Epidemiology at Yale School of Medicine, and an Investigator at the Howard Hughes Medical Institute. Dr. Iwasaki is also the Vice President of AAI. She is widely recognized for her groundbreaking work on infectious diseases, in both mouse models and in human cohorts, including recent work on sex differences in COVID-19 patients and research on "long COVID." Other notable works include an analysis of Toll-like receptor control of adaptive immune responses, the development of a mouse Zika virus model, and a broad focus on mucosal immunity. Iwasaki has also led the field on what a next-generation, more effective SARS-CoV-2 vaccine could be, showing the marked effectiveness of a nasal formulation in a mouse model. She is also well known as an advocate for women in science. Iwasaki has received many awards, including two from AAI: the AAI-BD Biosciences Investigator Award and the AAI-Thermo Fisher Meritorious Career Award. Her additional honors include the Howard Taylor Ricketts Award and her recent elections to the U.S. National Academy of Sciences and the National Academy of Medicine.

**Bali Pulendran, Ph.D. (AAI '00)**, is the Violetta Horton Professor of Pathology and a professor of microbiology and immunology at Stanford University School of Medicine. He is well known for discoveries early in his career showing that there were multiple types of dendritic cells, each with distinct functions. He later established himself as a leader in a systems analysis of human vaccine responses, realizing that vaccination with approved human vaccines, coupled with information-rich methods such as gene array analysis, provided an ideal way to capture a human immune system "in motion" and identify key variables in an immunologically agnostic approach. This led to many specific insights into vaccine responses, and seminal comparisons between vaccines. This was at a time, 15 years ago, when conventional wisdom held that good science needed to be "hypothesis driven." Given how little was known about human immune responses at the time, however, such advice would have just been a recycling exercise from the inbred mouse canon, effectively blocking the discovery of new factors and mechanisms which his group found in spades. Similarly groundbreaking has been his recent work showing unexpected innate immune responses in COVID-19 and vaccine responses. Dr. Pulendran has been in great demand as a keynote speaker at many national and international meetings and has received no less than two NIH MERIT awards.

**Petter Brodin, M.D., Ph.D. (AAI '22)**, is the Garfield Weston Chair of Neonatology and professor of paediatric immunology at Imperial College London, as well as an associate professor of immunology at the Karolinska Institute in Stockholm. He did absolutely seminal work in my group as a postdoc on a systems analysis of a twin cohort, showing that much of immune variation was not genetically determined but shaped by environmental factors and increased with age. Since 2015, his own group has pioneered the study of pediatric immunology, showing that infants who were born naturally versus by cesarian

delivery start off very distinctly in terms of their immune systems but then converge after several months. He has also performed very innovative studies of sex differences and the microbiome's influence on children. Dr. Brodin is an elected Fellow of the Henry Kunkel Society and has been honored as recipient of the Göran Gustavsson Award from the Swedish Royal Academy of Science and as a Wallenberg Academy Fellow in Medicine and Medical Technology.

Please join me in recognizing the inspiring work of these accomplished researchers by attending their presentations at the 2023 AAI President's Symposium.



## VISIT THE 2023 HISTORY EXHIBIT

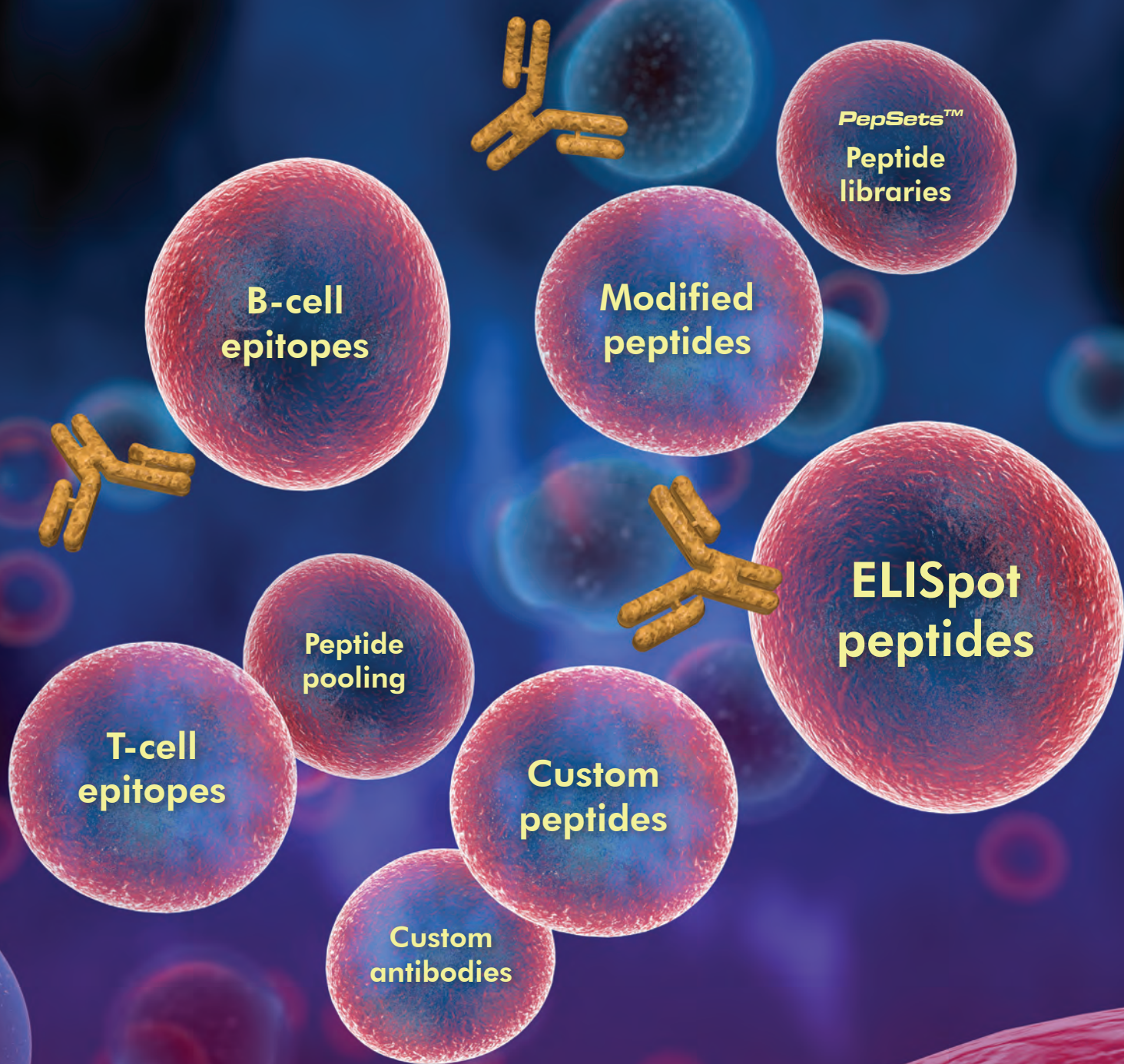
### Immunology in Washington, DC

The U.S. Capital region has been home to AAI members performing research in government, education, and industry since the earliest days of the organization. Stop by the AAI History Exhibit to learn about:

- Pioneers of immunology in DC, Maryland, and Virginia
- Immunologists on the battlefield
- Important research centers in and around the nation's capital
- and much more!

The exhibit is located in the convention center on the L Street bridge, Level 2.





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# DISTINGUISHED FELLOWS OF AAI CLASS OF 2023

## The American Association of Immunologists proudly announces the 2023 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."



**Maria-Luisa Alegre, M.D.,  
Ph.D., DFAAI (AAI '97)**  
University of Chicago



**Jason G. Cyster, Ph.D.,  
DFAAI (AAI '97)**  
HHMI, University of California,  
San Francisco



**Donna L. Farber, Ph.D.,  
DFAAI (AAI '95)**  
Columbia University  
Medical Center



**Christopher C. Goodnow, Ph.D.,  
DFAAI (AAI '96)**  
Garvan Institute of Medical  
Research, Australia



**Cynthia J. Guidos, Ph.D.,  
DFAAI (AAI '91)**  
Hospital for Sick Children,  
Canada



**John F. Kearney, BDS (hons),  
Ph.D., DFAAI (AAI '77)**  
University of Alabama  
at Birmingham



**James W. Lillard Jr., Ph.D.,  
M.B.A., DFAAI (AAI '97)**  
Morehouse School of Medicine



**Kenneth M. Murphy, M.D.,  
Ph.D., DFAAI (AAI '95)**  
Washington University  
School of Medicine in St. Louis



**Michel C. Nussenzweig,  
M.D., Ph.D., DFAAI (AAI '91)**  
HHMI, Rockefeller University



**Anne O'Garra, Ph.D., FRS,  
FMedSci., DFAAI (AAI '90)**  
Francis Crick Institute,  
United Kingdom



**Pamela S. Ohashi, Ph.D.,  
DFAAI (AAI '95)**  
Princess Margaret Cancer Centre,  
Canada



**Eugene M. Oltz, Ph.D.,  
DFAAI\* (AAI '95)**  
Ohio State University  
College of Medicine



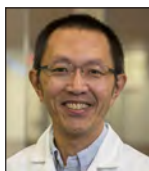
**Shiv Pillai, M.B.B.S.,  
Ph.D., DFAAI (AAI '89)**  
Ragon Institute of MGH,  
MIT, and Harvard



**Jennifer A. Punt, V.M.D.,  
Ph.D., DFAAI (AAI '97)**  
University of Pennsylvania  
School of Veterinary Medicine



**Alexander Y. Rudensky,  
Ph.D., DFAAI (AAI '94)**  
HHMI, Memorial Sloan Kettering  
Cancer Center



**Yoji Shimizu, Ph.D.,  
DFAAI (AAI '91)**  
University of Minnesota  
Medical School



**Luis J. Sigal, D.V.M.,  
Ph.D., DFAAI (AAI '97)**  
Thomas Jefferson University



**Timothy A. Springer,  
Ph.D., DFAAI (AAI '79)**  
Boston Children's Hospital  
Harvard Medical School



**Jenny P.-Y. Ting, Ph.D.,  
DFAAI\* (AAI '97)**  
University of North Carolina,  
Chapel Hill

# DISTINGUISHED FELLOWS OF AAI CLASS OF 2023



**Maria-Luisa Alegre, M.D., Ph.D., DFAAI (AAI '97)**

*Professor*

*Section of Rheumatology,  
Department of Medicine*

*University of Chicago*

[knappcenter.uchicago.edu/basic\\_research/Alegre/index.html](http://knappcenter.uchicago.edu/basic_research/Alegre/index.html)

Dr. Alegre's research focuses on understanding the molecular mechanisms that determine the activation and inhibition of T lymphocytes in diseases such as autoimmunity, rejection of solid organ transplants, and cancer. Specific interests include the role of the transcription factor NF- $\kappa$ B and consequences of signals elicited by microbial infections. Her honors include the Leif B. Sorenson Faculty Research Award from the University of Chicago Department of Medicine; the Basic Science Established Investigator Award from the American Society of Transplantation; her election as a fellow of the American Association for the Advancement of Science (AAAS); and her membership in the Association of American Physicians and the Henry Kunkel Society.

Alegre has served as chair and member of the AAI Nominating Committee, a member of the Program Committee, a section editor for *The Journal of Immunology (The JI)*, and an abstract programming chair for the AAI annual meeting. She also has been a mentor for the Career Advisory Board.



**Jason G. Cyster, Ph.D., DFAAI (AAI '97)**

*Investigator, Howard Hughes  
Medical Institute*

*Professor and Vice-Chair*

*Department of Microbiology  
and Immunology*

*University of California,  
San Francisco*

[cysterlab.ucsf.edu](http://cysterlab.ucsf.edu)

Dr. Cyster's laboratory investigates the intercellular communications and cell migration dynamics underlying anti-pathogen and anti-tumor immune responses. His lab has visualized immune response dynamics using advanced imaging and cell engineering approaches. His research has defined how lymphoid microenvironments

are organized to support adaptive immunity, as well as the role of chemokines in guiding cells to supportive niches. Cyster has received the AAI-BioLegend Herzenberg Award, the Cancer Research Institute (CRI) Fredrick W. Alt Award for New Discoveries in Immunology, and the AAI-BD Biosciences Investigator Award. He also has been honored as a member of the National Academy of Sciences (NAS), a fellow of the AAAS, and a Distinguished Lecturer at the AAI annual meeting.

Cyster has served AAI as a member of the Awards, Nominating, and Program Committees and as an associate editor for *The JI*. He has been a faculty member for the AAI Introductory and Advanced Courses in Immunology.



**Donna L. Farber, Ph.D., DFAAI (AAI '95)**

*George H. Humphreys II  
Professor of Surgical Sciences*

*Department of Microbiology  
and Immunology*

*Columbia University  
Medical Center*

[farberlab.org](http://farberlab.org)

Dr. Farber's research focuses on defining how the immune system responds to pathogens and maintains homeostasis with age. Her laboratory studies how the immune response is localized in tissue sites, and how tissue-resident T lymphocytes develop and maintain immunological memory to infection and vaccines. Her honors include the Mary Jane Kugel Award from JDRE; the Mentor of the Year Award from the Irving Institute for Clinical and Translational Research and the Columbia University Irving Medical Center Office of Academic Affairs; election as a fellow of the AAAS and a member in the Henry Kunkel Society; and selection as a Distinguished Lecturer for the AAI annual meeting.

Farber serves as chair of the AAI Nominating Committee and has served as a member of the Publications Committee and Committee on the Status of Women. She also has been an abstract programming chair for the AAI annual meeting, as well as a section and associate editor for *The JI*.



**Christopher C.  
Goodnow, Ph.D., DFAAI  
(AAI '96)**

*The Bill and Patricia Ritchie  
Foundation Chair*

*Garvan Institute of Medical  
Research, Australia*

[www.garvan.org.au/about-us/  
people/chrgoo](http://www.garvan.org.au/about-us/people/chrgoo)

Dr. Goodnow translates genomic DNA sequence analysis of the human immune system into understanding the cause of immune disorders and developing more effective, personalized treatments. Using single-cell DNA sequencing, his laboratory seeks to identify “rogue” immune cells in the blood of autoimmune patients and uncover a common cause for autoimmune diseases. He is a member of the NAS and a fellow of the Royal Society and the Australian Academy of Science. He has received the William E. Paul Memorial Award from the Foundation for Primary Immunodeficiency Diseases, the GlaxoSmithKline Award for Research Excellence, the Centenary Medal from the Commonwealth of Australia, the AAI-BioLegend Herzenberg Award, and the AAI-PharMingen Investigator Award (now the AAI-BD Biosciences Investigator Award).

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



**Cynthia J. Guidos, Ph.D.,  
DFAAI (AAI '91)**

*Senior Scientist and Professor*

*Peter Gilgan Centre for  
Research and Learning*

*Hospital for Sick Children,  
Canada*

[www.sickkids.ca/en/staff/g/  
cynthia-guidos](http://www.sickkids.ca/en/staff/g/cynthia-guidos)

Dr. Guidos's research focuses on elucidating basic mechanisms of immune cell development and how defects in this process promote leukemogenesis. She has defined novel functions of Notch signaling in murine T cell development and has developed pipelines to better define how biologic and genetic heterogeneity impact outcomes for leukemia patients. She has served the immunology community as an organizer of FASEB Summer Research Conferences, Gordon Research Conferences, and the ThymUs Meeting; a reviewer for the Canadian Institutes of Health Research (CIHR), the Leukemia and Lymphoma Society of Canada, and the National Institutes of Health; an editor for *Immunological Reviews* and the *Encyclopedia of Immunology*; and interim steering committee member for the Canadian Human Immunophenotyping Consortium.

She was awarded the CIHR Scientist Salary Award.

Guidos has served AAI as a member of the Awards, Nominating, and Program Committees. She also has been an abstract programming chair for the AAI annual meeting.



**John F. Kearney, BDS  
(hons), Ph.D., DFAAI  
(AAI '77)**

*Distinguished Professor*

*Department of Microbiology*

*University of Alabama  
at Birmingham*

[scholars.uab.edu/display/jfk](http://scholars.uab.edu/display/jfk)

Dr. Kearney's laboratory investigates fundamental cellular and molecular mechanisms of B cell development. He has elucidated factors involved in the development of a diverse B cell repertoire and identified novel B cell subsets and progenitors. A goal of his studies is to analyze the natural evolution of diversity in B cell clones during normal human immune system development, after childhood natural infections, and following vaccinations. His honors include the Dean's Award for Excellence in Mentorship, his election as fellow of the AAAS, and the AAI-BioLegend Herzenberg Award for outstanding contributions to immunology in the area of B cell biology. He was the first holder of the endowed professorship in immunology at the University of Alabama at Birmingham.

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



**James W. Lillard, Jr.,  
Ph.D., M.B.A., DFAAI  
(AAI '97)**

*Senior Associate Dean for  
Research, Innovation, and  
Commercialization*

*Professor, Department of  
Microbiology, Biochemistry  
and Immunology*

*Morehouse School of Medicine*

[www.msm.edu/about\\_us/FacultyDirectory/Microbiology  
BiochemistryImmunology/JamesLillard/index.php](http://www.msm.edu/about_us/FacultyDirectory/MicrobiologyBiochemistryImmunology/JamesLillard/index.php)

Dr. Lillard utilizes *in silico* and *in vivo* methods to develop biologics and other technologies to better treat and diagnose cancer and infectious diseases. His research involves dissecting the molecular mechanisms of chemokine-mediated solid tumors and heme malignancy progression, using clinically annotated genomic sequence data and the implementation of precision medicine.



He also leads the Total Cancer Care protocol, which aggregates and analyzes data from African American cancer patients and survivors to generate medical reports and identify new drug targets and diagnostic markers. He has been honored with the Distinguished Cancer Scholar Award from the Georgia Cancer Coalition and as an elected fellow of the AAAS and the National Academy of Inventors. He has served as a member of the Veteran's Administration National Research Advisory Council and is a co-founder and current board member of JYANT Technologies, Inc.

Lillard has served as a member of the AAI Minority Affairs Committee.



**Kenneth M. Murphy,  
M.D., Ph.D., DFAAI  
(AAI '95)**

*Eugene Opie First Centennial  
Professor*

*Department of Pathology  
and Immunology*

*Washington University School  
of Medicine in St. Louis*

[pathology.wustl.edu/people/kenneth-murphy-md-phd](http://pathology.wustl.edu/people/kenneth-murphy-md-phd)

Dr. Murphy's laboratory studies how specialized lineages of the immune system develop to generate the correct quality of immune response to various types of pathogens. His research has examined the development of T helper cell subsets and the role of myeloid cells in determining T cell differentiation. This work has practical implications for improved immunotherapy, including vaccine design. His honors and awards include the Distinguished Investigator Award from the Washington University School of Medicine in St. Louis, the William B. Coley Award for Distinguished Research in Basic Immunology from the CRI, and the AAI-Thermo Fisher Meritorious Career Award. He is a member of the NAS and a past AAI Distinguished Lecturer.

Murphy has served AAI as member of the Nominating and Program Committees. He also has been an abstract programming chair for the AAI annual meeting and a faculty member for the AAI Advanced Course.



**Michel C. Nussenzweig,  
M.D., Ph.D., DFAAI  
(AAI '91)**

*Investigator, Howard Hughes  
Medical Institute*

*Zanvil A. Cohn and Ralph M.  
Steinman Professor*

*Department of Molecular  
Immunology*

*Rockefeller University*

[www.rockefeller.edu/our-scientists/heads-of-laboratories/875-michel-c-nussenzweig](http://www.rockefeller.edu/our-scientists/heads-of-laboratories/875-michel-c-nussenzweig)

Dr. Nussenzweig's research aims to understand the rules that govern hypermutation and high affinity antibody selection, with the goal of creating vaccines for pathogens such as HIV-1 and SARS-CoV-2. He has isolated broadly neutralizing antibodies from HIV-infected patients that controlled chronic infection in clinical trials, a strategy that has been extended to other viruses. Another focus of his laboratory is human dendritic cell development and differentiation. He is a member of the NAS and National Academy of Medicine (NAM). He has received the Robert Koch Award, the Rabbi Shai Shacknai Memorial Prize in Immunology and Cancer Research, the Sanofi-Institut Pasteur Award, the AAI-Huang Foundation Meritorious Career Award (now the AAI-Thermo Fisher Meritorious Career Award), and the AAI-BioLegend Herzenberg Award.

Nussenzweig has served as a member of the AAI Awards and Program Committees. He also was an abstract programming chair for the AAI annual meeting.



**Anne O'Garra, Ph.D.,  
FRS, FMedSci., DFAAI  
(AAI '90)**

*Principal Group Leader,  
Immunoregulation and  
Infection Laboratory*

*Francis Crick Institute,  
United Kingdom*

[www.crick.ac.uk/research/labs/anne-ogarra](http://www.crick.ac.uk/research/labs/anne-ogarra)

Dr. O'Garra's research focuses on the regulation of the immune response during infection to identify immune cells, pathways, and targets of protection and pathogenesis determining disease outcome. Her laboratory examines the regulation of cytokine-driven pathways in myeloid and T cells that exacerbate or control pathology following infection and mechanisms in the lungs that determine disease outcome. A unifying theme of her laboratory is the study of cellular and gene expression changes in mucosal sites. She is a fellow of the AAAS and of the Academy of Medical Sciences and the Royal Society in the United Kingdom.

Kingdom. She received the International Cytokine and Interferon Society Honorary Lifetime Membership Award in honor of her seminal contributions to understanding the role of cytokines in immunobiology. She also has been a Distinguished Lecturer at the AAI annual meeting.

O'Garra has served AAI as member of the Publications Committee and as an abstract programming chair for the AAI annual meeting.



**Pamela S. Ohashi, Ph.D.,  
DFAAI (AAI '95)**

*Senior Scientist and Professor*

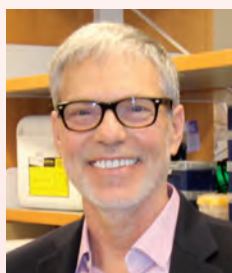
*Director, Tumor  
Immunotherapy Program*

*Princess Margaret Cancer  
Centre, Canada*

[www.ohashilab.ca](http://www.ohashilab.ca)

Dr. Ohashi's laboratory examines the mechanisms that determine whether T cells are activated or tolerized *in vivo*, with a goal to understand and improve anti-tumor immune responses. Her research group has evaluated tumor-infiltrating lymphocyte therapy, TCR transduction therapy, dendritic cell vaccines, and immune checkpoint blockade for tumor immunotherapy. A goal of her studies is to characterize the tumor microenvironment and evaluate the immune status of various tumors to understand how best to tailor combination therapies in clinical trials. Her honors include her election as a fellow of the Royal Society of Canada, the Bernhard Ciner Award from the Canadian Society for Immunology, the AAI-PharMingen Investigator Award, and her selection as a Distinguished Lecturer for the AAI annual meeting.

Ohashi has served as chair and member of the AAI Nominating Committee, and as a member of the Awards and Program Committees. She also has been an abstract programming chair for the AAI meeting and a faculty member for the AAI Advanced Course.



**Eugene M. Oltz, Ph.D.,  
DFAAI (AAI '95)**

*Samuel Saslaw Professor  
and Chair*

*Department of Microbial  
Infection and Immunity*

*Ohio State University  
College of Medicine*

[medicine.osu.edu/mii/faculty/eugeneoltz/pages/index.aspx](http://medicine.osu.edu/mii/faculty/eugeneoltz/pages/index.aspx)

Dr. Oltz's research focuses on defining the roles of transcription, chromatin states, and architectural proteins in orchestrating developmental programs of lymphoid

cells. His laboratory aims to identify the key factors and pathways that endow each cell type with its signature functions, then leveraging the information to engineer better therapeutics for cancer and chronic inflammatory diseases. He also examines epigenetic mechanisms that sculpt the diverse repertoire of antigen receptors. He has been honored with a National Institute of Allergy and Infectious Diseases MERIT Award, the Research Mentor Award from the Ohio State Biomedical Sciences Graduate Program, and the AAI Distinguished Service Award.

Oltz is the current editor-in-chief of *The JI* and serves in this role as an *ex officio* member of the AAI Council and Publications Committee. He previously was a *Ji* section and associate editor; chair and member of the Publications Committee; and chair of the Program Committee. He has been a frequent lecturer at the AAI Advanced Course.



**Shiv Pillai, M.B.B.S.,  
Ph.D., DFAAI (AAI '89)**

*Professor and Core Member*

*Ragon Institute of MGH, MIT,  
and Harvard*

[ragoninstitute.org/pillai](http://ragoninstitute.org/pillai)

Dr. Pillai's laboratory explores the contributions of B cells to the development and function of T follicular helper cells and cytotoxic CD4<sup>+</sup> T cells. These cells and their subsets are studied in the context of inflammatory diseases such as systemic sclerosis, IgG4-related disease, atherosclerosis, and COVID-19. His discoveries about B lymphocytes have led to novel treatments currently in use for patients with B cell leukemias and autoimmune diseases. Pillai has been honored with the Thomas A. McMahon Mentoring Award from the Harvard-MIT Division of Health Sciences and Technology and as Harvard Crimson Professor of the Year in 2017. He directs the Harvard Immunology Ph.D. and Masters' programs and provides immunology content across the world through Harvard's HMX courses.

Pillai has served as a member of the AAI Awards and Membership Committees and as an abstract programming chair for the AAI annual meeting. He was an associate editor for *The JI* and a faculty member for the AAI Advanced Course.



## Jennifer A. Punt, V.M.D., Ph.D., DFAAI (AAI '97)

*Associate Dean for One Health*

*Professor of Immunology*

*Department of Pathobiology*

*University of Pennsylvania*

*School of Veterinary Medicine*

[www.vet.upenn.edu/people/faculty-clinician-search/JENNIFERPUNT](http://www.vet.upenn.edu/people/faculty-clinician-search/JENNIFERPUNT)

Dr. Punt's research focuses on immune cell regulation. She aims to understand the role of IGF1, a growth factor that plays a role in determining dog size, in immune cell activity. She has spent most of her career integrating research and teaching, first as a biology professor at Haverford College and then as associate dean for student research at the Columbia University School of Physicians and Surgeons. She currently leads interdisciplinary graduate training programs at Penn Vet, where she is establishing and guiding subcommittees of faculty to develop new educational programs. Her honors include the Student Appreciation Award from the Student American Veterinary Medical Association chapter at Penn Vet, the Phi Beta Kappa Award for Excellence in Teaching from Haverford College, and the AAI Distinguished Service Award for outstanding teaching and assistance with developing the AAI Introductory Course curriculum.

Punt has served AAI as a member of the AAI Program Committee and the Committee on the Status of Women, an associate editor of *The JI*, and a mentor for the AAI High School Teachers Program.



## Alexander Y. Rudensky, Ph.D., DFAAI (AAI '94)

*Investigator, Howard Hughes Medical Institute*

*Professor and Chairman, Immunology Program*

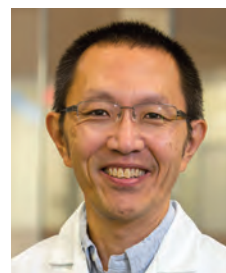
*Memorial Sloan Kettering Cancer Center*

[www.mskcc.org/research/ski/labs/alexander-rudensky](http://www.mskcc.org/research/ski/labs/alexander-rudensky)

Dr. Rudensky's laboratory investigates the mechanisms governing the differentiation and function of CD4<sup>+</sup> T lymphocytes and their role in immunity and tolerance. Major areas of interest include the molecular and cellular mechanisms governing the differentiation and function of regulatory T cells; the roles these cells play in control of autoimmunity, tumor immunity, and immunity to infections; and their roles in the maintenance of immune homeostasis at environmental interfaces. Rudensky is a member of the NAS and the NAM, and a fellow of the

American Academy of Arts and Sciences and the American Association of Cancer Research Academy. He has received the Vilcek Prize in Biomedical Science, the William B. Coley Award for Distinguished Research in Basic Immunology and Tumor Immunology from the CRI, the AAI-PharMingen Investigator Award, and the AAI-Thermo Fisher Meritorious Career Award.

Rudensky has served as member of the AAI Awards Committee.



## Yoji Shimizu, Ph.D., DFAAI (AAI '91)

*Associate Dean for Graduate Education*

*Professor and Harry Kay Chair, Department of Laboratory Medicine and Pathology*

*University of Minnesota Medical School*

[med.umn.edu/bio/yoji-shimizu](http://med.umn.edu/bio/yoji-shimizu)

Dr. Shimizu's research focuses on understanding how T cell responses are generated and how that information can be used in the clinic to improve patient care. A long-standing interest has been the role of integrins in T cell adhesion and activation. His laboratory examines signaling pathways that regulate the strength of cellular adhesion and the functional significance of these molecular mechanisms on the ability of the immune system to respond to pathogens and tumors. Shimizu has held multiple academic appointments at the University of Minnesota, including Distinguished University Teaching Professor, director of the Graduate School Diversity Office, and director of the Medical Scientist Training Program. He was honored with the Outstanding Contributions to Postbaccalaureate, Graduate and Professional Education Award.

Shimizu has served AAI as a member of the Awards, Finance, and Publications Committees and as an abstract programming chair for the AAI annual meeting. He also was director and faculty member for the AAI Advanced Course.



## Luis J. Sigal, D.V.M., Ph.D., DFAAI (AAI '97)

*Vice Chair for Research*

*Professor, Department of Microbiology and Immunology*

*Thomas Jefferson University*

[www.jefferson.edu/university/research/researcher/researcher-faculty/sigal-laboratory.html](http://www.jefferson.edu/university/research/researcher/researcher-faculty/sigal-laboratory.html)



Dr. Sigal's laboratory examines viral immunology and pathogenesis. Recent efforts have focused on the immunobiology and pathogenesis of ectromelia virus, the agent of mousepox, the mouse homolog of human smallpox. His research has addressed mechanisms whereby various components of the immune response protect from mousepox, as well as the role of viral immune evasion proteins in counteracting immunity to viral disease. His laboratory has also expanded to study the immune response to Zika and other viruses and to exploit viruses to treat ovarian cancer. Sigal has been an organizer of scientific meetings, including the International Poxvirus, Asfarvirus and Iridovirus Conference; and an invited lecturer at institutions and meetings worldwide, including Brown University, Minho University, Universitätsklinikum Essen, Tohoku University, and the Argentine Congress of Virology.

Sigal has served AAI as a member of the Finance, Minority Affairs, and Fellowship Committees. He also served as an abstract programming chair for the AAI annual meeting. He was an associate and section editor for *The JI*.



### **Timothy A. Springer, Ph.D., DFAAI (AAI '79)**

*Latham Family Professor*

*Boston Children's Hospital  
and Harvard Medical School*

[timothyspringer.org](http://timothyspringer.org)

Dr. Springer's laboratory studies receptor-ligand interactions and signal transmission across membranes. He uses a wide range of structural, cell biological, and single-molecule techniques to answer questions relevant to immunology, hemostasis, mammalian biology, and human disease. A common theme throughout his research is how force interacts with protein conformational change to activate integrins, von Willebrand factor, proteins of the transforming growth factor-beta family, and adhesins on malaria sporozoites. His honors and awards include the Canada Gairdner International Award from the Gairdner Foundation, the Albert Lasker Basic Medical Research Award, the William B. Coley Award for Distinguished Research in Basic Immunology and Tumor Immunology from the CRI, and the AAI-Life Technologies Meritorious Career Award. He is a member of the NAS and a fellow of the American Academy of Arts and Sciences.

Springer has served AAI as a member of the Nominating Committee and the Committee on Public Affairs.



### **Jenny P.-Y. Ting, Ph.D., DFAAI (AAI '97)**

*William R. Kenan Jr.*

*Distinguished Professor*

*University of North Carolina,  
Chapel Hill*

[www.med.unc.edu/microimm/  
directory/jenny-ting-phd](http://www.med.unc.edu/microimm/directory/jenny-ting-phd)

Dr. Ting's research focuses on the application of cutting-edge ideas and technology to the study of disease-relevant issues. She studies the NLR family of innate immune receptors in the context of inflammatory disorders, cancer, autoimmunity, and infectious diseases. Her laboratory also aims to better understand the inflammation that occurs in neurologic diseases such as multiple sclerosis, Parkinson's disease, and Alzheimer's. She has been honored as a member of the NAS, the American Academy of Arts and Sciences, and the Henry Kunkel Society. She has received the NCI Outstanding Investigator Award of Excellence, the Hyman L. Battle Distinguished Cancer Research Award, the University of North Carolina Mentor Award for Lifetime Achievement, and the AAI-Life Technologies Meritorious Career Award.

Ting served as AAI President from 2020 to 2021 and as a Council member from 2015 to 2022. She has also served as chair of the Nominating Committee, member of the Publications Committee, and associate and section editor of *The JI*. She was a faculty member for the AAI Advanced Course.



# 2023 INTRODUCTORY COURSE IN IMMUNOLOGY

July 11–16, 2023 | UCLA Luskin Conference Center | Los Angeles, California

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

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

This comprehensive course, taught by leading experts, provides an in-depth overview of the basics of immunology. This course is for students new to the discipline or those seeking more information to complement general biology or science training. After the presentation of basic principles, clinically oriented lectures will incorporate these concepts.

## Faculty

**Helen S. Goodridge**, Cedars-Sinai Medical Center  
*Introduction to the Immune System*

**Timothy E. O'Sullivan**, University of California,  
Los Angeles  
*Innate Immunity: Cells and Functions*

**Viviana P. Ferreira**, University of Toledo College  
of Medicine and Life Sciences  
*The Complement System*

**Helen S. Goodridge**, Cedars-Sinai Medical Center  
*Pattern Recognition Receptors*

**Lisa K. Denzin**, Child Health Institute of New Jersey,  
Rutgers  
*Antigen Processing and Presentation*

**Christine Moussion**, Genentech, Inc.  
*Dendritic Cells: The Bridge Between Innate and  
Adaptive Immunity*

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

**Juan Carlos Zúñiga-Pflücker**, University of Toronto  
and Sunnybrook Research Institute  
*T Cell Development*

**John T. Chang**, University of California, San Diego  
*Effector T Cell Differentiation and Response*

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

**Jason G. Cyster**, HHMI, University of California,  
San Francisco  
*Orchestrating the Immune Response*

**Daniela Weiskopf**, La Jolla Institute for Immunology  
*Immunity to Viruses*

**Stephen J. McSorley**, University of California, Davis  
*Immunity to Bacterial Pathogens*

**Qizhi Tang**, University of California, San Francisco  
*T Cell Tolerance*

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

**Jacob von Moltke**, University of Washington  
*Type 2 Immunity*

**Prosper N. Boyaka**, The Ohio State University  
*Mucosal Immunology*

**Jonathan S. Maltzman**, Stanford University  
*Solid Organ Transplantation*

**Lawrence Steinman**, Stanford University  
*Neuroimmunology*

**Stephen Shiao**, Cedars-Sinai Medical Center  
*Tumor Immunology*

**Sabra L. Klein**, Johns Hopkins Bloomberg School  
of Public Health  
*Sex Differences in Immune Responses*

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

**Stephen De Rosa**, Fred Hutchinson Cancer  
Research Center  
*Vaccination*

**Jennifer M. Puck**, University of California, San Francisco  
*Primary Immunodeficiency Disorders*

**Lisa Osborne**, University of British Columbia  
*Immunotherapeutics Targeting Cytokines*

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

For complete course details and registration, visit [www.aai.org/IntroCourse](http://www.aai.org/IntroCourse).

For assistance, contact (301) 634-7178 or [meetings@aai.org](mailto:meetings@aai.org).

# AAI BUSINESS MEETING AND AWARDS PRESENTATIONS

FRIDAY, MAY 12 • 8:00 AM

LEVEL 2, ROOM 202B

## Chair

**Loretta L. Doan**, 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, the chair of the Committee on Public Affairs on important public policy issues, and other items of interest for the membership.

Selected 2023 AAI awards will also be presented during this session, including the AAI Distinguished Service Awards and the AAI Meeting Awards.

## AAI Distinguished Service Award Presentations

**Cherié L. Butts, Ph.D. (AAI '10)**

Biogen

The AAI Distinguished Service Award recognizes Dr. Butts for outstanding service to AAI as chair and member of the AAI Minority Affairs Committee, 2011–2017.

**Clifford V. Harding, M.D., Ph.D., DFAAI (AAI '91)**

Case Western Reserve Univ.

The AAI Distinguished Service Award recognizes Dr. Harding for outstanding service to AAI as chair and member of the AAI Committee on Public Affairs, 2009–2016.

## 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 of all career stages.

### Acknowledgments

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

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

## AAI-Thermo Fisher Trainee Achievement Awards

**Tanushree Dangi, Ph.D. (AAI '21)**

Northwestern Univ.

**Andrew G. Harrison (AAI '21)**

UConn Health

**Fiona A. Raso (AAI '22)**

Univ. of Massachusetts Med. Sch.

**Chin Yee Tan (AAI '21)**

Duke Univ. Sch. of Med.

**Sonya J. Wolf-Fortune, Ph.D. (AAI '21)**

Univ. of Michigan

**Insha Zahoor, Ph.D. (AAI '22)**

Henry Ford Health

## Chambers-Thermo Fisher Scientific Memorial Award

**Sepideh Dolatshahi, Ph.D. (AAI '21)**

Univ. of Virginia Sch. of Med.

## Lefrançois-BioLegend Memorial Award

**Alexandria Wells, Ph.D. (AAI '22)**

NIAID, NIH

## Lustgarten-Thermo Fisher Scientific Memorial Award

**Jianmei W. Leavenworth, M.D., Ph.D. (AAI '17)**

Univ. of Alabama at Birmingham, Heersink Sch. of Med.

## Pfizer-Showell Award

**Carla Nowosad, Ph.D. (AAI '22)**

New York Univ.





# AAI CAREER AWARDS

AAI PROUDLY PRESENTS THE 2023 AAI CAREER AWARDS FOR OUTSTANDING RESEARCH ACHIEVEMENTS AND CAREER SERVICE.

## AAI Lifetime Achievement Award



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

## AAI Distinguished Service Award



**Cherié L. Butts**  
*Biogen*

## AAI Distinguished Service Award



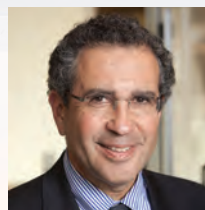
**Clifford V. Harding**  
*Case Western Reserve Univ.*

## AAI Excellence in Mentoring Award



**Yasmine Belkaid**  
*NIAID, NIH*

## AAI-Steinman Award for Human Immunology Research



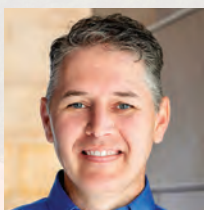
**David A. Hafler**  
*Yale Sch. of Med.*

## AAI-Thermo Fisher Meritorious Career Award



**Hao Wu**  
*Harvard Med. Sch. and Boston Children's Hosp.*

## AAI-BioLegend Herzenberg Award



**Shane Crotty**  
*La Jolla Inst. for Immunology*

## AAI-BD Biosciences Investigator Award



**Gregory F. Sonnenberg**  
*Weill Cornell Med.*

## AAI Vanguard Award



**Robert J. Binder**  
*Univ. of Pittsburgh*

## FASEB Excellence in Science Early-Career Investigator Award



**Smita Krishnaswamy**  
*Yale Univ.*

## FASEB Excellence in Science Lifetime Achievement Award



**Arlene H. Sharpe**  
*Harvard Med. Sch.*

## AAI ASPIRE Awards



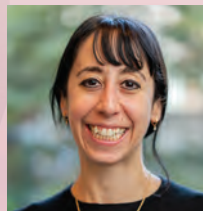
**Todd Bradley**  
*Children's Mercy Kansas City*



**Hitesh Deshmukh**  
*Cincinnati Children's Hosp. Med. Ctr.*



**Rebecca Martin**  
*Virginia Commonwealth Univ.*



**Gabrielle Rizzuto**  
*Memorial Sloan Kettering Cancer Ctr.*



**Tuoqi Wu**  
*Univ. of Texas Southwestern Med. Ctr.*



**Melody Yue Zeng**  
*Weill Cornell Med.*

# CAREER AWARDS

Each year AAI recognizes the extraordinary professional achievements and career promise of its members. The following are the recipients of the 2023 AAI Career Awards being presented at **IMMUNOLOGY2023™**.

## AAI Lifetime Achievement Award Presentation

**THURSDAY, MAY 11 • 5:00 PM**

*LEVEL 3, BALLROOM AB*

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

### Chair

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

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



### Presented to

**Lewis L. Lanier, Ph.D.,  
DFAAI (AAI '80)**

*Chair, Department of  
Microbiology and Immunology*

*University of California, San  
Francisco (UCSF)*

[profiles.ucsf.edu/lewis.lanier](https://profiles.ucsf.edu/lewis.lanier)

Dr. Lanier is the recipient of the 2023 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.

Lanier began his research career by characterizing mouse B cell lymphomas as a graduate student and was an early user of the then-burgeoning technology of flow cytometry as a postdoctoral fellow, generating many hybridomas and monoclonal antibodies still widely used by investigators today. After heading his own laboratory, he characterized many critical proteins in immunology, including the CD3 chains that associated with the T cell receptor (TCR) and the gamma-delta TCR.

In his independent research, Lanier also began to focus on natural killer (NK) cell biology, a field in which he has been a recognized leader for decades. In the early days of NK cell research, cytotoxicity that was not restricted by the major histocompatibility complex was considered a function of a subset of T lymphocytes and not a unique lineage. In 1986, Lanier and his colleagues wrote an influential opinion piece in *The Journal of Immunology (The JI)* entitled, "Natural killer cells: definition of a cell type rather than a function,"

proposing and providing experimental evidence that NK cells were a unique cell type. They are, of course, now recognized as a unique lineage of lymphocytes, along with T and B cells.

Lanier's laboratory revealed molecular mechanisms for the activation, inhibition, and function of NK cells, discovering several inhibitory receptors, including the first inhibitory KIR, CD94, and LAIR-1. He described the activating receptor DNAM-1 and the adaptors DAP12 and DAP10, which enable an activating receptor complex with NKG2D. His laboratory further identified the NKG2D receptor ligands RAE-1 and H60, which inspired subsequent work on the regulation of NK cell activation by stress-induced ligands. He also described the adaptive immune feature of memory in these innate lymphocytes, demonstrating specific NK cell memory in a mouse model of cytomegalovirus infection and defining requirements for memory formation, which opened new treatment possibilities in cancer and infectious disease.

Lanier received his Ph.D. in microbiology and immunology from the University of North Carolina, Chapel Hill, and completed postdoctoral fellowships there and at the University of New Mexico School of Medicine. He held scientist and director positions at Becton Dickinson Immunocytometry Systems and the DNAX Research Institute for Molecular and Cellular Biology before moving to UCSF. In addition to his roles as professor and chair, he serves as the director of the Parker Institute for Cancer Immunotherapy and George Williams Hooper Research Foundation at UCSF.

Among his many honors, Lanier was selected as a Distinguished Fellow of AAI in the 2019 inaugural class, served as an AAI Distinguished Lecturer at the 2004 AAI annual meeting, and has received the AAI Excellence in Mentoring Award and the AAI Distinguished Service Award. He is a member of the National Academy of Sciences, a fellow of the American Academy of Microbiology, and a member of the American Academy of Arts and Sciences. Other honors include the William B. Coley Award for Distinguished Research in Basic and Tumor Immunology and a Distinguished Alumnus Award from the University of North Carolina, Chapel Hill.

Lanier has been heavily involved with AAI and served as AAI President from 2006 to 2007 and a Council member from 2001 to 2008. He also has been a frequent lecturer at the AAI Introductory and Advanced Courses, an associate and deputy editor for *The JI*, chair and member of the Program Committee, a member of the Nominating Committee, an abstract programming chair for the AAI annual meeting, and a major symposium chair and speaker at the AAI meeting.



## AAI Distinguished Service Awards Presentations

FRIDAY, MAY 12 • 8:00 AM

LEVEL 2, ROOM 202B

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

### Chair

**Loretta L. Doan**, AAI Chief Executive Officer  
AAI President Mark M. Davis will present these awards during the AAI Business Meeting.



**Presented to**  
**Cherié L. Butts, Ph.D.**  
**(AAI '10)**

Medical Director

Therapeutics Development Unit

Biogen

[www.biogen.com](http://www.biogen.com)

Dr. Butts is being honored with a 2023 AAI Distinguished Service Award for outstanding service as chair and member of the AAI Minority Affairs Committee (MAC), 2011–2017.

Butts served as a member of the MAC from 2011 to 2014 and led the committee from 2014 to 2017. During her tenure on the committee, she worked to expand the MAC's footprint on the AAI annual meeting. She introduced the "Speed Networking" elevator pitch exercise that was launched in 2014 and has since become a popular feature of the MAC-sponsored Careers Roundtables at the AAI meeting. She also chaired the Careers Roundtables from 2015–2017 and has frequently served as a table leader at this career development session. Butts was also the catalyst for a MAC proposal that resulted in the 2015 renaming of the MAC Guest Lecture to AAI Vanguard Lecture to better highlight the lecture's scientific nature and counter any perception that it is geared to an underrepresented scientists' audience.

Butts has also worked to support student immunologists at the Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS). As the MAC chair, she led efforts to initiate AAI's annual support for immunology presenters at ABRCMS and create the AAI Young Scholars Awards for top immunology presenters. Since its inception in 2016, this award has provided 20 talented student immunology presenters at ABRCMS with support to attend the AAI annual meeting.

In addition to her service on the MAC, Butts is a current member of the AAI Committee on Public Affairs. She also serves as the treasurer of FASEB and chair of the FASEB Finance Committee.

Butts obtained her Ph.D. in biomedical sciences from the University of Texas (UT) MD Anderson Cancer Center-UT Health Graduate School of Biomedical Sciences and was a postdoctoral fellow in the Section of Neuroendocrine

Immunology at NIMH, NIH. She later worked at the U.S. Food and Drug Administration conducting research and evaluating immunogenicity and chemistry-manufacturing-controls for new drug/biologics applications. She has been with Biogen since 2012; her current roles include responsibility for assessing immunological treatments for neurodevelopmental disorders and serving in a health equity assignment focused on reducing time to a correct diagnosis and addressing gaps in clinical data.

Butts has been honored with the AAI Vanguard Award and the Biogen CEO Award. Her career appointments include service on behalf of the NIH Intramural Research Program 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; and Massachusetts Economic Development Planning Council.



**Clifford V. Harding, M.D., Ph.D., DFAAI (AAI '91)**

Joseph R. Kahn Professor  
and Chair of Pathology

Case Western Reserve University

[case.edu/medicine/pathology/faculty/clifford-harding](http://case.edu/medicine/pathology/faculty/clifford-harding)

Dr. Harding is receiving the AAI Distinguished Service Award in recognition of his outstanding service to AAI as chair and member of the AAI Committee on Public Affairs (CPA), 2009–2016.

Harding assumed the role of CPA chair in 2014 at a time of great fiscal uncertainty for NIH, shortly after the NIH budget was cut by about \$800 million (5.1%) in fiscal year (FY) 2013 due to sequestration cuts required by the Budget Control Act (BCA) of 2011. The BCA also established harsh spending caps on discretionary spending that made it hard to grow domestic programs like NIH, resulting in very modest NIH budget increases in FY 2014 and FY 2015. During his two years as chair, Harding guided the CPA through the consideration of many legislative proposals that would significantly grow the NIH budget. He also led the CPA through several activities to ensure that NIH was spending its scarce dollars wisely, including submitting comments to NIH in response to its Request for Information entitled, "Optimizing Funding Policies and Other Strategies to Improve the Impact and Sustainability of Biomedical Research." These comments touched on many topics of importance, including maintaining a commitment to funding investigator-initiated basic research; reducing administrative burden; supporting the next generation of researchers; and carefully evaluating the need for new large-scale projects, contracts, and centers. Harding also chaired two CPA-sponsored sessions at the AAI annual meeting: "Funding for Immunology Research: Non-Federal Opportunities and NIAID Program Update" at IMMUNOLOGY2015™ and "Hot Topics in NIH Funding and Research Policy" at IMMUNOLOGY2016™.



After serving on the AAI CPA, Harding went on to serve as an elected member of the AAI Finance Committee and currently serves as a member of the FASEB Finance Committee.

Harding received his M.D. and Ph.D. in cell biology from the Washington University in St. Louis. He was an assistant professor in pathology at the Washington University in St. Louis and attending physician at the Barnes Hospital in St. Louis before joining the faculty of Case Western Reserve University in 1993. At the Case Western Reserve University School of Medicine, he is also the interim department chair in the Department of Anatomy; a professor in the departments of Anatomy and Medicine; the director of the Medical Scientist Training Program; a member of the Immune Oncology Program at the Case Comprehensive Cancer Center; and a University Hospitals Distinguished Physician at the University Hospitals Cleveland Medical Center.

Harding's current research focuses on how antigen presenting cells (APC) sense and respond to pathogens during infection, including how Toll-like receptor engagement shapes APC response to tuberculosis or HIV infection. His honors include recognition as a Distinguished Fellow of AAI, election as a fellow by the American Association for the Advancement of Science, and receiving the American Society for Investigative Pathology Robbins Distinguished Educator Award.

## AAI-BioLegend Herzenberg Award Presentation and Lecture

*Generously supported by BioLegend*

**FRIDAY, MAY 12 • 12:30 PM**

**LEVEL 2, ROOM 202A**

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 Past President

*AAI President Mark M. Davis and Gene Lay, BioLegend, will present the award immediately prior to Dr. Crotty's lecture.*



**Presented to**  
**Shane Crotty, Ph.D.**  
**(AAI '04)**

*Professor*

*Center for Infectious Disease  
and Vaccine Research*

*La Jolla Institute for  
Immunology (LJI)*

*[www.lji.org/labs/crotty](http://www.lji.org/labs/crotty)*

*Long-lived and high-quality antibody and memory B cell responses regulated by Tfh cells and germinal centers*

Dr. Crotty is receiving this award in recognition of exemplary research contributions that have been integral to understanding B lymphocyte regulation by T lymphocytes, including the critical role of T follicular helper (Tfh) cells.

Crotty's laboratory studies immunity against infectious diseases and the immunologic memory generated as a result of infection or vaccination. His group has recently focused on immune responses to SARS-CoV-2, and in conjunction with Dr. Alessandro Sette (AAI '89), published the first report on this topic. Together, they have described that SARS-CoV-2 infection activates responses from CD4<sup>+</sup> T cells, CD8<sup>+</sup> T cells, and antibodies, and identified targets of productive immune responses on the virus. The Crotty laboratory has also identified BCL6 as the master gene regulator for Tfh cells, and Tfh cells as critical to inducing antibody production from B cells. The laboratory went on to describe Tfh cellular and molecular biology, with implications for allergies, autoimmune diseases, cancer, and the design and immunological effects of vaccines.

Crotty received his Ph.D. in biochemistry and molecular biology from the University of California, San Francisco. He completed a postdoctoral fellowship with Dr. Rafi Ahmed (AAI '84) at Emory University before joining the LJI (then the La Jolla Institute for Allergy and Immunology) in 2003. He currently holds an appointment as professor at the Center for Infectious Disease and Vaccine Research at LJI and also serves as an adjunct professor at Scripps Research and the University of California, San Diego.

His other awards and recognitions include the AAI-BD Biosciences Investigator Award, election as a fellow to the American Association for the Advancement of Science, and selection as a Highly Cited Researcher by Thomson Reuters ISI/Clarivate Web of Science for being in the top 0.1% of immunologists cited for seven years running.

Crotty has served AAI as an associate editor for *The Journal of Immunology* and as a member of the Nominating and Program Committees. He has also spoken numerous times at AAI annual meetings and been a lecturer for the Introductory Course in Immunology since 2014.

## FASEB Excellence in Science Early-Career Investigator Award and Lecture

**FRIDAY, MAY 12 • 1:30 PM**

**LEVEL 3, BALLROOM A**

This award recognizes excellence, innovation, leadership, and mentorship of a female early career investigator whose research has contributed significantly to a particular discipline in biological science.

## Chair

**Beth A. Garvy**, Univ. of Kentucky Col. of Med., FASEB Vice President for Science Policy  
*Dr. Garvy will introduce the awardee and present the award prior to the start of the lecture.*



**Presented to**  
**Smita Krishnaswamy,**  
**Ph.D. (AAI '21)**  
*Associate Professor in Genetics and Computer Science*  
*Yale Center for Biomedical Data Science*  
*Yale Cancer Center*

[medicine.yale.edu/profile/smita-krishnaswamy](https://medicine.yale.edu/profile/smita-krishnaswamy)

## **Deep geometric and topological analyses characterizing and predicting immune responses**

Dr. Krishnaswamy is widely known as one of the most innovative and creative scientists in the biological sciences.

The Early-Career Investigator Award recognizes the impact Krishnaswamy's research, teaching, and community efforts have made in the scientific community. Her research is changing how biological data are analyzed and uncovering new ways to extract meaningful biological relationships that to date have been hidden.

Krishnaswamy's commitment to excellence in teaching and mentoring is also shaping the future intersection of biology and data science. Through her passion for education and service, she has innovated and created new graduate courses at the interface of biology and data science. She also organized the Open Problems in Single Cell Biology effort with the Chan Zuckerberg Initiative. Many of these classes are bringing together mathematical and computational scientists, sequencing technology developers, and biologists—an unprecedented move. In addition to her work at Yale, she mentors female high school students in her lab as summer interns.

"I am extremely honored and humbled to receive the FASEB Excellence in Science Award Early-Career Investigator Award. The award is evidence of the remarkable trainees and collaborators I have been fortunate to work with across Yale and the scientific community. I share this honor with them," says Krishnaswamy.

## **AAI-BD Biosciences Investigator Award Presentation and Lecture**

*Generously supported by BD Biosciences*

**FRIDAY, MAY 12 • 4:30 PM**

**LEVEL 3, BALLROOM AB**

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

## Chair

**Akiko Iwasaki**, HHMI, Yale Sch. of Med., AAI Vice President  
*AAI President Mark M. Davis and Robert Balderas, BD Biosciences, will present the award immediately prior to the lecture.*



**Presented to**  
**Gregory F. Sonnenberg,**  
**Ph.D. (AAI '13)**

*Henry R. Erle, M.D.-Roberts*  
*Family Associate Professor of Medicine*

*Weill Cornell Medicine*

[sonnenberglab.weill.cornell.edu](https://sonnenberglab.weill.cornell.edu)

## **Innate regulation of immunity, inflammation, tolerance, and cancer**

Dr. Sonnenberg is the recipient of the 2023 AAI-BD Biosciences Investigator Award in recognition of his outstanding research contributions in identifying innate lymphoid cells (ILCs) and elucidating their role in regulating immunity in health and disease.

As a trainee, Sonnenberg made early-career discoveries on the biology of the cytokine IL-22, the identification of ILCs, and the role of these pathways in shaping host-microbe interactions. After establishing his independent laboratory, he defined group 3 ILCs as novel antigen-presenting cells and showed that ILC3s are non-redundant in regulating T cells and essential to orchestrating tolerance to microbiota in the gut. He also described the role of these cells in regulating immunity in the airway and in protecting from progression in colon cancer. His laboratory further pioneered the discovery of a new ILC3 subset, inflammatory (i)ILC3s, that infiltrate the central nervous system during neuroinflammation. His research has explored potential therapies to limit pro-inflammatory responses without compromising beneficial immunity, as with use of small molecule inhibitors for RORγt to preserve protective ILC3s.

Sonnenberg received his Ph.D. from the University of Pennsylvania Perelman School of Medicine. He was the recipient of an NIH Director's Early Independence Award that established his independent laboratory at the University of Pennsylvania. In 2014, he was recruited to Weill Cornell Medicine, Cornell University, where, in addition to his named professorship, he serves as associate professor of microbiology and immunology in medicine and head of basic research in gastroenterology and hepatology.

Sonnenberg has been honored with the Luminex John R. Kettman Mid-Career Award for Excellence in Interferon and Cytokine Research from the International Cytokine and Interferon Society, the Lloyd J. Old STAR Award from the Cancer Research Institute, the Searle Scholars Award, and the AAI Pfizer-Showell Travel Award.

Sonnenberg has served AAI as an associate editor for *The Journal of Immunology*, a faculty member for the AAI Advanced Course, and a major symposium and guest society speaker at AAI annual meetings.

## AAI ASPIRE Awards Symposium

**SATURDAY, MAY 13 • 11:30 AM**

**LEVEL 2, ROOM 202A**

These awards recognize early career research accomplishments and professional promise in the field of immunology.

### Chairs

**Joan Goverman**, Univ. of Washington, AAI Secretary-Treasurer  
**Akiko Iwasaki**, HHMI, Yale Sch. of Med., AAI Vice President  
*AAI President Mark M. Davis will present the awards immediately prior to the symposium.*



**Presented to**  
**Todd Bradley, Ph.D.**  
**(AAI '16)**

*Director of Immunogenomics*

*Genomic Medicine Center*

*Children's Mercy Kansas City*

[www.childrensmc.org/profiles/todd-bradley](http://www.childrensmc.org/profiles/todd-bradley)

### **Natural killer cell immunoregulation of the HIV-1 antibody response**

Dr. Bradley's research focuses on the molecular, cellular, and genetic mechanisms underlying immune responses to viruses, including HIV and more recently SARS-CoV-2. His laboratory works to extrapolate these findings to identify potential biomarker targets in development of improved immunotherapies and vaccines for infection, cancer, autoimmunity, and organ transplantation.

Bradley received his Ph.D. in pathology and laboratory medicine from the University of Kansas Medical School. Prior to joining Children's Mercy Kansas City, he was an assistant professor at the Duke University Medical Center. In addition to his service as director of immunogenomics, he is also an assistant professor in the Department of Pediatrics and Department of Pathology at the University of Kansas Medical Center, and in the Department of Pediatrics at the University of Missouri Kansas City Medical School.

Bradley is a Full Member of Sigma Xi, the scientific research honor society; a recipient of the Bill and Melinda Gates Foundation Norman L. Letvin Early Career Investigator award; and a recipient of the Young Faculty Award from the Duke Center for HIV/AIDS Vaccine Immunology and Immunogen Discovery. He is a former AAI Public Policy Fellow.



**Hitesh Deshmukh, M.D., Ph.D. (AAI '22)**

*Associate Professor*

*Department of Pediatrics*

*Cincinnati Children's Hospital Medical Center*

[www.cincinnatichildrens.org/bio/d/hitesh-deshmukh](http://www.cincinnatichildrens.org/bio/d/hitesh-deshmukh)

### **Establishing lifelong trajectories of pulmonary health before and after birth**

Dr. Deshmukh's research explores the development of pulmonary immunity in newborns, as well as the role of resident and pathological microbes in this process. He has described how commensal bacteria prime the "granulopoietic response" in newborns; how early-life antibiotic use results in continuing immune maladaptation into adulthood; and the complex interactions between commensal bacteria, lung epithelial maturation, and expansion of lung resident immune cells in newborns.

Deshmukh received his M.D. from the University of Mumbai and his Ph.D. from the University of Cincinnati. Subsequent training included a postdoctoral research fellowship at Duke University Medical Center; internship and residency at the University at Buffalo, SUNY; and a clinical fellowship in neonatology at Children's Hospital of Philadelphia. He joined the faculty of the University of Cincinnati College of Medicine in 2015.

Deshmukh is an elected member of the American Society of Clinical Investigation and the American Pediatric Society. He was the founding director of the Center for Perinatal Immunology at the Cincinnati Children's Hospital Medical Center.



**Rebecca K. Martin, Ph.D. (AAI '18)**

*Assistant Professor*

*Department of Microbiology and Immunology*

*Virginia Commonwealth University*

[www.beccamartinlab.com](http://www.beccamartinlab.com)

### **Targeting dendritic cell metabolism promotes allergen tolerance in asthma**

Dr. Martin's laboratory focuses on T helper 2 (Th2) responses to parasitic infection and allergic asthma. Specific projects include dendritic cell responses and anaphylactic and extrafollicular IgE production that drive severe allergic reactions, how ADAM-17 and TNF mediate obesity-induced inflammation, and the role of ADAM-17 in ILC2 responses to IL-33.



Martin received her Ph.D. in microbiology and immunology from the Virginia Commonwealth University and completed postdoctoral studies there, after which she joined the faculty. In addition to her appointment as an assistant professor, Martin is the director of the Flow Shared Resource at the Massey Cancer Center, and the scientific director for the Postbaccalaureate Research Education Program in the Center for Health Disparities.

Martin has received the Outstanding Departmental Teaching Award from the Department of Microbiology and Immunology, the BioLegend 15 Year Anniversary Post-Doc Award, and the Undergraduate Research Opportunities Program Outstanding Faculty Mentor Award. Martin has served as a moderator and speaker at the AAI annual meeting.



## **Gabrielle Rizzuto, M.D., Ph.D. (AAI '22)**

*Assistant Member*

*Memorial Sloan Kettering  
Cancer Center*

[www.mskcc.org/research-areas/labs/  
gabrielle-rizzuto](http://www.mskcc.org/research-areas/labs/gabrielle-rizzuto)

### ***Glycan-dependent mechanisms of fetomaternal tolerance***

Dr. Rizzuto's laboratory investigates the cellular and molecular mechanisms that underlie maternal immune tolerance of fetal and placental proteins. Specific projects include mechanisms of B cell tolerance to placental and tumor antigens, mechanisms of tolerance to "bona fide" placental antigens, and the immunology of trophoblast tumors.

Rizzuto received her M.D. and Ph.D. in immunology from Weill Cornell Medical School. She then trained as a resident in anatomic pathology, clinical research fellow in pathology, and postdoctoral research fellow at the University of California, San Francisco. She joined Memorial Sloan Kettering in 2022.

Rizzuto has received the Janet M. Glasgow Rubin Memorial Achievement Award from Cornell Medical College, the Julius Krevans Award from the Zuckerberg San Francisco General Hospital, and the President's Postdoctoral Fellowship from the University of California.



## **Tuoqi Wu, Ph.D. (AAI '19)**

*Assistant Professor*

*Department of Immunology*

*University of Texas (UT)  
Southwestern Medical Center*

[profiles.utsouthwestern.edu/  
profile/208407/tuoqi-wu.html](http://profiles.utsouthwestern.edu/profile/208407/tuoqi-wu.html)

### ***Transcriptional regulation of long-term T cell immunity***

Dr. Wu's research focuses on T cell responses to viruses and cancer. His laboratory explores the epigenetic and intracellular signaling regulation and control of T cell exhaustion and stemness, and immunosenescence in infectious disease and cancer.

Wu received his Ph.D. in biological and biomedical sciences from Emory University under the mentorship of Dr. Rafi Ahmed (AAI '84) and was a postdoctoral fellow at the NIH. Before joining UT Southwestern in 2021, he was an assistant professor at the University of Colorado School of Medicine. In addition to his appointment as an assistant professor, he is a member of the Harold C. Simmons Comprehensive Cancer Center at UT Southwestern.

Wu is the recipient of the V Scholar Award, the Fellows Award for Research Excellence from the NIH, and the Norman P. Salzman Memorial Award in Virology.



## **Melody Yue Zeng, Ph.D. (AAI '20)**

*Assistant Professor of  
Immunology in Pediatrics*

*Drukier Institute for  
Children's Health*

*Weill Cornell Medicine*

[gradschool.weill.cornell.edu/faculty/melody-zeng](http://gradschool.weill.cornell.edu/faculty/melody-zeng)

### ***Immune regulation by the gut microbiome in early life***

Dr. Zeng's laboratory studies the role of the gut microbiome and maternal-fetal/neonatal immune crosstalk in the development of neonatal or pediatric inflammatory diseases. The overarching goal is to investigate how the gut microenvironment in early life facilitates immune cell development and to harness that knowledge to understand pathogenesis of diseases and develop therapeutics to improve children's health.

Zeng received her Ph.D. in microbiology and immunology from the Indiana University Medical School and completed a postdoctoral fellowship at the University of Michigan Medical School. She joined the faculty of Weill Cornell Medical College of Cornell University in 2019.

Zeng has received the Hartwell Foundation Individual Biomedical Research Award and an NIDDK K01 Mentored Career Transition Award. She is a former AAI Public Policy Fellow.

## FASEB Excellence in Science Lifetime Achievement Award and Lecture

**SATURDAY, MAY 13 • 1:30 PM**

**LEVEL 3, BALLROOM A**

This award recognizes excellence, innovation, leadership, and mentorship of a female established investigator whose research has contributed significantly to a particular discipline in biological science.

### Chair

**Cherié L. Butts**, Biogen, FASEB Treasurer

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



### Presented to

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

*George Fabyan Professor of  
Comparative Pathology*

*Chair, Department of  
Immunology*

*Harvard Medical School*

*[sharpelab.hms.harvard.edu](http://sharpelab.hms.harvard.edu)*

### The biology behind PD-1 blockade

A distinguished pathologist and immunologist, Dr. Sharpe has roles in addition to those at Harvard Medical School as a member of the Department of Pathology at Brigham and Women's Hospital, a member at the Broad Institute of MIT and Harvard, and leader of the Cancer Immunology Program at the Dana-Farber/Harvard Cancer Center.

In bestowing the Lifetime Achievement Award to Sharpe, FASEB recognizes that her influence in the field of immunology extends well beyond the lab through her passionate training and mentoring of the next generation of scientists. While known for her contributions to paradigm-shifting discoveries that are the scientific foundation for effective treatments for cancer, chronic viral infections, and autoimmune diseases, Sharpe has also made equally substantial contributions by promoting the career development of the next generation of scientists. She is a past AAI president (2016–2017). Throughout her career, she has also provided service on national advisory committees and organizations to foster basic, translational, and clinical research.

"I am deeply honored to receive this recognition. It is especially meaningful to be recognized by my colleagues for my discoveries and contributions to mentoring the next generation of scientists," says Sharpe.

## AAI-Thermo Fisher Meritorious Career Award Presentation and Lecture

*Generously supported by Thermo Fisher Scientific*

**SATURDAY, MAY 13 • 4:30 PM**

**LEVEL 3, BALLROOM AB**

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 Past President

*AAI President Mark M. Davis and Jean Bjerke, Thermo Fisher Scientific, will present the award immediately prior to the lecture.*



### Presented to

**Hao Wu, Ph.D. (AAI '18)**

*Asa and Patricia Springer  
Professor*

*Harvard Medical School and  
Boston Children's Hospital*

*[www.wulab.tch.harvard.edu](http://www.wulab.tch.harvard.edu)*

### Inner workings on the inflammasome engine

Dr. Wu is the recipient of the 2023 AAI-Thermo Fisher Meritorious Career Award in recognition of her outstanding research contributions on the structural basis of innate immune signaling.

Wu's laboratory revealed that innate immune signaling engages many downstream proteins into supramolecular complexes by polymerization, a process that can amplify signals even when the amount of liganded receptors is small. She demonstrated that proteins of the death domain superfamily can assemble into higher-order structures with helical symmetry, providing an elegant mechanism for signal transduction. Her research also revealed a nucleated polymerization mechanism in inflammasome activation. By extending her studies to multiple signaling complexes, she has provided evidence that higher order assemblies directly mediate signal transduction in the immune system and showed that specific biophysical principles of structural biology are conserved throughout many classes of immune signaling complexes. Her discoveries have spurred the development of therapeutics for both autoimmune disorders and cancer, most notably in targeting the NLRP3 inflammasome.

Wu received her Ph.D. in biochemistry from Purdue University and completed a postdoctoral fellowship at Columbia University. She held faculty appointments at Weill Cornell Medical College before moving to Harvard and Boston Children's Hospital. In addition to her professorship, she is associate director of the Program in Cellular and Molecular Medicine at Boston Children's Hospital and associate member at the Broad Institute.

Wu has received the William B. Coley Award for Distinguished Research in Basic and Cancer Immunology from the Cancer Research Institute and the Seymour and Vivian Milstein Award for Excellence in Interferon and Cytokine Research from the International Cytokine and Interferon Society. She is an elected member of the National Academy of Sciences and the American Academy of Arts and Sciences, and an elected fellow of the American Association for the Advancement of Science, the Biophysical Society, and the American Crystallographic Association.

## AAI Vanguard Award Presentation and Lecture

*Generously supported by BD Biosciences and sponsored by the Minority Affairs Committee*

**SUNDAY, MAY 14 • 11:15 AM**

**LEVEL 2, ROOM 202B**

This award recognizes an underrepresented member investigator noted for significant scientific achievement and exemplary career success.

### Chair

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

*AAI President Mark M. Davis will present the award immediately prior to the lecture.*



### Presented to **Robert J. Binder, Ph.D.** (AAI '02)

*Professor of Immunology*

*University of Pittsburgh*

*[www.immunology.pitt.edu/person/robert-binder-phd](http://www.immunology.pitt.edu/person/robert-binder-phd)*

### Key pathways in immunosurveillance of cancer

Dr. Binder is being honored in recognition of his significant contributions to the field of antigen presentation and exemplary commitment to teaching and service.

Binder's laboratory studies the mechanisms of cross-priming of antigens during immune responses to cancer, viruses, and autoimmunity. Specifically, his group focuses on the unique properties of Heat Shock Proteins (HSPs) that allow them to chaperone peptides, bind to receptors for endocytosis, and stimulate other immune cells.

Binder began his graduate studies at Fordham University and completed his Ph.D. in biomedical sciences: immunology at the University of Connecticut. After completing a postdoctoral fellowship with Dr. Pramod K. Srivastava (AAI '90) at the University of Connecticut, Binder joined the faculty at the University of Pittsburgh in 2007.

Binder's other honors include the Distinguished Mentor Award from the University of Pittsburgh Biomedical Graduate Student Association and selection as a fellow of the Cell Stress Society International.

Binder has served as chair and member of the AAI Minority Affairs Committee; a member of the Program and Fellowship Committees; and as a roundtable leader and an abstract programming chair for the AAI annual meetings.

## AAI Excellence in Mentoring Award Presentation

**SUNDAY, MAY 14 • 12:30 PM**

**LEVEL 3, BALLROOM AB**

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

### Chair

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

*Dr. Davis and Dr. Shruti Naik, New York Univ. Grossman Sch. of Med., will introduce the awardee and present the award prior to the start of the President's Symposium.*



### Presented to **Yasmine Belkaid, Ph.D.** (AAI '13)

*NIH Distinguished Investigator*

*Chief, Metaorganism Immunity Section*

*NIH, NIAID*

*[www.niaid.nih.gov/research/yasmine-belkaid-phd](http://www.niaid.nih.gov/research/yasmine-belkaid-phd)*

Dr. Belkaid is the recipient of the 2023 AAI Excellence in Mentoring Award in recognition of her dedication to the profession through outstanding mentoring of more than 70 doctoral and postdoctoral trainees.

Belkaid's former trainees laud her as a mentor for encouraging them to ask questions not restricted by the boundaries of prevailing knowledge; for her generosity in sharing resources and ideas; and for her continual promotion of them for opportunities throughout their careers. Former lab members have attained successful independent careers at universities, research institutes, and corporations in the United States and abroad, including the University at Buffalo; University of Pittsburgh; Scripps Research; Benaroya Research Institute; Pasteur Institute; University of São Paulo; University Hospital Bonn; Kyoto University; Avidex Technologies; Genentech; and Arsenal Bio.

Belkaid has also supported scientists outside of her laboratory at the earliest stages of their independent careers. She established the trans-NIH mentoring program for tenure-



track faculty to ensure the retention and success of junior faculty, for which she was recognized by the NIH Office of the Director Award. She has been deeply committed to addressing gender and racial disparities in scientific research, serving on the NIH Action Task Force on Gender Inequity, the NIH Anti-Racism Committee, and the NIH Women Scientist Advisors Committee.

Belkaid received her Ph.D. in immunology from the Orsay University, Pasteur Institute, in France, and then was a Fogarty Fellow in the Intracellular Parasite Biology Section at NIAID. Following an assistant professor appointment at the University of Cincinnati College of Medicine, she returned to NIAID in 2005. In addition to her roles above, she is chief of the Laboratory of Host Immunity and Microbiome, director of the NIH Center for Human Immunology, director of the NIAID Microbiome Program, and adjunct assistant professor of pathology and laboratory medicine at the University of Pennsylvania. This past spring, Belkaid was appointed director general of the Institut Pasteur and will take office in January 2024.

Belkaid's research has focused on understanding the mechanisms controlling host-microbe interactions at barrier sites, such as the skin and the gut. Her honors and awards include the Robert Koch Award, the Lurie Prize in Biomedical Sciences, and the AAI-Thermo Fisher Meritorious Career Award. She is an elected member of the National Academy of Sciences, the National Academy of Medicine, and the American Academy of Arts and Sciences.

Belkaid has served AAI as a member of the Awards Committee and as a speaker and chair at AAI annual meetings.

## AAI-Steinman Award for Human Immunology Research Presentation and Lecture

**SUNDAY, MAY 14 • 4:30 PM**

*LEVEL 3, BALLROOM AB*

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

### Chair

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

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



### Presented to **David A. Hafler, M.D.** (AAI '84)

*William S. and Lois Stiles Edgerly  
Professor of Neurology and  
Immunobiology*

*Yale School of Medicine*

*[medicine.yale.edu/profile/david-hafler](https://medicine.yale.edu/profile/david-hafler)*

### ***Treg biology: insights into immunology by the study of human disease***

Dr. Hafler is being honored in recognition of his significant contributions in the area of autoimmunity, opening novel possibilities for treatment.

Hafler's laboratory focuses on multiple sclerosis (MS). His group described the central mechanisms underlying the likely cause of MS, identifying myelin-reactive T cells as driving an autoimmune disease. His laboratory also described human regulatory T cells (Tregs) and demonstrated that Tregs were dysfunctional in MS. His team has more recently described potential treatment targets in transcription factors and signaling pathways associated with MS and has described salt as a driver of autoimmune myelin-reactive T cells.

Hafler received his M.D. from the University of Miami School of Medicine. After completing a fellowship in neurology and immunology at Harvard Medical School, he assumed a faculty position at Harvard before moving to Yale. In addition to his professorship at Yale School of Medicine, he is chairman of the Department of Neurology at the Yale School of Medicine; neurologist-in-chief at the Yale New Haven Hospital; professor of neurology at Harvard Medical School; the Jack, Sadie, and David Breakstone Professor Emeritus of Neurology at Harvard University; and a visiting scientist at the Broad Institute. He is also a physician at Brigham and Women's Hospital and Massachusetts General Hospital.

Hafler is an elected member of the National Academy of Medicine, the Association of American Physicians, the Connecticut Academy of Science and Engineering, the American Society for Clinical Investigation, and the American Neurological Association.

Hafler was previously chair and member of the AAI Clinical Immunology Committee and an associate editor for *The Journal of Immunology*. He has served as a speaker and chair at AAI annual meetings and as a lecturer for the Advanced Course in Immunology.

# DISTINGUISHED LECTURES

*All of the 2023 Distinguished Lectures are generously supported by BD Biosciences*

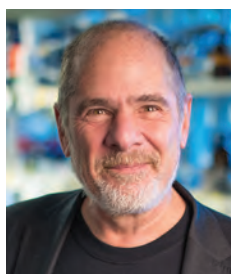
## Chair

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

## Start Me Up: Early Events in T Cell Activation Influence Long-Term Cell Fate

**FRIDAY, MAY 12 • 6:00 PM**

LEVEL 3, BALLROOM AB



### **Douglas R. Green, Ph.D., DFAAI (AAI '84)**

*Peter C. Doherty Endowed Chair of Immunology*

*St. Jude Children's Research Hospital*

[www.stjude.org/directory/g/douglas-green.html](http://www.stjude.org/directory/g/douglas-green.html)

Dr. Green's research focuses on events affecting cell fate—how cells become activated and how they eventually die. Green's team focuses on the molecular interactions and biochemistry that affect the survival and death of a single cell and how those interactions extrapolate to more complex interactions. The group focuses on events that lead to cell apoptosis and necroptosis and how triggering immune responses or apoptosis may drive the pathogenesis of cancer cells that survive the initial insult. Green's laboratory also studies autophagy and how autophagy proteins function in LC3-associated phagocytosis and LC3-associated endocytosis. Lastly, the team focuses on how c-Myc and metabolic contributions drive T cell fate, function, and division.

Green received his Ph.D. in biology from Yale University. Before joining the St. Jude Children's Research Hospital in 2005, where he has also served as the Cancer Center Program Co-Director since 2016, Green was a member and head of the Division of Cellular Immunology at the La Jolla Institute for Allergy and Immunology (now the La Jolla Institute for Immunology) and an adjunct professor at the University of California, San Diego.

In 2020, he was named as one of the Top 100 Most-Cited Scientists of All Time by Web of Science. He is a member of the National Academy of Sciences; a Fellow of the American Association for the Advancement of Science; and a NIAID, NIGMS, and NIH MERIT Award recipient.

Green has served on the AAI Minority Affairs Committee and the Education Committee. He has also served as a speaker and chair at AAI annual meetings.

## Principles of Resolving and Non-resolving Inflammation

**SATURDAY, MAY 13 • 6:00 PM**

LEVEL 3, BALLROOM AB



### **Carla V. Rothlin, Ph.D. (AAI '08)**

*Dorys McConnell Duberg Professor of Immunobiology and Professor of Pharmacology*

*Co-Leader of Cancer Immunology*

*Yale School of Medicine*

[medicine.yale.edu/profile/carla-rothlin/](http://medicine.yale.edu/profile/carla-rothlin/)

Dr. Rothlin's work elucidates how immune responses resolve to avoid unwanted consequences of long-term inflammation, autoimmunity, and self-harm. Together with Dr. Sourav Ghosh, an associate professor with whom she co-leads the research team, the laboratory focuses on how the immune system moves from active infection to resolution of inflammation and wound repair. She also studies how cell death, environmental signals, and recognition of dead cells and their clearance can signal various forms of repair and/or homeostasis, including regeneration, renewal of cells, and wound repair. Current foci include the interaction of stromal and immune cells during homeostasis and wound repair, cell turnover, nervous system functioning, and how innate immune signals affect anti-tumor responses.

Rothlin received her Ph.D. from the University of Buenos Aires. Before joining the Yale School of Medicine in 2009, she was a staff scientist at The Salk Institute for Biological Studies. In addition to her professorships in immunobiology and pharmacology, she is the director of graduate studies and a member of the Executive Committee for the Department of Immunobiology.

Rothlin is a former HHMI faculty scholar and an elected member of the Henry Kunkel Society. She has also received an Early Excellence Award from the American Asthma Foundation.

Rothlin is a current member of the AAI Minority Affairs Committee. She has also served as a speaker and chair at AAI annual meetings.

## Linking Variations in T Cell Receptor Signaling to Changes in Gene Expression and T Cell Function

SUNDAY, MAY 14 • 6:00 PM

LEVEL 3, BALLROOM AB



**Leslie J. Berg, Ph.D.,  
DFAAI (AAI '94)**

*Professor and Chair*

*Department of Immunology  
and Microbiology*

*University of Colorado  
School of Medicine*

[medschool.cuanschutz.edu/immunology-and-microbiology/faculty/berg](https://medschool.cuanschutz.edu/immunology-and-microbiology/faculty/berg)

Dr. Berg's research focuses on the T cell receptor (TCR) signaling pathways that determine T cell fates. A particular interest is the role of ITK, a Tec family tyrosine kinase, in this process. Her studies have identified distinct modes of TCR downstream signaling responses and their ability to be modulated independently following TCR stimulation.

Her laboratory has also used viral infection systems to examine TCR signaling pathways and their contribution to the differentiation of effector versus memory T cells.

Berg received her Ph.D. in molecular biology from the University of California, Berkeley, and completed postdoctoral training at the Stanford University Medical School. Before joining the University of Colorado in 2019, she held a professorship at the University of Massachusetts Medical School. In addition to her appointments as professor and chair, she is the director of the Human Immunology and Immunotherapy Initiative at the University of Colorado School of Medicine.

Berg has been honored as a Distinguished Fellow of AAI and has received the AAI Distinguished Service Award, the AAI-PharMingen Investigator Award, and the Educational Achievement "Star" Award from the University of Massachusetts Medical School.

Berg served as AAI President from 2011 to 2012 and a Council member from 2006 to 2013. She also was *ImmunoHorizons* editor-in-chief, chair of the Program Committee, chair and member of the Education Committee, a section and associate editor for *The Journal of Immunology*, and director and faculty member for the AAI Introductory and Advanced Courses in Immunology.

*For descriptions and details of all sessions, please visit [www.immunology2023.org](http://www.immunology2023.org).*







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# MAJOR SYMPOSIA

FRIDAY, MAY 12 • 8:00 AM – 11:30 AM

## Major Symposium A

### Peripheral Neuroimmune Interactions

LEVEL 3, BALLROOM A

#### Chairs

**Daniel Mucida**, HHMI, Rockefeller Univ.

**Esther Borges Florsheim**, Arizona State Univ.

#### Speakers

**Daniel Mucida**, HHMI, Rockefeller Univ.

*Neuro-immune interactions in the gut*

**Esther Borges Florsheim**, Arizona State Univ.

*Mast cell-derived lipid mediator promotes food aversion*

**Caroline L. Sokol**, Massachusetts Gen. Hosp.

*Neuroimmune circuits drive allergic immunity*

**Catherine Dulac**, HHMI, Harvard Univ.

*Neural circuits of sickness behavior*

**Ivan E. de Araujo**, Icahn Sch. of Med. at Mount Sinai

*Neural control of gut homeostasis*

**Felipe Almeida de Pinho Ribeiro**, Washington Univ. Sch. of Med. in St. Louis

*Sensory control of immunity*

## Major Symposium B

### Cell Death and Immunity: Caspases and Beyond

LEVEL 3, BALLROOM B

#### Chairs

**Francis K. Chan**, Duke Univ.

**Sunny Shin**, Univ. of Pennsylvania Perelman Sch. of Med.

#### Speakers

**Sunny Shin**, Univ. of Pennsylvania Perelman Sch. of Med.

*Inflammasome-mediated anti-bacterial defense*

**Megan H. Orzalli**, Univ. of Massachusetts Chan Med. Sch.

*Activation and inhibition of cutaneous antiviral immunity*

**Julie Magarian Blander**, Weill Cornell Med.

*Phagocytic mode of non-canonical NLRP3 inflammasome activation: implications to pyroptosis and immunity*

**Francis K. Chan**, Duke Univ.

*Necroptosis in anti-viral immunity and tumor immunotherapy*

**Weiping Zou**, Univ. of Michigan

*Ferroptosis in tumor immunity*

**Kodi S. Ravichandran**, Washington Univ. Sch. of Med. in St. Louis

*Eating lessons from phagocytes and the implications to immunity*

SATURDAY, MAY 13 • 8:00 AM – 11:30 AM

## Major Symposium C

### Mechanisms of Innate Immune Memory and Tissue Adaptation

*Generously supported by PerkinElmer Health Sciences, Inc., and Honeycomb Biotechnologies*

LEVEL 3, BALLROOM A

#### Chairs

**Shruti Naik**, New York Univ. Grossman Sch. of Med.

**Joseph C. Sun**, Mem. Sloan Kettering Cancer Ctr.

#### Speakers

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

*Tissue homeostasis and inflammation*

**Luis B. Barreiro**, Univ. of Chicago

*Genetic and epigenetic determinants of inter-individual variation in innate immune responses to infectious agents*

**Timothy E. O'Sullivan**, Univ. of California, Los Angeles

*Transcriptional and epigenetic control of natural killer cell memory*

**Ai Ing Lim**, Princeton Univ.

*Pre-birth immune education*

**Steven Z. Josefowicz**, Weill Cornell Med.

*Epigenetic memory of inflammation and infection in hematopoietic progenitor cells*

**Shruti Naik**, New York Univ. Grossman Sch. of Med.

*Adaptive and maladaptive immune-epithelial interactions*

## Major Symposium D

### Aging, Obesity, and Adverse Immune Responses

LEVEL 3, BALLROOM B

#### Chairs

**Lydia Lynch**, Brigham and Women's Hosp.

**Andrew E. Hogan**, Maynooth Univ., Ireland

#### Speakers

**Lydia Lynch**, Brigham and Women's Hosp.

*Uncoupling the effects of obesity from dietary lipids on cancer development*

**Andrew E. Hogan**, Maynooth Univ., Ireland  
*MAITabolism: Unravelling the impact of obesity on human MAIT cells and their contribution to disease*

**Semir Beyaz**, Cold Spring Harbor Lab.  
*Dietary regulation of stem cell-immune cell-microbiome interactions that influence cancer*

**Susan M. Kaech**, Salk Inst. for Bio. Sts.  
*You are what you eat: nutrient preferences by effector and exhausted T cells*

**Alison E. Ringel**, Ragon Inst. of MGH, MIT, and Harvard  
*Dietary factors that shape immunity in tumors*

**SUNDAY, MAY 14 • 8:00 AM – 11:30 AM**

## Major Symposium E

### Engineering at the Interface of Immunology and Immunotherapy

LEVEL 3, BALLROOM A

#### Chairs

**Jeffrey A. Hubbell**, Univ. of Chicago  
**Susan N. Thomas**, Georgia Tech

#### Speakers

**Jeffrey A. Hubbell**, Univ. of Chicago  
*Engineering cytokines to modulate regiospecific function*

**Evan A. Scott**, Northwestern Univ.  
*Engineering synthetic nanocarriers for targeted immune modulation*

**Jennifer H. Elisseeff**, Johns Hopkins Univ.  
*Engineering immune-stromal crosstalk regulating tissue structure*

**Sai T. Reddy**, Swiss Fed. Inst. of Tech., Zurich, Switzerland  
*Synthetic coevolution of neutralizing antibodies and SARS-CoV-2*

**James J. Moon**, Univ. of Michigan  
*Engineering strategies to modulate the gut microbiome and immune system*

**Susan N. Thomas**, Georgia Tech  
*Engineered lymph node drug delivery and disease modeling technologies enable next-generation approaches in cancer immunotherapy*

## Major Symposium F

### Environmental Drivers of Myeloid Cells

LEVEL 3, BALLROOM B

#### Chairs

**Jessica A. Hamerman**, Benaroya Res. Inst.  
**De'Broski R. Herbert**, Univ. of Pennsylvania Sch. of Vet. Med.

#### Speakers

**Jessica A. Hamerman**, Benaroya Res. Inst.  
*Monocyte differentiation during inflammation*

**De'Broski R. Herbert**, Univ. of Pennsylvania Sch. of Vet. Med.  
*Myeloid-derived IL-33 regulates host immunity*

**Paul Kubes**, Univ. of Calgary, Canada  
*Loss of resident macrophage identity induced by local environmental changes*

**Mark B. Headley II**, Fred Hutchinson Cancer Res. Ctr.  
*Immunosurveillance of the lung by specialized dendritic cell populations*

**Amariliz Rivera**, Rutgers New Jersey Med. Sch.  
*Novel insights on the role of interferons as regulators of pulmonary antifungal immunity*

**MONDAY, MAY 15 • 8:00 AM – 11:30 AM**

## Major Symposium G

### Mucosal Immunity in Health and Disease

LEVEL 3, BALLROOM A

#### Chairs

**Ivaylo I. Ivanov**, Columbia Univ.  
**Manuela Raffatellu**, Univ. of California, San Diego

#### Speakers

**Kathy D. McCoy**, Univ. of Calgary, Canada  
*Microbes and metabolites: shaping mucosal immunity*

**Isaac M. Chiu**, Harvard Med. Sch.  
*Nociceptor neuron regulation of gut barrier function and immunity*

**Manuela Raffatellu**, Univ. of California, San Diego  
*New insights on mucosal immunity to Enterobacteriaceae*

**Ivaylo I. Ivanov**, Columbia Univ.  
*Homeostatic functions of commensal Th17 cells*

**Suzanne Devkota**, Cedars-Sinai Med. Ctr.  
*Immunological and physiological responses to gut bacterial translocation in humans*

**Dan R. Littman**, HHMI, New York Univ. Grossman Sch. of Med.  
*Microbiota guidance of T cell differentiation*



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## Major Symposium H

### Immunity to Emerging Pathogens: COVID-19 and Beyond

LEVEL 3, BALLROOM B

#### Chairs

**James E. Crowe Jr.**, Vanderbilt Univ. Med. Ctr.

**Laura M. Walker**, Moderna

#### Speakers

**James E. Crowe Jr.**, Vanderbilt Univ. Med. Ctr.

*Human monoclonal antibodies for emerging infections*

**Laura M. Walker**, Moderna

*Evolution of antibody immunity following Omicron breakthrough infection*

**Robert A. Seder**, NIAID, NIH

*Scientific and clinical development of monoclonal antibodies to prevent malaria*

**Mark T. Esser**, AstraZeneca

*From the lab to the jab: Lessons learned from the development of AstraZeneca's long-acting antibody combination (Evusheld) for the prevention and treatment of COVID-19*

**Amy L. Hartman**, Univ. of Pittsburgh

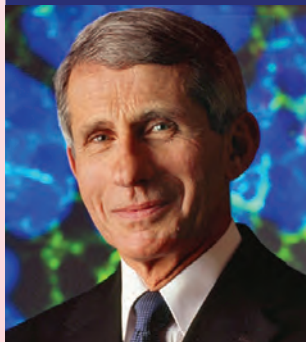
*Combating the threat of Rift Valley fever virus infection in utero*

*All session information is subject to change.*

*For descriptions and details of all sessions, please visit [www.immunology2023.org](http://www.immunology2023.org).*

## SPECIAL SESSION

FRIDAY, MAY 12 • 7:00 PM – 8:00 PM

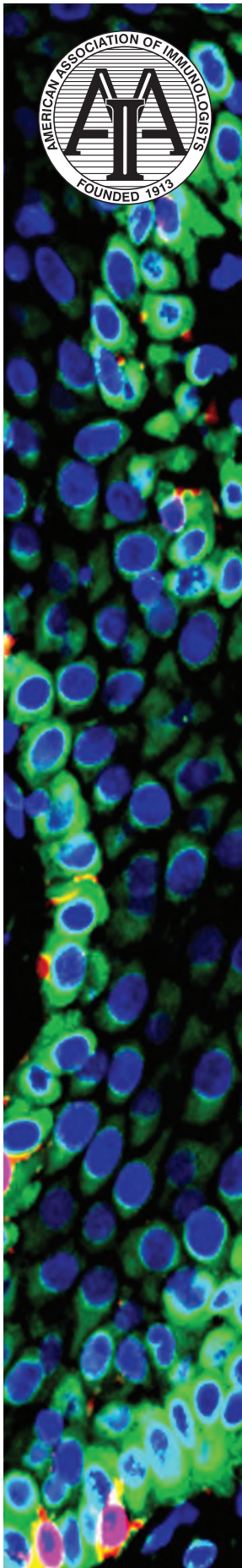


### Pandemic Preparedness and Response: Lessons from COVID-19

LEVEL 3, BALLROOM AB

AAI is delighted to welcome Anthony S. Fauci, M.D., DFAAI (AAI '73), to deliver this important and timely plenary lecture. Dr. Fauci, who recently stepped down from his position as director of the National Institute of Allergy and Infectious Diseases after 38 years, is the former chief medical advisor to President Joseph R. Biden Jr.





# 2023 ADVANCED COURSE IN IMMUNOLOGY

July 23–28, 2023 | The Westin Copley Place | Boston, Massachusetts

Director: Wayne M. Yokoyama, M.D., DFAAI

Washington University School of Medicine

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

This intensive course is directed toward advanced trainees and scientists who wish to expand or update their understanding of the field. World-renowned immunologists will present recent advances in the biology of the immune system and address its role in health and disease.

This is not an introductory course; attendees will need to have a firm understanding of the basic principles of immunology and laboratory techniques.

## Faculty

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

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

**Susan Carpenter**, *University of California, Santa Cruz*  
*Innate Immunity: Gene Regulation*

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

**Keith B. Elkon**, *University of Washington*  
*Innate Immune Signaling: Nucleic Acid Sensors*

**Claudia Jakubzick**, *Geisel School of Medicine at Dartmouth*  
*Myeloid Cells in Immune Responses*

**Stephanie Eisenbarth**, *Northwestern University Feinberg School of Medicine*  
*Dendritic Cells*

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

**Michael P. Cancro**, *University of Pennsylvania Perelman School of Medicine*  
*B Cell Development*

**Avery August**, *Cornell University*  
*T Cell Development*

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

**Lawrence P. Kane**, *University of Pittsburgh*  
*Signaling from Antigen Receptors*

**Stephen Jameson**, *University of Minnesota Medical School*  
*T Cell Memory*

**Deepta Bhattacharya**, *University of Arizona*  
*B Cell Memory*

**Cathryn Nagler**, *University of Chicago*  
*Effect of the Microbiome on Immunity*

**Sara Cherry**, *University of Pennsylvania Perelman School of Medicine*  
*Immune Response to Viruses*

**Julie Zikherman**, *University of California, San Francisco, School of Medicine*  
*B Cell Tolerance and Autoimmunity*

**Mark S. Anderson**, *University of California, San Francisco, School of Medicine*  
*T Cell Tolerance and Autoimmunity*

**Francisco J. Quintana**, *Brigham and Women's Hospital, Harvard Medical School*  
*Neuroimmunology*

**Robert D. Schreiber**, *Washington University School of Medicine*  
*Tumor Immunology*

**Darrell J. Irvine**, *Massachusetts Institute of Technology*  
*Engineering and Modulating the Immune Response*

**Joanne L. Viney**, *Seismic Therapeutics*  
*Immunotherapeutics*

**Megan A. Cooper**, *Washington University School of Medicine*  
*Redefining Human Immunology*

**Galit Alter**, *Ragon Institute of MGH, MIT, and Harvard*  
*Vaccines*

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For complete course details and registration, visit [www.aai.org/AdvancedCourse](http://www.aai.org/AdvancedCourse).

For assistance, contact (301) 634-7178 or [meetings@aai.org](mailto:meetings@aai.org).



# COMMITTEE-SPONSORED SESSIONS AND EVENTS

## CLINICAL IMMUNOLOGY COMMITTEE

FRIDAY, MAY 12 • 10:15 AM – 12:15 PM

### *Human Immunological Diseases and Pathologies: Current Standards of Care, Mechanisms of Action, and Unmet Needs*

LEVEL 2, ROOM 202B

#### Chairs

**Erica L. Stone**, GigaGen, AAI Clinical Immunology Committee Chair

**Thomas A. Wynn**, Pfizer

#### Speakers

**Joanne L. Viney**, Seismic Therapeut.

*New therapeutic approaches for dysregulated adaptive immunity*

**John C. Cambrier**, Univ. of Colorado Anschutz Sch. of Med.

*Exploiting inverse agonism for therapy in autoimmunity: immune cell silencing without death*

**Kristie M. Grebe**, Anokion

*Harnessing natural tolerance pathways in the liver to treat autoimmune diseases: Evidence from KAN-101 for the treatment of celiac disease*

**David M. Berman**, ImmunoCore

*TCR bispecific protein therapeutics to treat autoimmunity*

This session will include talks on a variety of immune-driven disease states and describe disease pathogenesis, current treatments and their shortfalls, where potential areas of improvement may be in new treatments, and next therapies on the horizon. Linking the bench to the clinic will be emphasized.

## COMMITTEE ON PUBLIC AFFAIRS

FRIDAY, MAY 12 • 10:15 AM – 12:15 PM

### *“My Lab Is Recruiting Postdocs:” Policy Approaches to Address the Needs of Today’s Biomedical Research Workforce*

LEVEL 2, ROOM 207B

#### Chairs

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

**Tullia C. Bruno**, Univ. of Pittsburgh

#### Speakers

**Ericka Boone**, Director, Div. of Biomed. Res. Workforce, NIH

**Greg M. Delgoffe**, Univ. of Pittsburgh

In recent years, principal investigators have expressed increasing concern about the difficulty of recruiting and retaining postdoctoral researchers (postdocs), particularly in academia. While the problem is multifactorial, challenges include inadequate compensation/benefits, lack of affordable housing, difficulties achieving work-life balance, and insufficient support for training and mental health. The availability of postdocs has been further reduced by the COVID-19 pandemic and related disruptions, which have sharply decreased the number of international graduate students studying in the United States, resulting in a smaller potential postdoc pool. These challenges, combined with the lack of certainty in achieving “success” when pursuing a career in academia, often lead graduate students to pursue non-academic jobs in industry or elsewhere. With half of U.S. postdocs financially supported by federal agencies, the National Institutes of Health (NIH) has established a Working Group to evaluate whether there is statistical evidence of this perceived postdoc shortage, assess the factors that may be causing it, and develop recommendations to facilitate recruitment and retention.

This session will feature a distinguished panel of speakers who will discuss the current state of the postdoc workforce, the reasons for a dearth of candidates applying for postdoc positions, and potential policy approaches to alleviate the strain on the biomedical research workforce. The formal presentations will be followed by an open mic period during which all members of the audience, in particular trainees, will be invited to ask questions and/or speak about their experiences.

## EDUCATION COMMITTEE

FRIDAY, MAY 12 • 11:00 AM – 1:00 PM

### *Immunology Teaching Interest Group: Enhancing Your Immunology Teaching*

LEVEL 2, ROOM 209ABC

#### Chairs

**Sumali Pandey**, Minnesota State Univ., Moorhead

**Damian L. Turner**, Williams Col.

#### Panelists

**Viviane Boaventura**, Oswaldo Cruz Fndn., Fed. Univ. of Bahia, Brazil

*ImmunoAlvo board game for dynamic teaching of immunology*

**William H. Carr**, Medgar Evers Col., CUNY

*Easing the pain of group work with an ice-breaker activity: “A case in point: from active learning to the job market”*

**Nadeem Fazal**, Chicago State Univ. Col. of Phrm.  
*A case for teaching basic immunology through scientific journalism: lesson taught by a coronavirus went viral!*

**Lindsey D. Hughes**, Yale Sch. of Med.  
*A perfect fit: 3D-printed kit to teach students principles of antigen-antibody recognition and herd immunity*

### Breakout Session Leaders

**Vitaly V. Ganusov**, Univ. of Tennessee, and **Julie M. Jameson**, California State Univ., San Marcos  
*Use of the AAI curriculum recommendations in an undergraduate immunology course*

**Tomas Helikar**, Univ. of Nebraska, Lincoln, **Louis B. Justement**, Univ. of Alabama at Birmingham, **Sumali Pandey**, Minnesota State Univ., Moorhead, and **Rebekah T. Taylor**, Frostburg State Univ.  
*Modeling immunological networks in an educational setting using Cell Collective\**

**Aimee Pugh-Bernard**, Univ. of Colorado Anschutz Med. Campus  
*The use and creation of analogies as a teaching tool for understanding immunology*

**Rebecca Rivard**, Gwynedd Mercy Univ.  
*Immune Battle: use of a board game to help improve student understanding of immune function*

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 levels. 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.

*\*Bring your laptop to get the most out of this breakout session!*

**SUNDAY, MAY 14 • 10:15 AM – 12:15 PM**

### Careers in Biotech: Panel Discussion and Networking

*Generously supported by BD Biosciences*

LEVEL 2, ROOM 209ABC

#### Chair

**H. Kiyomi Komori**, Kinevant

#### Panelists

**Agata Bartczak**, Horizon Therapeut.

**Louise M. D'Cruz**, BD Biosciences

**Ian T. Saunders**, Janssen Res. and Development

**Thomas A. Wynn**, Pfizer

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

**SATURDAY, MAY 13 • 11:45 AM – 1:15 PM**

### Careers in Science Lecture and Roundtables

LEVEL 1, WEST SALON GH

#### Chair

**Dorina Avram**, Moffitt Cancer Ctr., AAI Committee on the Status of Women Chair

#### Speaker

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

*Avoiding tokenism—choosing your seat at the table*

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 mentoring 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, nonprofit). Don't miss this great opportunity! **Registration Fee: \$30 (lunch included)**

#### Discussion Topics

- A Conversation about Bystander Intervention
- New PI (mentoring effectively, recruiting students and postdocs, preparing for promotion, early career self-promotion)
- Succeeding in Graduate School
- Graduate Student to Postdoc
- Postdoc to PI
- Work-Life Balance
- Building Networking Skills
- Biotech and Industry

- Tackling Gender Biases in Recruitment, Research, and Leadership
- Careers in Government Agencies
- Scientific Publishing
- Opportunities for Scientists in Non-Profits/Foundations
- Careers in Science Policy
- Grant Writing for PIs
- Grant Writing for Fellowships
- Research from the M.D.-Ph.D. Perspective/ The Physician Scientist
- Careers in Veterinary Immunology
- International Opportunities
- How to Build Productive Mentoring Relationships
- Balancing Teaching Responsibilities with Research
- How to Negotiate for Better Self-Promotion
- **NEW!** Science Communication, Popular Science Writing, Editing
- Challenges for Women Mentors and PIs
- Academia versus Industry
- Alternative Careers

## EDUCATION COMMITTEE, IMMUNOHORIZONS

**SUNDAY, MAY 14 • 8:30 AM – 10:00 AM**

### *Sip and Learn: Speed Networking with Immunology Educators*

LEVEL 1, WEST SALON G

#### Chairs

**Nicholas A. Pullen**, Univ. of Northern Colorado, AAI Education Committee Chair

**Heather A. Bruns**, Univ. of Alabama at Birmingham, *ImmunoHorizons* Senior Editor

#### Mentors

**Katayoun Ayasoufi**, Mayo Clin.

**Aimee Bernard**, Univ. of Colorado

**Bonnie Blomberg**, Univ. of Miami, Miller Sch. of Med.

**Deborah Brown**, Trudeau Inst.

**Melanie Gubbels Bupp**, Randolph-Macon Col.

**Farhan Cyprian**, Qatar Univ., Qatar

**Benjamin Enslow**, Univ. of Texas Hlth. Sci. Ctr., San Antonio

**Beth Garvy**, Univ. of Kentucky, Chandler Med. Ctr.

**Maria Guerrero-Plata**, Louisiana State Univ.

**Jeniffer Hernandez**, Keck Grad. Inst.

**Stephanie James**, Regis Univ.

**Liliana Lamperti**, Univ. of Concepcion, Chile

**Estefania Nova-Lamperti**, Univ. of Concepcion, Chile

**Reinhard Obst**, Univ. of Munich, Germany

**Robin Orozco**, Univ. of Kansas

**Sumali Pandey**, Minnesota State Univ.

**Fernanda Rosa**, Texas Tech Univ.

**Sophia Sarafova**, Davidson Col.

**Jastaranpreet Singh**, Univ. of Toronto, Canada

**Michelle Swanson-Mungerson**, Midwestern Univ., Chicago Col. of Osteopathic Med.

**Julie Swartzendruber**, Midwestern Univ.

**Michael Volin**, Midwestern Univ.

Are you interested in immunology education? Join the editors of *ImmunoHorizons* and the AAI Education Committee for a networking event for current and future immunology educators. The first part of this session will be short one-on-one meetings, where you'll have the opportunity to meet others with an interest in immunology education. Then attendees can continue their conversations in a relaxed setting over coffee. All are welcome! Scientists and trainees of all backgrounds are encouraged to attend. **Registration Fee: \$15 (coffee and pastries included)**

## MINORITY AFFAIRS COMMITTEE

**FRIDAY, MAY 12 • 12:00 PM – 2:15 PM**

### *Careers Roundtables and Speed Networking Session*

*Generously supported by the Dept. of Immunobiology, Yale Sch. of Med.*

LEVEL 1, WEST SALON GH

#### Chair

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

Career building and networking skills have never been more crucial to ensure success for trainees and early career scientists, including those traditionally underrepresented in biomedical research. Take advantage of the opportunity to meet in a small-group format with established 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)**

#### Discussion Topics

- Grad Student: Finding a Mentor, Setting Sights on Postdoc Training
- Navigating Challenges Unique to International Graduate Students and Postdocs
- Postdoc: Finding a Mentor, Setting Sights on a Faculty Position
- Junior Faculty: Preparing for Promotion and Tenure
- Maintaining Research Productivity at a Primarily Undergraduate Teaching Institution



- Academia or Industry: How to Decide (or Switch Sides)
- Government Agency Careers
- Non-Bench Research Science Careers:
  - Entrepreneurship
  - Nonprofits/Foundations
  - Research Technology
  - Science Policy
  - Scientific Patent/Trademark Law
  - Scientific Publishing/Science Writing

**SUNDAY, MAY 14 • 11:15 AM – 12:15 PM**

## **AAI Vanguard Award Presentation and Lecture**

*Generously supported by BD Biosciences*

LEVEL 2, ROOM 202B

See page 40 for details.

## **PROGRAM COMMITTEE**

**THURSDAY, MAY 11 • 2:00 PM – 4:00 PM**

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

LEVEL 2, ROOM 202A

### **Chairs**

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

**Chandrashekhar Pasare**, Cincinnati Children's Hosp.  
Med. Ctr.

### **Speakers**

**Judith A. James**, Oklahoma Med. Res. Fndn.  
*Cross-reactive B cells*

**Chandrashekhar Pasare**, Cincinnati Children's Hosp.  
Med. Ctr.  
*Mechanisms of microbial and non-microbial (sterile)  
innate inflammation*

**Timothy E. O'Sullivan**, Univ. of California, Los Angeles  
*CRISPR-Cas9 tools and technology in immunity*

**Golnaz Vahedi**, Univ. of Pennsylvania Perelman  
Sch. of Med.  
*Advances in single-cell analysis*

Hot topics will be presented in short talks during 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**

**SATURDAY, MAY 13 • 10:15 AM – 12:15 PM**

## **Spotlight on AAI Journals**

LEVEL 2, ROOM 202B

### **Chairs**

**Daniel J. Campbell**, Benaroya Res. Inst.,  
AAI Publications Committee Chair

**Eugene M. Oltz**, Ohio State Univ. Col. of Med.,  
Editor-in-Chief, *The Journal of Immunology*

### **Speakers**

**Nitya Jain**, Harvard Med. Sch.  
*RXRA regulates the development of resident  
tissue macrophages*

**Todd Bartkowiak**, Vanderbilt Univ.  
*Systems immunology analyses of STAT1 gain-of-function  
immune phenotypes reveal heterogeneous response to IL-6  
and broad immunometabolic roles for STAT1*

**Tiffany Taylor**, Univ. of Pittsburgh  
*Roles of IL-17-responsive transcription factors in regulating  
oropharyngeal candidiasis*

**Joshua J. Obar**, Geisel Sch. of Med. at Dartmouth  
*Alveolar macrophages: controllers of the antifungal  
interferon response*

**Zhichao Fan**, UConn Health  
*CFTR in regulating monocyte recruitment and  
integrin function*

**Vanessa Espinosa**, Rutgers New Jersey Med. Sch.  
*Neutrophils license the maturation of monocytes into  
effective antifungal effectors*

A symposium featuring talks highlighting papers recently published in *The Journal of Immunology* and *ImmunoHorizons*

## **PUBLIC COMMUNICATIONS COMMITTEE**

**FRIDAY, MAY 12 • 1:00 PM – 2:00 PM**

## **Giving an Effective Media Interview**

LEVEL 2, ROOM 205

Did you know that immunologists are in high demand by the media as subject matter experts? The pandemic highlighted the crucial role that the field of immunology plays in public health, and interest in related health topics is growing well beyond COVID-19 and vaccines. If you can speak about immunology in a way that is easy for the public to understand, and if you know how to prepare for a media interview, you can become a sought-after expert!

In this session, media trainer Andrea Fetchko, vice president, JPA Health, will teach you the general principles of preparing for and delivering an effective media interview. Learn how to develop your message and talking points, how to stay on message, how to speak so that consumers can understand and remember your points, and the Top 10 Dos and Don'ts of media interviewing.

You will also learn what to expect when speaking to a print journalist versus being a guest on a television or radio news show. Additionally, Kristina McBurney, Ph.D., a producer of *The Immunology Podcast*, will also join us to share tips specific to being a memorable and engaging podcast guest.

## VETERINARY IMMUNOLOGY COMMITTEE

FRIDAY, MAY 12 • 12:30 – 2:30 PM

### *Immunological Approaches to (Re)emerging and Global Zoonotic Threats*

LEVEL 2, ROOM 207B

#### Chair

**Janice C. Telfer**, Univ. of Massachusetts, Amherst,  
AAI Veterinary Immunology Committee Chair

#### Speakers

**Joan Lunney**, USDA, ARS

*The pig as a biomedical model: importance for immunity, disease, and vaccine research*

**Rudra Channappanavar**, Oklahoma State Univ. Col. of Vet. Med.  
*Role of dysregulated immunity in the pathogenesis of coronavirus infections*

**Bronwyn M. Gunn**, Washington State Univ. Col. of Vet. Med.  
*Leveraging a systems serology approach to define antibody-mediated mechanisms of immunity against zoonotic viral infection*

**Christopher A. Hunter**, Univ. of Pennsylvania Sch. of Vet. Med.  
*Understanding how mRNA vaccines promote CD8<sup>+</sup> T cell responses*

The modern hyper-mobile world, climate change and increased contact between wildlife and humans have led to the increased incidence of emerging or re-emerging infectious disease (EID), which is defined as one in which incidence has increased in the past 20 years and has potential for increasing further in the future. It is estimated that more than six out of every 10 known EIDs in people can be spread from animals, and three out of every four newly detected EIDs in people are transmitted from animal reservoirs. It is thus important to understand the pathogen–host immune response in all species. This symposium will highlight the study of swine as an important biomedical model species and reservoir as well as strategies to improve vaccines designed to combat EIDs in all species.

*For descriptions and details of all sessions, please visit [www.immunology2023.org](http://www.immunology2023.org).*







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**Now accepting applications for the 2024 Michelson  
Philanthropies & Science Prize for Immunology.**

The prize is awarded annually to early-career investigators who conduct transformative research with a lasting impact on vaccine and immunotherapeutic discovery. The \$30,000 grand prize and two \$10,000 finalist awards are selected by a distinguished committee of scientists chaired by *Science* editors who judge the submitted editorial essays based on their research over the past three years.

The international prize is open to scientists 35 years and younger who perform immunology research across a variety of cross-cutting disciplines such as computer science, artificial intelligence, machine learning, protein engineering, nanotechnology, genomics, neurodegenerative disease, etc.

**Application deadline: October 1, 2023.**

For more information visit:  
[www.michelsonmedicalresearch.org](http://www.michelsonmedicalresearch.org)



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*"The prize is a great honor and recognition of the work that we've been doing in the field of precision immunotherapy. It will help maintain research momentum and ease the path going forward."*

**Aleksandar Obradovic, M.D., Ph.D.,  
Columbia University**, received  
the 2023 Grand Prize for his essay  
"Precision Immunotherapy –  
A Mechanistic Approach to Over-  
coming Treatment Resistance."

**APPLY NOW**

**DEADLINE:  
OCTOBER 1, 2023**

**GRAND PRIZE:  
\$30,000**

**FINALIST AWARD:  
\$10,000**

# GUEST SESSIONS

AAI welcomes the following guest societies and institutes at IMMUNOLOGY2023™.

## American Society of Tropical Medicine and Hygiene (ASTMH) Symposium

SUNDAY, MAY 14 • 10:15 AM – 12:15 PM

### *Immunoparasitology: Perspectives by Top Trainees, Early Career, and Established ASTMH Researchers*

LEVEL 1, ROOM 102AB

#### Chairs

**Robin Stephens**, Rutgers New Jersey Med. Sch.  
**Azza Hussein Idris**, NIAID, NIH

#### Speakers

**Romaniya Zayats**, Univ. of Manitoba, Canada  
*Cellular dynamics of immune evasion during Leishmania major infection*

**Kirk D. C. Jensen**, Univ. of California, Merced  
*Regulation of humoral immunity to Toxoplasma gondii*

**Azza Hussein Idris**, NIAID, NIH  
*Antibodies for malaria prevention—a bench-to-bedside story*

**Robin Stephens**, Rutgers New Jersey Med. Sch.  
*CD4<sup>+</sup> T cell regulation of immunity to plasmodium parasites*

## American Society of Transplantation (AST) Symposium

SUNDAY, MAY 14 • 10:15 AM – 12:15 PM

### *Cutting Edge Research in Transplantation Tolerance, Rejection, and Infection*

LEVEL 2, ROOM 202A

#### Chairs

**Valeria R. Mas**, Univ. of Maryland Sch. of Med.  
**Leonardo V. Riella**, Massachusetts Gen. Hosp.

#### Speakers

**Keri E. Lunsford**, Rutgers New Jersey Med. Sch.  
*Liver transplant multi-omic assessment of immune frailty*

**Anoma Nellore**, Univ. of Alabama at Birmingham  
*Mucosal flu-specific B cells: Insights from vaccine and ex vivo lung perfusion studies*

**Mandy L. Ford**, Emory Univ.  
*Risky memory T cell subsets in transplantation*

**Paolo Cravedi**, Icahn Sch. of Med. at Mount Sinai  
*Inducing regulatory T cells for allograft survival*

WWW.IMMUNOLOGY2023.ORG

## Canadian Society for Immunology (CSI) Symposium

SATURDAY, MAY 13 • 12:30 PM – 2:30 PM

### *The Ontogeny and Functioning of the Immune System: Lessons from Non-mammalian Systems*

LEVEL 1, ROOM 101

#### Chairs

**Edan Foley**, Univ. of Alberta, Canada  
**Jason N. Berman**, Univ. of Ottawa and Children's Hosp. of Eastern Ontario Res. Inst., Canada

#### Speakers

**Edan Foley**, Univ. of Alberta, Canada  
*Single-cell resolution of the zebrafish intestinal immune response to a Vibrio cholerae infection*

**Jason N. Berman**, Univ. of Ottawa and Children's Hosp. of Eastern Ontario Res. Inst., Canada  
*Leveraging the zebrafish model for preclinical studies of the immune microenvironment in cancer*

**Francesca Di Cara**, Dalhousie Univ., Canada  
*Drosophila immunity*

**Shayan Sharif**, Univ. of Guelph, Canada  
*Chicken immunity and viral pathogens*

**W. Brent Derry**, Univ. of Toronto, Canada  
*C. elegans innate immunity*

## Chinese Society of Immunology, Taiwan (CSIT) Symposium

SATURDAY, MAY 13 • 10:15 AM – 12:15 PM

### *Novel Strategies for the Prevention and Therapy of SARS-CoV-2 Infection*

LEVEL 1, ROOM 101

#### Chairs

**Shie-Liang Hsieh**, Genomics Res. Ctr., Academia Sinica, Taiwan  
**Jenny P.-Y. Ting**, Univ. of North Carolina, Chapel Hill

#### Speakers

**Shie-Liang Hsieh**, Genomics Res. Ctr., Academia Sinica, Taiwan  
*Targeting the CLEC2- CLEC5A/TLR2 axis to attenuate SARS-CoV-2-induced immunothrombosis*

**Kuo-I Lin**, Genomics Res. Ctr., Academia Sinica, Taiwan  
*Vaccination with a glyco-engineered SARS-CoV-2 spike protein confers cross-strain protection in mice*

**Shih-Jen Liu**, Nat. Hlth. Res. Inst., Taiwan  
*Strategies of DNA vaccination against COVID-19*

**Che-Ming Hu**, Inst. of Biomedical Sci., Academia Sinica, Taiwan  
*Breaking down the T cell induction barrier with modular nanotechnology for anticancer and antiviral applications*

## European Federation of Immunological Societies (EFIS) Symposium

**SUNDAY, MAY 14 • 3:45 PM – 5:45 PM**

### Fundamental Lessons Learned from the Clinic

LEVEL 2, ROOM 204ABC

#### Chairs

**Bojan Polić**, Univ. of Rijeka, Croatia

**Rami Bechara**, Université Paris-Saclay, France

#### Speakers

**Bojan Polić**, Univ. of Rijeka, Croatia  
*Immune-endocrine regulation of blood glucose in a strong non-lethal viral infection*

**Eva Martínez-Cáceres**, Germans Trias i Pujol Hosp., Badalona, Spain  
*Cell-based tolerogenic therapies: from bench to bedside, and back*

**Luke A. J. O'Neill**, Trinity Col., Dublin, Ireland  
*Macrophage immunometabolism and the regulation of inflammation*

**S. Marieke van Ham**, Sanquin Res., Netherlands  
*Insights into human B cell differentiation upon infection and vaccination*

**David C. Wraith**, Univ. of Birmingham, United Kingdom  
*The mechanism of antigen-specific immunotherapy of autoimmune diseases*

## German Society for Immunology (DGfI) Symposium

**FRIDAY, MAY 12 • 12:30 PM – 2:30 PM**

### Immune Competence in Tissues

LEVEL 2, ROOM 202B

#### Chairs

**Dietmar Zehn**, Tech. Univ. of Munich, Germany

**Christina E. Zielinski**, Leibniz Inst. for Natural Product Res. and Infection Biology, Hans Knöll Inst., Germany

#### Speakers

**Dietmar Zehn**, Tech. Univ. of Munich, Germany  
*Dynamics and maintenance of resident CD8<sup>+</sup> T cells in the intestine*

**Christina E. Zielinski**, Leibniz Inst. for Natural Product Res. and Infection Biology, Hans Knöll Inst., Germany  
*Regulation of human T helper cells by the tissue microenvironment*

**Georg Gasteiger**, Max-Planck Res. Group for Systems Immunology, Univ. of Würzburg, Germany  
*Tissue niches of resident lymphocytes*

**Maike Hofmann**, Med. Ctr., Univ. of Freiburg, Germany  
*T cell responses in chronic viral hepatitis*

**Wolfgang Kastenmüller**, Max-Planck Res. Group for Systems Immunology, Univ. of Würzburg, Germany  
*Spatiotemporal orchestration of cellular immunity*

**Christine S. Falk**, Medizinische Hochschule Hannover, Germany  
*T and NK cell chimerism in human lung transplantation*

## International Complement Society (ICS) Symposium

**FRIDAY, MAY 12 • 3:45 PM – 5:45 PM**

### Location Matters: The Evolving Roles of Cell-Autonomous and Local Complement

LEVEL 1, ROOM 101

#### Chairs

**Ben Afzali**, NIDDK, NIH

**Marcela Pekna**, Univ. of Gothenburg, Sweden

#### Speakers

**Niki M. Moutsopoulos**, NIDCR, NIH  
*Innate immunity and the oral mucosa*

**Markus Bosmann**, Boston Univ.  
*Take a breath: local complement in lung pathologies*

**Marcela Pekna**, Univ. of Gothenburg, Sweden  
*C3a receptor signaling in neural plasticity and astrocyte-microglia crosstalk after CNS injury*

**Brahm H. Segal**, Univ. at Buffalo, SUNY  
*The unexpected contributions of local complement in ovarian cancer*



## International Cytokine and Interferon Society (ICIS) Symposium

SATURDAY, MAY 13 • 10:15 AM – 12:15 PM

### Understanding and Modulating Cytokine Activity through Structural Knowledge

LEVEL 1, ROOM 102AB

#### Chairs

**Juan L. Mendoza**, Univ. of Chicago

**Ignacio Moraga**, Univ. of Dundee, United Kingdom

#### Speakers

**Matthew C. Franklin**, Regeneron Pharma.

*Structural insights into the assembly of gp130 family cytokine signaling complexes*

**Juan L. Mendoza**, Univ. of Chicago

*The native JAK-JAK geometry in the type III IFN signaling complex limits the functional potency*

**Dylan Daniel**, CytomX Therapeut.

*Designing conditionally activated probody cytokines to localize antitumor activity to cancers*

**Ignacio Moraga**, Univ. of Dundee, United Kingdom

*Manipulating cytokine activities in different extracellular microenvironments*

**Jamie B. Spangler**, Johns Hopkins Univ.

*Dissecting immune biology using de novo engineered cytokines*

## International Society of Neuroimmunology (ISNI) Symposium

FRIDAY, MAY 12 • 12:30 PM – 2:30 PM

### Neuroimmune Interactions in CNS Development, Repair, and Disease

LEVEL 1, ROOM 101

#### Chairs

**Francisco J. Quintana**, Harvard Med. Sch.

**Nicola J. Allen**, Salk Inst. for Bio. Sts.

#### Speakers

**Nicola J. Allen**, Salk Inst. for Bio. Sts.

*Astrocyte–neuron interaction in health and disease*

**Michael V. Sofroniew**, Univ. of California, Los Angeles

*Diverse astrocyte roles in CNS innate immunity*

**John R. Lukens**, Univ. of Virginia

*SYKO mode: SYK is a key regulator of neuroprotective immune responses in Alzheimer's disease*

**Francisco J. Quintana**, Harvard Med. Sch.

*Regulatory cell interactions in CNS inflammation*

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

SATURDAY, MAY 13 • 3:45 PM – 5:45 PM

### Immune Cell Communications in Cancer and Inflammation

LEVEL 1, ROOM 101

#### Chairs

**Minsoo Kim**, Univ. of Rochester

**Su-Hyung Park**, Korea Advanced Inst. of Sci. and Tech., South Korea

#### Speakers

**Eun D. Lee**, Virginia Commonwealth Univ.

*Targeting ERAP2 for cancer therapy*

**Eun Young Choi**, Seoul Nat. Univ. Col. of Med., South Korea

*Actin and microtubule cross-talks in immune synapse and the application to CAR T cell therapy*

**Chang-Duk Jun**, Gwangju Inst. of Sci. and Tech., South Korea

*T cell microvilli shedding as a mechanism of T cell clonal expansion*

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

*Double knock-in reporter mice reveal NF- $\kappa$ B trajectories in signaling, immune cell development, and aging*

## National Cancer Institute (NCI, NIH) Symposium

SUNDAY, MAY 14 • 8:00 AM – 10:00 AM

### Harnessing Immune Cell Function in the Immunosuppressive Tumor Environment

LEVEL 1, ROOM 102AB

*Chairs and speakers will be announced shortly.*

Visit [www.immunology2023.org](http://www.immunology2023.org) for the most up-to-date information.

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

FRIDAY, MAY 12 • 3:45 PM – 5:45 PM

### Improved Tools for Modeling Human Immunity In Vitro and In Vivo—Organoid Cultures and Novel Mouse Models

LEVEL 2, ROOM 207B

#### Chairs

**Joy Liu**, NIAID, NIH

**Mark T. Heise**, Univ. of North Carolina, Chapel Hill

#### Speakers

**Mark T. Heise**, Univ. of North Carolina, Chapel Hill

*Complex genetic architecture underlies regulation of respiratory virus immune responses in the collaborative cross*

**Huimin Zhang**, Stanford Univ. Med. Sch.

*Modeling tissue-resident immunity in organoids*

**Barbara Rehmann**, NIDDK, NIH

*Wild mouse microbiota in preclinical models of inflammation and metabolism*

**Suhas Sureshchandra**, Univ. of California, Irvine

*Modeling human adaptive immune responses with tonsil organoids*

**Paolo Casali**, UT Health, San Antonio, Long Sch. of Med.

*Construction of mice with a fully human immune system mounting class-switched, hypermutated, and neutralizing antibody response*

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

FRIDAY, MAY 12 • 3:45 PM – 5:45 PM

### Somatic Mutations in Non-malignant Diseases

LEVEL 1, ROOM 102AB

#### Chairs

**Peter C. Grayson**, NIAMS, NIH

**Bhavisha A. Patel**, NHLBI, NIH

#### Speakers

**Heather E. Machado**, Sanger Inst., United Kingdom

*Mutational landscapes in human lymphocytes*

**Peter C. Grayson**, NIAMS, NIH

*Somatic mutations in rheumatology: VEXAS syndrome and beyond*

**Bhavisha A. Patel**, NHLBI, NIH

*Somatic mutations in benign hematologic diseases*

## National Institute of Environmental Health Sciences (NIEHS, NIH) Symposium

SUNDAY, MAY 14 • 3:45 PM – 5:45 PM

### How the Latest Advances in Immunology Inform the Field of Developmental Immunotoxicology: A Panel Discussion

LEVEL 2, ROOM 209ABC

#### Chairs

**Michael C. Humble**, NIEHS, NIH

**Fenna C. M. Sillé**, Johns Hopkins Univ.

#### Speakers

**Michael C. Humble**, NIEHS, NIH

*Introduction*

**Anna E. Beaudin**, Univ. of Utah

*Contribution of fetal hematopoiesis to postnatal immune function and disease susceptibility*

**Jamie C. DeWitt**, East Carolina Univ.

*Impact of early-life exposure to per- and polyfluoroalkyl substances (PFASs) and implications for later life immune-based diseases*

**Isha Khan**, Michigan State Univ.

*An in vitro model of human hematopoiesis for developmental immunotoxicity testing*

**Brian D. Rudd**, Cornell Univ.

*Studying immune development in mice with normalized microbial exposure*

**Momoko Yoshimoto-Kobayashi**, Univ. of Texas Hlth. Sci. Ctr. at Houston

*HSC-independent hematopoiesis in the embryo contributes to a significant part of adult immune cells*

**Judith T. Zelikoff**, New York Univ. Langone Hlth.

*Pulmonary immunotoxic effects of inhaled ambient particulate matter on prenatally exposed offspring*

**Fenna C. M. Sillé**, Johns Hopkins Univ.

*Panel discussion: future outlook on alternatives to DIT testing*

This symposium will feature brief talks and a panel discussion between basic and developmental immunologists and immunotoxicologists to learn from and inform each other of new scientific paradigms, advances, and methodology in their respective fields.

## National Institute on Aging (NIA, NIH) Symposium

FRIDAY, MAY 12 • 10:15 AM – 12:15 PM

### *Mucosal Immunity, Microbiome, and Aging*

LEVEL 1, ROOM 101

#### Chairs

**Muluaalem E. Tilahun**, NIA, NIH

**Elizabeth J. Kovacs**, Univ. of Colorado, Denver

#### Speakers

**Elizabeth J. Kovacs**, Univ. of Colorado, Denver  
*Inflammaging, burn trauma, and the gut-lung axis*

**Marta Rodriguez-Garcia**, Tufts Univ. Sch. of Med.  
*Aging compromises neutrophil-mediated innate protection  
against HIV in the human female genital tract*

**Noah W. Palm**, Yale Sch. of Med.  
*Mapping uncharted landscapes of host-microbiota  
communication*

**Yanjiao Zhou**, Univ. of Connecticut Sch. of Med.  
*The gut microbiome and immune responses in young and  
old mice on an intermittent-fasting diet*

## Society for Immunotherapy of Cancer (SITC) Symposium

SATURDAY, MAY 13 • 8:00 AM – 10:00 AM

### *Building the Antitumor Repertoire*

LEVEL 2, ROOM 207A

#### Chairs

**Lisa H. Butterfield**, Univ. of California, San Francisco

**Stephen P. Schoenberger**, La Jolla Inst. for Immunology

#### Speakers

**Lisa H. Butterfield**, Univ. of California, San Francisco  
*Dendritic cell dysfunction and making better vaccines*

**Stephen P. Schoenberger**, La Jolla Inst. for Immunology  
*NeoAg identification*

**Neeha Zaidi**, Johns Hopkins Univ.  
*Ras antigen vaccines, GVAX vaccines, and pancreatic  
cancer combinations*

**Gordon J. Freeman**, Dana-Farber Cancer Inst.  
*Checkpoint modulation of the T cell repertoire*

## Society for Mucosal Immunology (SMI) Symposium

FRIDAY, MAY 12 • 12:30 PM – 2:30 PM

### *Protecting the Barrier from Invaders*

LEVEL 3, BALLROOM B

#### Chairs

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

**Kathryn A. Knoop**, Mayo Clin.

#### Speakers

**Gretchen E. Diehl**, Mem. Sloan Kettering Cancer Ctr.  
*Commensal regulation of gut immunity to pathogens*

**Kathryn A. Knoop**, Mayo Clin.  
*Early life protection in the intestine*

**Amanda M. Jamieson**, Brown Univ.  
*Polymicrobial lung infections*

**Nichole R. Klatt**, Univ. of Minnesota Med. Sch.  
*Vaginal microbiome and HIV infection*

## Society for Natural Immunity (SNI) Symposium

FRIDAY, MAY 12 • 12:30 PM – 2:30 PM

### *NK Cells and ILCs in Cancer*

LEVEL 1, ROOM 102AB

#### Chairs

**Todd A. Fehniger**, Washington Univ. Sch. of Med. in St. Louis

**Mariapia A. Degli-Eposti**, Monash Univ., Australia

#### Speakers

**Karl-Johan Malmberg**, Univ. of Oslo, Norway  
*Transfer learning reveals NK cell states in the tumor  
microenvironment*

**John B. Sunwoo**, Stanford Univ. Sch. of Med.  
*CD103<sup>+</sup> NK cells and cancer*

**Gabriela M. Wiedemann**, Tech. Univ. of Munich, Germany  
*Transcriptional and epigenetic regulation of NK cell  
antitumor functions*

**Heather M. McGee**, City of Hope Nat. Med. Ctr.  
*Radiation-induced innate lymphoid cell activation in the liver  
tumor microenvironment*





# IMMUNOLOGY2023™

THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS

## VISIT THE AAI JOBS BOARD

**A FREE RECRUITING SERVICE FOR IMMUNOLOGY2023™ REGISTRANTS AND EXHIBITORS.  
POST ONLINE AND MEET ON-SITE! [WWW.IMMUNOLOGY2023.ORG/JOBS-BOARD](http://WWW.IMMUNOLOGY2023.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 new postings through April 21, 2023. 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 IMMUNOLOGY2023™ 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 IMMUNOLOGY2023™ at the time of submission.

**Advance postings must be submitted to AAI by April 21, 2023.**

#### ■ ON-SITE POSTINGS

After **April 21, 2023**, employers may still advertise a job on the IMMUNOLOGY2023™ Jobs Board by visiting the AAI Office in the Washington Convention Center between 9:00 AM and 5:00 PM. Ads submitted on-site will be posted on the Jobs Board in the Exhibit Hall.

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**REACH THE MOST QUALIFIED CANDIDATES AND SAVE ON RECRUITING COSTS**

Take advantage of this complimentary hiring opportunity.

# CAREER DEVELOPMENT SESSIONS

IMMUNOLOGY2023™ is pleased to offer the following career development programs. AAI also sponsors a Jobs Board during the meeting.

**FRIDAY, MAY 12 • 9:00 AM – 10:00 AM**

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

LEVEL 2, ROOM 209ABC

### **Chair**

**Ericka Ochoa**, AAI

### **Speaker**

**Derek J. 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!

**FRIDAY, MAY 12 • 11:00 AM – 1:00 PM**

## *Immunology Teaching Interest Group: Enhancing Your Immunology Teaching*

LEVEL 2, ROOM 209ABC

*See page 50 for details.*

**FRIDAY, MAY 12 • 12:00 PM – 2:15 PM**

## *Careers Roundtables and Speed Networking Session*

*Generously supported by the Dept. of Immunobiology, Yale Sch. of Med.*

LEVEL 1, WEST SALON GH

*See page 52 for details.*

**FRIDAY, MAY 12 • 1:00 PM – 2:00 PM**

## *Giving an Effective Media Interview*

LEVEL 2, ROOM 205

*See page 53 for details.*

**SATURDAY, MAY 13 • 9:30 AM – 5:30 PM**

## *NIH Grant Review and Funding Information Room*

LEVEL 2, WEST OVERLOOK

NIH program and review staff will be available in the NIH Grant Review and Funding Information Room for individual conversations and consultations. A schedule will be posted online at [www.immunology2023.org/careers](http://www.immunology2023.org/careers) and on-site to show specific times staff members will be available to answer questions about the scientific review process, grant/fellowship opportunities, and NIH institute-specific interests. Consultations will be available on a drop-in basis. No appointments are necessary.

**SATURDAY, MAY 13 • 10:15 AM – 11:15 AM**

## *Interviewing for a Job*

LEVEL 2, ROOM 209ABC

### **Chair**

**Ericka Ochoa**, AAI

### **Speaker**

**Derek J. 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!

**SATURDAY, MAY 13 • 11:45 AM – 1:15 PM**

## ***Careers in Science Lecture and Roundtables***

LEVEL 1, WEST SALON GH

*See page 51 for details.*

**SATURDAY, MAY 13 • 12:30 PM – 2:30 PM**

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

LEVEL 2, ROOM 209ABC

### **Chair**

**Alok Mulky**, Center for Scientific Review (CSR), NIH

### **Panelists**

**Timothy Gondre-Lewis**, NIAID, NIH

**Lillian Kuo**, NCI, NIH

**Xinrui Li**, 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 14 • 8:30 AM – 10:00 AM**

## ***Sip and Learn: Speed Networking with Immunology Educators***

LEVEL 1, WEST SALON G

*See page 52 for details.*

**SUNDAY, MAY 14 • 9:30 AM – 5:30 PM**

## ***NIH Grant Review and Funding Information Room***

LEVEL 2, WEST OVERLOOK

NIH program and review staff will be available in the NIH Grant Review and Funding Information Room for individual conversations and consultations. A schedule will be posted online at [www.immunology2023.org/careers](http://www.immunology2023.org/careers) and on-site to show specific times staff members will be available to answer questions about the scientific review process, grant/fellowship opportunities, and NIH institute-specific interests. Consultations will be available on a drop-in basis. No appointments are necessary.

**SUNDAY, MAY 14 • 10:15 AM – 12:15 PM**

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

*Generously supported by BD Biosciences*

LEVEL 2, ROOM 209ABC

*See page 51 for details.*

**MONDAY, MAY 15 • 9:00 AM – 10:00 AM**

## ***How to Have a Successful Postdoctoral Experience***

LEVEL 1, ROOM 102AB

### **Chair**

**Mary T. Litzinger**, AAI

### **Speaker**

**Lori Conlan**, Office of Intramural Training and Education (OITE), NIH

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.

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



# POSTER SESSIONS AND BLOCK SYMPOSIA

Abstracts of unpublished, original research are slated for presentation at **IMMUNOLOGY2023™** 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 2,000 authors will be present at **IMMUNOLOGY2023™** to discuss their most recent work, network with colleagues, and explore the latest developments in their field.

Poster session details can be found on the mobile app and on [www.immunology2023.org/posters](http://www.immunology2023.org/posters).

## Daily Unopposed Poster Session Hours

**FRIDAY, MAY 12 – SUNDAY, MAY 14**

2:30 PM – 3:45 PM

# SCHEDULE OF BLOCK SYMPOSIA

Block sessions and speakers' details are available at [www.immunology2023.org](http://www.immunology2023.org) and in the mobile app. For mobile app download instructions, see page 18.

## THURSDAY, MAY 11 • 2:00 PM – 4:00 PM

B Cell and T Helper Cell Responses during Viral Infections  
Epithelial-Associated Immune Responses  
Immune Responses to Microbial, Parasitic, and Fungal Infections  
Immune Therapy in Cancer  
Innate Immune Responses and Host Defense  
Innate Sensing and Disease  
Metabolic and Gut Microbiota Effects on Autoimmunity  
Myeloid Cells in Cancer Hosts I  
Vaccination and Vaccine-Induced Responses against Pathogens at Target Sites

## FRIDAY, MAY 12 • 8:00 AM – 10:00 AM

Adaptive Responses at the Mucosa  
Approaches to Improve Vaccination and Immunotherapy Against Pathogens  
Cytokine and Chemokine Control of Cellular Immunity  
Epigenetic, Transcriptional, and Post-transcriptional Regulation of Autoimmunity  
Epigenetic and Metabolic Regulation of Immune Responses  
Technological Innovations in Immunology: Immune Responses and Tissue Microenvironments  
Transplant Immunology: From Alloreactivity to Immunoregulation  
Tumor Cellular Therapy

## FRIDAY, MAY 12 • 10:15 AM – 12:15 PM

CD8<sup>+</sup> T Cell-Mediated Immunity to Viral Infections  
Captivating Immunological Findings from Amphibians, Fish, and Chickens to Mammals  
Immunometabolism and Anti-tumor Immunity  
Non-immune Therapy in Cancer  
Regulation of Cytotoxic Lymphocytes during Infection  
Regulators of Lymphocyte Fate and Activation

## FRIDAY, MAY 12 • 12:30 PM – 2:30 PM

Cytokines and Vaccines for the Treatment of Cancer  
Emerging Approaches in Oncology and Autoimmunity  
Express Yourself: Molecular Events in Antigen Presentation  
Vascular and Pulmonary Immunology

## FRIDAY, MAY 12 • 3:45 PM – 5:45 PM

Being Schooled: New Strategies for Immunology Education  
Food Allergy, Atopic Skin, and Mast Cells  
Halt! Regulation of Lymphocyte Signaling  
Immune Responses in the Respiratory Tract  
Molecular Regulation of Innate Immunity  
Myeloid Cells in Cancer Hosts II  
T Cells in Cancer: From Memory to Exhaustion



# FLOW CYTOMETERS & AUTOMATION

## future-proof instrumentation

*backed by our anti-obsolescence guarantee*



## configurable and upgradeable

*up to 6 lasers, 30 parameters*

## 24/7 unattended automation

*24, 96, 384-well plate compatibility  
full environmental control + shaking  
modular and third-party compatible*

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*for our entire suite of products*

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*Our high-performance, industry-leading flow cytometers and automation are configurable, scalable, and upgradeable.*

*We back our flow cytometers, A600 HTAS, and A710 HTH with our standard two-year warranty and, for more than a decade, we have complimented our robust instrumentation with our proven industrial IoT service model to solve 95% of issues remotely in minutes.*

**SATURDAY, MAY 13 • 8:00 AM – 10:00 AM**

Cellular Mechanisms of Immune Response Regulation:  
B Cell Responses and Immunity in the Skin

Controlling Immune Responses to Microbial, Parasitic, and  
Fungal Infections: Inflammation and Vaccination

Immune Cell Drivers of Human Disease

Regulation of B Cells and Role of Antibodies in Autoimmunity

**SATURDAY, MAY 13 • 10:15 AM – 12:15 PM**

Wasting Thyme: Thymus Function in Health and Disease

Big Data and Tumor Immunology

Infectious Etiology of Diseases

Metabolic and Migratory Pathways of Leukocytes  
in Inflammation

The Tumor Microenvironment: Novel Immune Checkpoints  
and Mechanisms of Immune Suppression

**SATURDAY, MAY 13 • 12:30 PM – 2:30 PM**

Barrier Inflammation and Repair

Location, Location, Location: Cancer, Skin, Neurology,  
and Immunology

Mechanisms of Viral Sensing and Innate Immune Responses

Molecular Mechanisms of Cytokine Function

Technological Innovations in Immunology: Identifying,  
Modulating, and Modeling Immune Responses

**SATURDAY, MAY 13 • 3:45 PM – 5:45 PM**

Diet/Microbiome and Metabolites in Health

Host-Microbiota Crosstalk

Innate Immune Signal Transduction Pathways  
during Infection

Innate Lymphocytes in Cancer

Innovations in the Manipulation of T Cells for Treating  
Autoimmune Diseases (*Generously supported by JDRF*)

Into the Groove: Antigen Processing and Presentation

Novel Therapeutic Targets for Controlling Immune Responses  
and Dampening Inflammation

Regulatory T Cell and Macrophage Function in Health  
and Disease

Vaccination against Pathogens at Different Stages of Life  
and Disease

**SUNDAY, MAY 14 • 8:00 AM – 10:00 AM**

Cellular Responses to Microbial, Parasitic,  
and Fungal Infection

Lymphocyte Fate, Maintenance, and Activation

Pathogenesis to SARS-CoV-2 Infection

T Cell Responses in Autoimmune Disease (*Generously  
supported by JDRF*)

**SUNDAY, MAY 14 • 10:15 AM – 12:15 PM**

Developing Your Bloody Immune System

Hyper Airways

Immunity to SARS-CoV-2

Molecular Mechanisms of Lymphocyte Responses:  
Differentiation, Age, Exhaustion, and Memory

**SUNDAY, MAY 14 • 3:45 PM – 5:45 PM**

Environmental Influences: Sex, Pregnancy, Diet, and T Cells

Immune Checkpoint Blockade and CAR T/T Cell Therapy for  
Cancer Treatment

Immune Mechanisms of Human Disease: Autoimmunity

Innate Immune Activities in the Tissue Microenvironment

Innate Immunity, Infection, and Autoimmunity

Metabolic and Dietary Strategies to Treat Immune Diseases

Regulation of Protective T Cell Immunity in Cancer

The Tumor Microenvironment: Mechanisms of Tumor  
Growth and Metastasis







IMMUNOLOGY2023™

# GALA

**SUNDAY, MAY 14 • 7:00 PM – 10:00 PM**

NATIONAL MUSEUM OF AMERICAN HISTORY

*Constitution Avenue between 12th and 14th Streets, NW, Washington, DC*

## JOIN US

**in one of the most-visited DC museums, which houses highly acclaimed exhibitions that tell the extraordinary story of the American people.**

Attendees will see exhibits such as the Star-Spangled Banner; The American Presidency; First Ladies; The Price of Freedom; and America On the Move, which features objects ranging from Thomas Jefferson's lap desk, Kermit the Frog, George Washington's uniform, Dorothy's ruby slippers, to the first car to cross the United States, and thousands more.\*

Attendees will have the rare opportunity to see items from the Objects Out of Storage Collection related to medical science and immunology. This is a one-on-one, close-up informal look at a collection of historical objects. To get a greater sense of these collections, visit [american-history.si.edu/collections/object-groups/antibody-initiative](https://american-history.si.edu/collections/object-groups/antibody-initiative).

*Attendance details are available during the online registration process. Attendees must be 21 years of age or older.*

*\*Please note that objects can rotate in and out of exhibition so we cannot guarantee that all items listed will be on display for the event.*



SPONSORED BY





# SOCIAL EVENTS

## New Member Reception (By Invitation Only)

Generously supported by BD Biosciences and sponsored by the Membership Committee

THURSDAY, MAY 11 • 4:00 PM – 4:45 PM

### (BADGE AND INVITATION REQUIRED)

Are you a new AAI Regular, Associate, or Postdoctoral Fellow member? Please join us for a special reception welcoming you to AAI and perhaps your very first AAI annual meeting! AAI President Mark Davis will say a few words, and you will have the opportunity to meet and mingle with AAI Council members, AAI staff, members of the Membership Committee, and other fellow new members! *Light refreshments will be served.*

## IMMUNOLOGY2023™ Opening Night Welcome Reception

THURSDAY, MAY 11 • 6:15 PM – 7:30 PM

LEVEL 3, OUTSIDE OF BALLROOM AB

### (BADGE REQUIRED)

Following the President's Address, join the **Opening Night Welcome Reception** in the convention center. Connect with friends, make new acquaintances, plan your week, and enjoy beautiful views of our nation's capital city. One complimentary drink is included.

*Attendees must be 21 years of age or older.*



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

Sponsored by the MAC

FRIDAY, MAY 12 • 8:00 PM – 9:30 PM

### (BADGE AND INVITATION REQUIRED)

One of the most important and meaningful aspects of the annual meeting is connection! The MAC Social Hour is an evening gathering for participants in the annual MAC Careers Roundtables session to reconvene for relaxed, informal networking. Soft drinks and hors d'oeuvres will be served. *Invitations will be issued to meeting attendees registered to attend the MAC Careers Roundtables and Speed Networking Session.*

## AAI President's Service Appreciation Reception (By Invitation Only)

Generously supported by BioLegend

SATURDAY, MAY 13 • 7:30 PM – 10:00 PM

The annual President's Service Appreciation Reception is hosted by the AAI President in honor of the dedicated volunteers who give generously of their time to serve the association as committee chairs and members, journal editors, and in other crucial roles.

## IMMUNOLOGY2023™ Gala

Generously supported by BioLegend

SUNDAY, MAY 14 • 7:00 PM – 10:00 PM

NATIONAL MUSEUM OF AMERICAN HISTORY

### (BADGE REQUIRED)

The **IMMUNOLOGY2023™ Gala** will be held at the National Museum of American History. Attendees will have the opportunity to view highly acclaimed exhibitions that tell the extraordinary story of the American people, including the Star-Spangled Banner; The American Presidency; First Ladies; The Price of Freedom; and America On the Move, which features objects ranging from Thomas Jefferson's lap desk, Kermit the Frog, George Washington's uniform, Dorothy's ruby slippers, to the first car to cross the United States, and thousands more.\*

*Attendance details are available during the online registration process. Attendees must be 21 years of age or older.*

*\*Please note that objects can rotate in and out of exhibition so we cannot guarantee that all items listed will be on display for the event.*

## POSTER SESSIONS

All accepted abstracts of unpublished, original research are scheduled for presentation in Poster Sessions.

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 2,000 authors will be present at **IMMUNOLOGY2023™** to discuss their most recent work, network with colleagues, and find the latest developments in their field.

### *Daily Unopposed Poster Session Hours*

**FRIDAY, MAY 12 – SUNDAY, MAY 14**

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 [bit.ly/3Ya5jxU](https://bit.ly/3Ya5jxU).

### *Exhibit Hall Hours*

**FRIDAY, MAY 12**

9:30 AM – 4:30 PM

**SATURDAY, MAY 13**

9:30 AM – 4:30 PM

**SUNDAY, MAY 14**

9:30 AM – 4:00 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 Sunday, May 14, at 2:30 PM. The drawing will be held during the Poster Sessions on Sunday, May 14, from 2:30 PM – 3:45 PM. You can find your Passport in your meeting bag, or you may pick one up at the AAI Booth 5025.

## 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.*

## SPECIAL ACTIVITIES AT THE AAI BOOTH

Visit the AAI Booth 5025 for the following activities throughout **IMMUNOLOGY2023™**. Coffee will also be offered during these times!

### **FRIDAY, MAY 12 • 2:30 PM – 3:45 PM**

- Meet the *ImmunoHorizons* Editor-in-Chief Mark H. Kaplan.
- Meet with AAI President Mark M. Davis and the Membership Committee.
- Meet the AAI Public Policy Fellows and discover why YOU should be our next Fellow.

### **SATURDAY, MAY 13 • 2:30 PM – 3:45 PM**

- Meet *The Journal of Immunology* Editor-in-Chief Eugene M. Oltz.
- Ideas for sessions on bench to bedside? Discuss with Clinical Immunology Committee members.

### **SUNDAY, MAY 14 • 2:30 PM – 3:45 PM**

- Meet the AAI Public Policy Fellows and discover why YOU should be our next Fellow.
- Meet Minority Affairs Committee (MAC) members and learn about MAC activities.
- Meet with Program Committee members and suggest sessions for **IMMUNOLOGY2024™**.



# IMMUNOLOGY2023™

THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS

## VISIT AAI AT BOOTH 5025

### Visit AAI at Booth 5025 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
- enjoy a cup of coffee between 1:45 PM–2:15 PM
- participate in special activities (see the schedule below)
- pick up your AAI swag!

### Check Out These Booth Activities!

**FRIDAY, MAY 12 • 2:30 PM – 3:45 PM**

- Meet ***ImmunoHorizons*** Editor-in-Chief Mark H. Kaplan.
- Meet with AAI President Mark M. Davis and **Membership Committee** members.
- Meet the **AAI Public Policy Fellows** and discover why YOU should be our next Fellow.

**SATURDAY, MAY 13 • 2:30 PM – 3:45 PM**

- Meet ***The JI*** Editor-in-Chief Eugene M. Oltz.
- Ideas for sessions on bench to bedside? Discuss with **Clinical Immunology Committee** members.

**SUNDAY, MAY 14 • 2:30 PM – 3:45 PM**

- Meet the **AAI Public Policy Fellows** and discover why YOU should be our next Fellow.
- Meet **Minority Affairs Committee (MAC)** members and learn about MAC activities.
- Suggest sessions for IMMUNOLOGY2024™ to **Program Committee** members.



# AAI MEETINGS

## WEDNESDAY, MAY 10

*By Invitation Only*

### COUNCIL MEETING

12:00 PM – 6:00 PM

## THURSDAY, MAY 11

*All by Invitation Only*

### COUNCIL MEETING

8:00 AM – 12:00 PM

### MEMBERSHIP COMMITTEE MEETING

12:00 PM – 2:00 PM

### COMMITTEE ON PUBLIC AFFAIRS MEETING

12:30 PM – 4:00 PM

### NEW MEMBER RECEPTION

*Sponsored by the AAI Membership Committee*

4:00 PM – 4:45 PM

### AAI PUBLIC POLICY FELLOWS PROGRAM DINNER

*Sponsored by the AAI Committee on Public Affairs*

7:30 PM – 10:00 PM

## FRIDAY, MAY 12

*Open to All Registered Attendees*

### BUSINESS MEETING AND AWARD PRESENTATIONS

8:00 AM – 9:30 AM, ROOM 202B

*By Invitation Only*

### THE AAI JOURNALS EDITORIAL BOARDS

### DINNER MEETING

7:45 PM – 10:00 PM

## SATURDAY, MAY 13

*All by Invitation Only*

### MINORITY AFFAIRS COMMITTEE MEETING

7:00 AM – 9:00 AM

### VETERINARY IMMUNOLOGY COMMITTEE MEETING

7:00 AM – 9:00 AM

### EDUCATION COMMITTEE MEETING

8:00 AM – 10:00 AM

### FINANCE COMMITTEE MEETING

2:00 PM – 3:30 PM

## MONDAY, MAY 15

*All by Invitation Only*

### PUBLICATIONS COMMITTEE MEETING

8:30 AM – 10:30 AM

### CAPITOL HILL DAY TRAINING

10:00 AM – 11:30 AM

### CAPITOL HILL DAY

11:30 AM – 5:00 PM

### PROGRAM COMMITTEE MEETING

11:45 AM – 12:45 PM



# ABSTRACT PROGRAMMING CHAIRS

AAI gratefully acknowledges the efforts of the Abstract Programming Chairs for **IMMUNOLOGY2023™**.

## Antigen Processing and Presentation

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*NIH, NIAID*

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## Basic Autoimmunity

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## Cellular Adhesion, Migration, and Inflammation

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**Charlotte M. Vines**  
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## Corporate Immunology

**Joanne L. Viney**  
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*Seismic Therapeut.*

**Deborah A. Witherden**  
Senior Scientist  
*Lassen Therapeut.*

## Cytokines and Chemokines and Their Receptors

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*NIAID, NIH*

**Nevil J. Singh**  
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*Univ. of Maryland*

## Hematopoiesis and Immune System Development

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## Immune Mechanisms of Human Disease

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## Immune Response Regulation: Cellular Mechanisms

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## Immune Response Regulation: Molecular Mechanisms

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## Immunology Education

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## Innate Immune Responses and Host Defense: Cellular Mechanisms

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## Lymphocyte Differentiation and Peripheral Maintenance

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## Microbial, Parasitic, and Fungal Immunology

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## Therapeutic Approaches to Autoimmunity

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THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS



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# IMMUNOLOGY2023™

THURSDAY, MAY 11 – MONDAY, MAY 15, 2023

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## AAI TRAVEL AWARDS RECIPIENTS



### **Pfizer-Showell Award**

**Carla Nowosad, Ph.D.**

*Assistant Professor,  
New York Univ.*



### **Lefrançois-BioLegend Memorial Award**

**Alexandria Wells, Ph.D.**

*Postdoctoral Fellow,  
NIAID, NIH*



### **Lustgarten-Thermo Fisher Scientific Memorial Award**

**Jianmei W. Leavenworth,  
M.D., Ph.D.**

*Associate Professor, Univ.  
of Alabama at Birmingham*



### **Chambers-Thermo Fisher Scientific Memorial Award**

**Sepideh Dolatshahi,  
Ph.D.**

*Assistant Professor, Univ.  
of Virginia Sch. of Med.*

### **AAI-Thermo Fisher Trainee Achievement Awards**

**Tanushree Dangi, Ph.D.**

*Postdoctoral Fellow, Northwestern Univ.*

**Chin Yee Tan**

*Graduate Student, Duke Univ. Sch. of Med.*

**Andrew G. Harrison**

*Graduate Student, UConn Health*

**Sonya J. Wolf-Fortune, Ph.D.**

*Postdoctoral Fellow, Univ. of Michigan*

**Fiona A. Raso**

*Graduate Student, Univ. of Massachusetts Med. Sch.*

**Insha Zahoor, Ph.D.**

*Postdoctoral Fellow, Henry Ford Health*



# TRAINEE ABSTRACT AWARDEES

Awarded to AAI Trainee Members whose first-author abstracts are selected for presentation in AAI Block Symposia.

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Boston Children's Hosp.

**Danni Zhu**  
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Awarded to AAI Trainee Members whose first-author abstracts are deemed exceptional among abstracts selected exclusively for poster presentation.

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**Gabriel Arellano, Ph.D.**  
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**Erica Budina**  
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**Jason Burchett**  
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**Maria Del Carmen Camarena**  
Virginia Commonwealth Univ.

**Rebecca Clements, Ph.D.**  
Univ. of Pennsylvania

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Ben Gurion Univ. of the Negev, Israel

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These grants support early career investigators (assistant professors or equivalents) in attending the AAI annual meeting.

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**Hui Zhang, Ph.D.**  
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**Xin Zhang, M.D., Ph.D.**  
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**Nadeem Fazal, M.D., Ph.D.**  
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**Lee Ann Garrett-Sinha, Ph.D.**  
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Ulster Univ., United  
Kingdom

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**Jennifer B. Hernandez, Ph.D.**  
Keck Grad. Inst.

**Hai Huang, M.D.**  
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**Pooja Jain, Ph.D.**  
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**Jay Reddy, Ph.D.**  
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Seattle Children's Res. Inst.

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**Bolaji N. Thomas, Ph.D.**  
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**Fengyi Wan, Ph.D.**  
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Ewha Woman's Univ.,  
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**Wei-Ping Zeng, Ph.D.**  
Therazwimm Corp.

**Ming Zhang, M.D., Ph.D.**  
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These grants support undergraduate faculty at all career stages and their undergraduate students in attending the AAI annual meeting.

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**Raffaella Ghittoni, Ph.D.**

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**Ashwini Kucknoor, Ph.D.**

Lamar Univ.

**Chris A. Mares, Ph.D.**

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**Abigail R. Morales, Ph.D.**

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**Sophia D. Sarafova, Ph.D.**

Davidson Col.

**Rebekah T. Taylor, Ph.D.**

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Mongolian Natl. Univ. of Med. Sci., Mongolia

**Crystal C. Walline, Ph.D.**

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These awards support underrepresented minority scientists, including trainees and early career faculty members, in attending the AAI annual meeting.

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**Michelle A. Cruz**

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**Judith Cruz Amaya**

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**Kristen De La Torre**

California State Polytechnic Univ., Pomona

**Guido H. Falduto, Ph.D.**

Univ. of Pittsburgh

**Valeria Flores Malavet**

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**Joanina K. Gicobi**

Mayo Clin.

**Francisco Gomez-Rivera**

Univ. of Michigan

**Nina Mari Gual Pimenta de Queiroz, Ph.D.**

Fed. Univ. of Minas Gerais, Brazil

**Kamila Guimaraes Pinto, Ph.D.**

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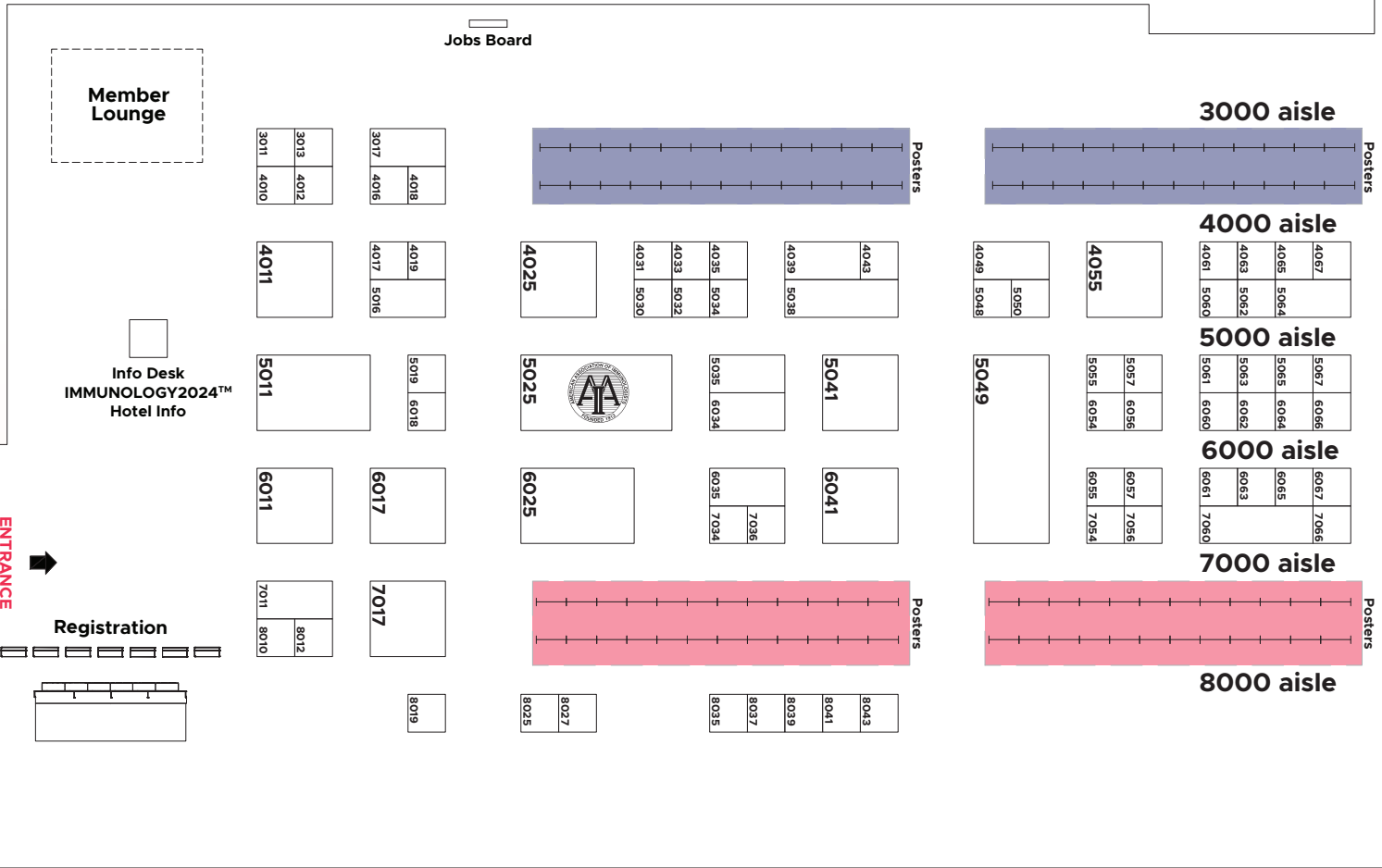
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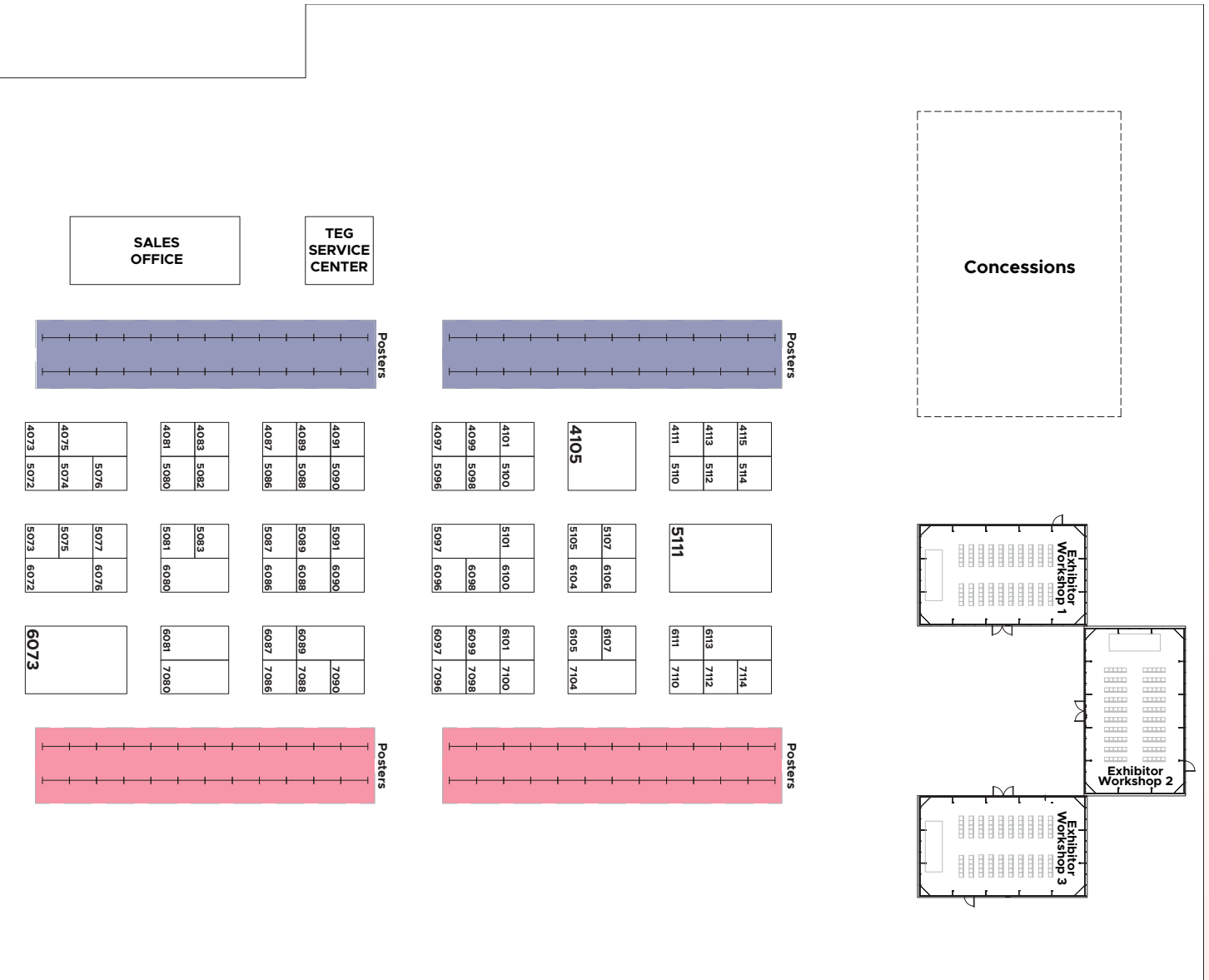


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## Cellular Technology Limited

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## Cepharm Life Sciences, Inc.

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## Gene Tools, LLC

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## Hycult Biotech, Inc.

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## ibidi USA, Inc.

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The Immune Epitope Database and Analysis Resource (IEDB) is a free online resource supported by NIAID. The IEDB ([www.iedb.org](http://www.iedb.org)) contains data on B and T cell epitopes for humans, non-human primates, rodents, and other animal species. Curation of peptidic and non-peptidic epitope data for all infectious diseases (except HIV), allergens, autoimmune diseases, and transplantation is current and constantly being updated. The IEDB contains data from over 23,000 references and over 2.1 million epitopes. Its Analysis Resource hosts tools to analyze data and predict T and B cell epitopes.

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## International Cytokine & Interferon Society (ICIS)

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Quidel's MicroVue products are a well-established name in immune system monitoring and assays for the assessment of complement activation. With a proprietary panel of complement-related assays, industry-leading production, and quality technology, plus world-class technical support, Quidel is dedicated to supplying high-value diagnostic and research tools. The product list is extensive in these areas, offering ELISA assays, proteins, monoclonal and polyclonal antibodies, depleted sera, controls, and special reagents.

## Rapid Lab

BOOTH 5080

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## RayBiotech, Inc.

BOOTH 7080

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RayBiotech, Inc., is the pioneer of the planar cytokine array, focusing on customizable glass chip and membrane-based multiplex immunoassays. At the heart of these technologies lies the world's largest library of sandwich array-validated antibodies, allowing researchers to profile up to 1,000 proteins concurrently, or as few as five proteins in a highly cost-effective manner. RayBiotech also manufactures over 3,000 ELISA kits and offers a full spectrum of CRO services and custom assay development. RayBiotech is an ISO- and CLIA-certified company.

## Research Diets, Inc.

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Research Diets, Inc., formulates and produces purified OpenSource® Diets for laboratory animals. Our Resource Center is staffed with scientists who consult with customers around the world on diet formulations. Custom diets shipped in five to seven days. BioDAQ® Food and Liquid Intake Monitor for mice and rats mounts to home cage, records the time, duration, amount of each meal automatically. Automated gate is programmable by time or amount consumed. BioDAQ NHP monitors food intake of socially housed NHPs. Scientists Helping Scientists Control Their Research.

## RWD Life Science

BOOTH 5107

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[www.rwdstco.com](http://www.rwdstco.com)

Since 2002, RWD Life Science has been one of the world's leading manufacturers of laboratory instrument for life science researches. We specialize in producing animal surgery and modeling solution; *in vivo* imaging solution, histopathology solution, cellular and molecular biology research solution for researchers around the world. For more information, please visit [www.rwdstco.com](http://www.rwdstco.com) or e-mail us at [market@rwdstco.com](mailto:market@rwdstco.com).

## Sarstedt, Inc.

BOOTH 5060

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SARSTEDT is a worldwide provider of specimen collection products, medical devices, and laboratory consumables. Products for immunology include ELISA plates, RIA and scintillation vials, and sample cups. Order SARSTEDT labware online at our webshop: [www.shop.sarstedt.us](http://www.shop.sarstedt.us). If your institution has pricing discounts, request an account upgrade to link your account.

## Sartorius

BOOTH 6072

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We empower scientists and engineers to simplify and accelerate progress in life science and bioprocessing, enabling the development of new and better therapies and more affordable medicine. Our Life Science Research portfolio delivers products and services to support academia, biotechnology, and the pharmaceutical industry. Our focus on drug discovery and cell biology is supported by innovative solutions for cell analysis, weighing applications, sample preparation, and related services. Our portfolio helps researchers meet their goals for reliability and reproducibility.

## Science/AAAS

BOOTH 3011

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

Since 1848, AAAS and its members have worked together to advance science and serve society. As part of these efforts, AAAS publishes *Science*, a multidisciplinary peer-reviewed journal, *Science Advances*, an open-access online journal, *Science Immunology*, *Science Robotics*, *Science Signaling*, and *Science Translational Medicine*. AAAS also offers programs focused on science policy, international cooperation, science education, diversity, and career development for scientists.

## Serimmune, Inc.

BOOTH 6064

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[www.serimmune.com](http://www.serimmune.com)

Serimmune is an immune intelligence company focused on identifying and exploiting the universe of relationships between antibodies and antigens. Our proprietary technology provides a holistic view of the circulating antibody repertoire to identify diverse immunogenic factors in disease and health. Serimmune's human immunity map is a growing database that can be interrogated to fuel the development of multiplex diagnostics, vaccines and therapeutics.

## Shanghai Model Organisms Center

BOOTH 6106

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[www.modelorg.com/en](http://www.modelorg.com/en)

Shanghai Model Organisms Center (SMOC) is a leading life science company based in Shanghai, China. Established in 2000, SMOC is dedicated to the research and development of genetically engineered mouse models and CRO service. SMOC provides a wide range of services, including genetic engineering, mouse breeding and cryopreservation, and phenotypic analysis. SMOC's genetically-engineered mice have been widely used in biomedical research for drug discovery, disease modeling, and other applications. With a commitment to quality and innovation, SMOC has become a trusted partner for researchers worldwide.

## Sino Biological

BOOTH 6088

1400 Liberty Ridge Dr., Ste 101  
Wayne, PA 19087  
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[www.sinobiological.com](http://www.sinobiological.com)

Sino Biological is an international reagent supplier and service provider specializing in recombinant protein production and antibody development. All of Sino Biological's products are independently developed and produced, including recombinant proteins, antibodies, and cDNA clones. Sino Biological is the researchers' one-stop technical services shop for the advanced technology platforms they need to make advancements. In addition, Sino Biological offers pharmaceutical companies and biotechnology firms pre-clinical production technology services for hundreds of monoclonal antibody drug candidates.

## SomaLogic Operating Company

BOOTH 6097

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SomaLogic has revolutionized aptamer-based proteomics. Our pioneering platform provides more coverage of the proteome than any other technology. With more coverage comes better insights, smarter decisions, improved outcomes, and better healthcare. SomaLogic is an industry leader in high-plex proteomics, adding new analytes and developing innovative ways to advance your work every single day.

[WWW.IMMUNOLOGY2023.ORG](http://WWW.IMMUNOLOGY2023.ORG)

## Sony Biotechnology, Inc.

BOOTH 4025

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Sony Biotechnology, Inc., is dedicated to helping the scientific community, researchers, laboratory professionals, and institutions achieve the best scientific results possible. By leveraging Sony's comprehensive expertise in electronics innovation and design, and with our technological assets, we are accelerating development of next-generation cell analysis systems. We bring a unique perspective to science's high-level instrumentation and are creating innovative products to address our customer's challenges.

## St. Jude Children's Research Hospital

BOOTH 4083

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[www.stjude.org/postdoc](http://www.stjude.org/postdoc)

St. Jude Children's Research Hospital is a nonprofit biomedical research institution where cutting-edge basic research is rapidly translated into groundbreaking treatments for childhood life-threatening diseases. Immunology research is a pillar of our multi-disciplinary programs, with training opportunities in immunotherapy, adaptive and innate immunity, apoptosis, autophagy, inflammation, T cell biology, and infectious diseases. Visit Booth 4083 to discuss postdoctoral research opportunities. Contact us at [postdoc@stjude.org](mailto:postdoc@stjude.org) or visit our website.

## STEMCELL Technologies, Inc.

BOOTH 4011

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[www.stemcell.com](http://www.stemcell.com)

Driven by science and a passion for quality, STEMCELL Technologies provides cell isolation products, specialized cell culture media, primary cells, and supporting reagents for immunology research. Our popular EasySep™ platform is the fastest and easiest cell separation technology available for the isolation of untouched, highly purified, functional human and mouse immune cells, including T cells, B cells, and monocytes. To learn more about how STEMCELL



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## Studylog Systems

BOOTH 5019

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Email: [sales@studylog.com](mailto:sales@studylog.com)  
[www.studylog.com](http://www.studylog.com)

Studylog's new Animal Study Workflow Suite® software intuitively manages the entire study workflow for labs of any size, reducing study labor by half or more. Studylog streamlines the entire animal study process, so researchers can easily design studies, make templates, acquire data, and schedule/track tasks and measurements. It is specifically designed for automating easy design, planning, execution, analysis, and reporting of inflammation studies. Data is standardized, protected, and searchable for future use. Twelve of the world's top twenty pharma companies use Studylog.

## Taconic Biosciences

BOOTH 5089

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Taconic Biosciences is a global leader in genetically engineered rodent models and services. Founded in 1952, Taconic provides the best animal solutions so that customers can acquire, custom-generate, breed, precondition, test, and distribute research models worldwide. Specialists in genetically engineered murine models, microbiome, immuno-oncology mouse models, and integrated model design and breeding services, Taconic operates service laboratories and breeding facilities in the United States and Europe, maintains distributor relationships in Asia, and global shipping to almost anywhere in the world.

## The Immunology Podcast

BOOTH 5090

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[www.immunologypodcast.com](http://www.immunologypodcast.com)

Launched in 2021, *The Immunology Podcast* is an accessible and entertaining resource that allows scientists to stay current with the latest developments in immunology research. Listen bi-weekly as hosts Drs. Brenda Raud and Jason Goldsmith discuss recent publications and talk with

immunologists about their research and perspectives on the field. *The Immunology Podcast* is owned and produced by STEMCELL Technologies as part of its commitment to helping scientists stay current and connected with science and with each other. *The Immunology Podcast* is available wherever you get your podcasts.

## The Jackson Laboratory

BOOTH 6034

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The Jackson Laboratory (JAX) is an independent, nonprofit biomedical research institution based in Bar Harbor, Maine, with a facility in Sacramento, California, and a genomic medicine institute in Farmington, CT. With mouse models that span the genetic spectrum, online research databases, and target validation and drug efficacy services, JAX empowers researchers to better understand the mechanisms of infection and identify novel treatment strategies. For more information about our services for immunology, immuno-oncology, auto-immunity, and inflammation research, please visit our website.

## The Journal of Immunology

BOOTH 5025

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*The Journal of Immunology* (*The JI*), owned and published by AAI, is the most-cited immunology journal. *The JI* publishes peer-reviewed manuscripts describing novel findings in all areas of experimental immunology, including both basic and clinical studies. The editorial board of *The JI* is made up of practicing scientists. Come meet *The Journal of Immunology* Editor-in-Chief Eugene Oltz at the booth on Sunday, May 14, 2:30 – 3:45 PM.

## The Lab People, Inc.

BOOTH 5062

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The Lab People, Inc., has been working with laboratories nationwide since 1956 and is an industry leader in laboratory equipment, consumables, and calibration services. We specialize in quality calibration and repair services on balances, pipettes, scales, moisture analyzers, thermometers, test weights, as well as a variety of additional laboratory equipment. All of our services are ISO/IEC 17025 and GLP/GMP accredited. The Lab People, Inc., also offers a variety of Sartorius lab products and consumables including precision laboratory balances, ergonomic pipettes, syringe filters, centrifugal concentrators, filter paper, and a variety of other lab consumables. Call us today for a free quote and let us show you how The Lab People, Inc., can help your laboratory. The Lab People, Inc. is proud to be Small Business Veteran Owned.

## The MOG Project

BOOTH 6101

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The MOG Project is a nonprofit, patient-led organization devoted to raising awareness for Myelin Oligodendrocyte Glycoprotein Antibody Disease (MOGAD). Our organization provides education for patients, caregivers, and medical professionals. In addition, we provide support to those struggling with this disease and have built a global network to bridge the gap between patients and researchers. These activities ultimately lead to improved quality of life for those afflicted with this life-changing disease. We have laid the groundwork for our community outreach with our website, social media presence, and virtual support groups. We have also built a large Medical Advisory Board of the top clinicians and researchers in MOGAD around the world.

## Thermo Fisher Scientific

BOOTH 5011

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Thermo Fisher Scientific forwards research, manufacturing, analysis, discovery, and diagnostics concerning immune cell function. Our immunology portfolio includes immunology antibodies, cytokines and chemokines, immunoassays, analytical instruments, equipment, reagents, and consumables. Through our premier brands—Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific and Unity Lab Services—we offer an unmatched combination of innovative technologies, purchasing convenience and comprehensive services.

## ThinkCyte Inc.

BOOTH 6104

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We are excited to be launching our new VisionSort™ Platform. VisionSort uses Ghost Cytometry to fuel your immunotherapy R&D programs with an all-in-one system that combines ultrafast digital data acquisition, artificial intelligence, and gentle label-free cell sorting. Now you can characterize and isolate live phenotypically defined immune cells, label-free, breaking open the possibilities for your downstream research. Dual-mode fluorescence and morphometric cell sorting. Embedded artificial intelligence. High content profiling data for unbiased discovery.

## Transnetyx, Inc.

BOOTH 5035

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Transnetyx is a world leader in automated genotyping, built on providing researchers and labs worldwide fast, easy, and accurate genotyping for animal models. We stand by our 99.97% accuracy with over 15 million samples. With more than 15,000 lines in our library, getting started is easy. If we do not have your assay, we will make it for you free! Transnetyx reporting gives labs results in 72 hours,

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## Twist Bioscience

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Twist Bioscience is a leading and rapidly growing synthetic biology and genomics company that has developed a disruptive DNA synthesis platform to industrialize the engineering of biology. The core of the platform is a proprietary technology that pioneers a new method of manufacturing synthetic DNA by “writing” DNA on a silicon chip. Twist is leveraging its unique technology to manufacture a broad range of synthetic DNA-based products, including synthetic genes, tools for next-generation sequencing (NGS) preparation, and antibody libraries for drug discovery and development.

## Worthington Biochemical Corp.

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Worthington is a ISO9001-certified, primary source of high-quality purified enzymes, proteins, nucleic acids, and kits for biotech and life science research, immunology, diagnostic, biopharmaceutical, primary and stem cell isolation, and bioprocessing applications. Major products include collagenases, nucleases, proteases, nucleic acids, purified proteins, and primary cell isolation kits. New animal-free collagenases, STEMxyme® collagenase/neutral protease, nucleases, inhibitors, and proteases are also available. Enter to Win an IPAD or receive our New Tissue Dissociation Guide and catalog!

## ZenBio, Inc.

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Zen-Bio is a leading global provider of advanced cell-based solutions and services to the life science, cosmetics, and personal care communities. The company, founded in 1995, was a pioneer in adipose derived stem cells (ASCs) and continues this legacy by providing cutting-edge human primary cell culture products and services.



# EXHIBITOR WORKSHOPS

Speaker disclosures, if any, are published on [www.immunology2023.org/program](http://www.immunology2023.org/program) and are also viewable in the IMMUNOLOGY2023™ mobile app (see download instructions on page 18).

## FRIDAY, MAY 12

### Measuring Immune Activation with the Amnis® High-Throughput Imaging Flow Cytometers and Advanced Machine-Learning Analysis Tools

10:00 AM – 10:45 AM

EXHIBITOR WORKSHOP ROOM 1

**Luminex—A Diasorin Co.**

#### Presenter

Brian Hall, Product Manager, Imaging Flow Cytometry

Imaging flow cytometry is an effective tool for identifying immune responses, including T cell and monocyte activation, and immune synapse formation. However, data analysis from these assays can require a high level of expertise in image analysis software, making it difficult for novice users to execute. Recent advancements in machine learning have dramatically improved the ability of immunologists to gain insights from their experiments. In this workshop, we will highlight the Amnis® AI Image Analysis Software and demonstrate how this powerful tool can be used to automatically identify critical cell phenotypes in your Amnis® ImageStream® X Mk II and FlowSight® Imaging Flow Cytometer data sets.

### Fast Track Antigen Specific B and T Cell Discovery

10:00 AM – 10:45 AM

EXHIBITOR WORKSHOP ROOM 2

**10x Genomics**

#### Presenter

Jose Jacob, Product Manager, Immune Profiling

B and T cells perform a vital function in the adaptive immune system, recognizing cognate antigens, and subsequently triggering an immune response against them. However, isolating antigen-specific B and T cells out of a complex sample with traditional techniques has proved challenging and time consuming for those in drug development. To solve this problem, we developed Barcode Enabled Antigen Mapping (BEAM) to enable easy identification and characterization of antigen-specific B or T cells.

### Spatial Phenotyping: Rapid Comprehensive Phenotyping for Immune Disorders

10:00 AM – 10:45 AM

EXHIBITOR WORKSHOP ROOM 3

**Akoya Biosciences**

#### Presenter

*To be determined*

In this session, invited speakers will demonstrate how high-plex spatial phenotyping analyses are used to provide breakthrough insights into tissue immunology and immune system dysfunction. You will discover how the PhenoCycler®-Fusion System and the PhenoCode™ Discovery Panels enable a rapid workflow for ultra-high plex analysis of varied tissue samples. From applications in COVID pathology to single-cell cancer immunotherapy, find out more about Akoya's solutions that are paving the path towards the identification of novel therapeutic biomarkers and improved patient outcomes.

### Spatial Characterization and Deep Phenotyping of CD8<sup>+</sup> Tumor-Infiltrating Lymphocytes in the Tumor Microenvironment

11:15 AM – 12:00 PM

EXHIBITOR WORKSHOP ROOM 1

**Miltenyi Biotec**

#### Presenter

Elvira Criado-Moronati, Team Coordinator in the Personalized Immunotherapy R&D Department

The success of adoptive cell therapy (ACT) using tumor-infiltrating lymphocytes (TILs) depends on the presence of a sufficient number of tumor-reactive T cell in the final cell product. To enhance the efficacy of ACT, it is necessary to increase the frequency of these cells by introducing an enrichment prior to their *ex vivo* expansion. The use of surface markers based on a tumor-reactive T cell phenotype is an appealing option, as it is independent of the target antigen. In this workshop, we will demonstrate how MICS (MACSima™ Imaging Cyclic Staining), our multiplexed imaging technology, can be utilized to phenotypically characterize TILs in tumor tissues. By using a panel of 98 antibodies, we analyzed the tumor microenvironment (TME) and the phenotype of CD8<sup>+</sup> TILs in close proximity to tumor

cells, which could indicate tumor recognition. Our results confirmed the presence of several cell subsets composing the TME and their spatial distribution in the tissue. CD8<sup>+</sup> TILs located near tumor cells expressed exhaustion markers associated with tumor reactivity, such as CD137, PD-1, CD39, ICOS, and CD103. Further characterization using flow cytometry and single-cell RNA sequencing confirmed the presence of exhausted CD8<sup>+</sup> TILs that co-expressed these markers. We will demonstrate that cutting-edge technologies like MICS can support the advancement of immunotherapies by providing a comprehensive characterization of the TME and a platform for screening T cell markers at protein level to develop enrichment strategies.

## Designing Custom Multiplex Assays to Support Vaccine Development

11:15 AM – 12:00 PM

EXHIBITOR WORKSHOP ROOM 2

**Luminex—A Diasorin Co.**

### Presenters

Joanna Dragich, Ph.D., Scientist III, Applications & Development, and Jackie Surls, Ph.D., Director, Applications & Development

Vaccine development requires precision and reproducibility at every step, from drug product characterization to serotype monitoring, lot-release testing, and post-market surveillance. Using the power of xMAP multiplexing technology, these parameters and more can be evaluated together in a single platform. From early discovery research to clinical diagnostics, xMAP technology can be applied to meet your research needs. This workshop will discuss how to approach designing custom multiplex assays for vaccine development.

## Multi-platform Biomarker Analysis with MILLIPLEX® Multiplex Immunoassays and Single Molecule Counting (SMC®) Technology for Ultrasensitive Protein Detection

11:15 AM – 12:00 PM

EXHIBITOR WORKSHOP ROOM 3

**MilliporeSigma**

### Presenter

Anthony J. Saporita, Ph.D., R&D Manager

Multiplex immunoassays have been critically important for profiling the expression of a wide variety of immunomodulatory proteins, including cytokines, chemokines, growth factors, and complement proteins from small volumes of biological fluid. This presentation will introduce several new immunoassay products from

MilliporeSigma and highlight the advantages of our MILLIPLEX® kits for lot-to-lot consistency, sensitivity, flexibility, and reproducible sample measurement. We will also showcase high-sensitivity SMC® immunoassays for the detection of low-abundance cytokines.

## Unlock the Full Potential for Your CAR NK Cells

12:30 PM – 1:15 PM

EXHIBITOR WORKSHOP ROOM 1

**Miltenyi Biotec**

### Presenter

Jonathon Druge Jr., Immuno-oncology Applications

Natural killer (NK) cells are a promising tool in the fight against cancer. Allogeneic NK cells derived from suitable donors, showed high-clinical safety and impressive clinical outcomes in patients with acute myeloid leukemia (AML). Further engineering of NK cells with chimeric antigen receptors (CARs) bolsters their antitumor activity and mediates the specific killing of tumor cells. But despite substantial advances, unlocking the full therapeutic potential of CAR NK cells requires investigating their limited persistence, proliferation, and impaired *in vivo* antitumor activity. As a longtime trusted partner for cell and gene therapy solutions, Miltenyi Biotec is committed to advancing the CAR NK field. During this workshop, we will showcase how our most recent product developments and complete workflows can effectively advance your research and generate scalable and reproducible results. Get insight on how to isolate functional NK cells directly from your blood products, boost your lentiviral transduction efficiency, easily activate and expand your NK cells, and streamline your in-process and quality control (IPC/QC) methods with our latest flow analysis solutions. Join us and unlock the full potential of your CAR NK cells.

## FlowJo™ Software for High-Dimensional Analysis: New Approaches to Expedite Discovery

12:30 PM – 1:15 PM

EXHIBITOR WORKSHOP ROOM 2

**BD Biosciences**

### Presenter

John Quinn, Ph.D., Director of Science and Product Development, BD Bioinformatics—FlowJo

Join us for a deep dive into algorithmic analysis of Flow Cytometric data. In this talk we will begin with an introduction to the terms and types of algorithms used in computational analysis. We will then push the boundaries by introducing a set of new tools and approaches designed

specifically to make clustering results easier to understand and propagate results to future experiments. We will illustrate this functionality within the framework of a BD® Research Cloud workflow, demonstrating how the full workflow can be streamlined and the results shared easily with collaborators.

## Improve Your Flow Data in Ten Easy Steps

12:30 PM – 1:15 PM

EXHIBITOR WORKSHOP ROOM 3

### Bio-Rad Laboratories

#### Presenters

Mike Blundell, Ph.D., Global Product Manager, and Sharon Sanderson, Ph.D., Global Product Manager

Immunology often relies on flow cytometry to provide the latest data, but how can you obtain high quality data before sharing it with your peers and the scientific community? As flow cytometry experts, Bio-Rad™ understands the many challenges faced when trying to obtain good quality data and a clear result to answer your scientific question. During this presentation, you will learn some top tips for improving your flow data with a focus on immunophenotyping panels. Using example data, including Bio-Rad's new StarBright Dyes™, we will demonstrate that, with considered panel design, careful sample preparation, use of the most appropriate reagents, and adherence to best practices, you can improve your flow data to get clear result. Join us to find out how our ten quick and simple concepts will improve your flow cytometry.

## Ventures Into the Fluorosphere: What Spectral Cytometry Teaches Us About Conventional Cytometry and the Everchanging Topography of the Immunological Landscape

1:45 PM – 2:30 PM

EXHIBITOR WORKSHOP ROOM 1

### Thermo Fisher Scientific

#### Presenter

Kim Lueck, R&D Scientist, Protein & Cell Analysis

High dimensional full spectrum flow cytometry grants access to previously unattainable parameters in cellular immunology. However, spectral cytometry comes with its own idiosyncrasies and unique constraints. In this tutorial, we take a deep dive into a broadly focused human immunophenotyping panel with over 30 parameters to highlight some of the special features and potential pitfalls of spectral panel design. A demonstration of how such a panel can be adapted to deeply focus on specific immune cell subpopulations will also be presented.

## Modulating Levels of Cell Surface CD6 Regulates Effector T Cell Activity and T<sub>reg</sub> Development

1:45 PM – 2:30 PM

EXHIBITOR WORKSHOP ROOM 2

### BioLegend

#### Presenter

Jeanette Ampudia, Associate Director, Immunology and Research Operations

CD6 is a co-stimulatory receptor that is highly expressed on the surface of proinflammatory T<sub>eff</sub> cells, whereas it is expressed at low levels on anti-inflammatory T<sub>reg</sub> cells despite similar levels of CD6 mRNA. Not only does this make CD6 an interesting target for suppression of autoreactive T<sub>eff</sub> cells, it also suggests a role in controlling T<sub>reg</sub> cell function. Recent data suggest that modulation of this receptor may be important to regulating autoimmunity. Equilibrium is developing itolizumab, a clinical stage humanized anti-CD6 monoclonal antibody that modulates cell surface levels of CD6 by instigating cleavage of the receptor via a membrane bound serine protease, for the treatment of autoimmune conditions. Previously, it was thought that itolizumab only inhibited T<sub>eff</sub> activity, while leaving the T<sub>reg</sub> population unaffected. However, we have recently shown that treatment of naïve T cells with itolizumab to remove CD6 results in T<sub>regs</sub> with better stability and function as indicated by a higher frequency of FoxP3<sup>+</sup>Helios<sup>+</sup> double positive cells and increased suppression of T<sub>eff</sub> cells. These data suggest that reduced levels of cell surface CD6 associated with itolizumab treatment improve T<sub>reg</sub> function and T<sub>reg</sub>:T<sub>eff</sub> ratios in patients with autoimmune and inflammatory diseases.

## Expanding the Limits of Immune Profiling with Automated, Highly Sensitive, Multiplexed Analysis

1:45 PM – 2:30 PM

EXHIBITOR WORKSHOP ROOM 3

### Alamar Biosciences

#### Presenters

Peter Vuong, VP Product, *Introducing the ARGO™ System, a Fully-Automated, High-Throughput Platform for High-Sensitivity Protein Analysis*, and Xiao-Jun Ma, Ph.D., Chief Technology Officer, *Highly-Sensitive and Robust Protein Analysis with 200-plex NULISA™*

Alamar Biosciences provides automated, high-throughput solutions for high sensitivity protein analysis and multiplex capability. Our proprietary NULISA™ Chemistry utilizes a novel sequential capture and release method that significantly reduces background signal and increases the sensitivity and dynamic range compared with standard



ELISA or PEA approaches. The NULISA Immuno-Inflammation Panel contains over 200 important markers of immune response enabling comprehensive analysis of immune and inflammatory diseases. The ARGO™ Platform provides a fully-automated workflow with fewer than 30 minutes hands-on time from sample to data, enabling highly reproducible results with CV's of less than 10%. With both qPCR and NGS readouts, the ARGO™ System enables both focused analysis of validated biomarkers to highly multiplexed profiling of hundreds to ultimately thousands of proteins. This workshop will present data describing the performance of Argo™ system and NULISA™ Assays for cytokine analysis in plasma samples, and demonstrate superior sensitivity and lower limits of detection in comparison to other commercially-available solutions.

**SATURDAY, MAY 13**

## TAC-T Cells Elicit Durable Anti-tumor Responses in Preclinical Models of Solid Tumors

**10:00 AM – 10:45 AM**

EXHIBITOR WORKSHOP ROOM 1

**Sony Biotechnology Inc.**

### Presenter

Heather L. MacGregor, Ph.D., Senior Scientist, Triumvira Immunologics Inc.

The T cell antigen coupler (TAC) is a novel chimeric receptor that redirects TAC-engineered T cells against tumor antigens and activates T cells via the endogenous T cell receptor complex. TAC01-HER2, a first-in-class TAC-T product targeting HER2 (ERBB2), has entered a phase I/II clinical trial. We characterized TAC-T cells during anti-tumor responses. Kinetics of proliferation, TCR signaling, activation, and memory generation by tumor-activated TAC-T cells were assessed by Sony® ID 7000 spectral flow cytometer and by scRNA-seq. The cytotoxic robustness was assessed through multiple rounds of tumor cell exposure *in vitro* and immunologic durability was tested in a xenograft tumor rechallenge study. We show that TAC-T product mounts a durable anti-tumor response, comprising functionally active T cells with robust self-renewal capacity that do not become terminally exhausted.

## Quantitative Single-Cell Spatial Immune Profiling with ChipCytometry™

**10:00 AM – 10:45 AM**

EXHIBITOR WORKSHOP ROOM 2

**Canopy Biosciences—A Bruker Company**

### Presenters

Tim Sindelar, Product Manager, *Precise Spatial Multiplexing with ChipCytometry: An Open-Source Solution to High-Throughput Spatial Biology*, and Gustavo A. Monasterio Ocares, DDS, Ph.D., Postdoctoral Researcher, Villablanca Lab, Immunology and Allergy Division, Dept. of Medicine, Solna, Karolinska Institutet, *Spatial Immunome of Distal Tissues During Intestinal Inflammation*

Single-cell spatial immune profiling is transforming the way we study immunology by bringing advanced single-cell analysis to the context of intact tissue. Join us to learn how the ChipCytometry platform enables quantitative single-cell analysis of high-plex assays for deep immune profiling in tissue samples. Hear from a ChipCytometry user about how the technology is applied to spatially dissect the immunome from distal tissues during intestinal inflammation.

## Spatially Resolved Whole-Transcriptome Analysis with Simultaneous Immune Cell Epitope Detection

**10:00 AM – 10:45 AM**

EXHIBITOR WORKSHOP ROOM 3

**10x Genomics**

### Presenter

Jeff Bylund, Ph.D., Spatial Science & Technology Advisor

The tumor microenvironment is composed of highly heterogeneous niches, often with varying degrees of immune infiltration. The spatial distribution of immune cells with respect to malignant cells can directly impact patient prognosis and overall survival outcomes. The Visium CytAssist Spatial Gene Expression assay uses a whole transcriptome probe-based approach, termed RTL, to detect and quantify mRNA expression with spatial context.

## Next-Generation Tools for NK Cell Research

**11:15 AM – 12:00 PM**

EXHIBITOR WORKSHOP ROOM 1

**STEMCELL Technologies Inc.**

### Presenters

Amanda Durkin, Ph.D., Product Manager, Immunology, and Peter Morin, Technical Scientist, Research & Development

Natural killer (NK) cells are gaining popularity as a therapeutic tool for their unique ability to target and kill virus-infected and cancer cells without prior immune sensitization. Adopting an efficient, scalable NK workflow is key to staying at the forefront of this evolving field. Join this workshop to learn about STEMCELL's NK cell isolation and expansion

products. We will also feature the Easy 250 EasySep™ magnet, a new scalable and efficient system for manual column-free isolation. These next-generation tools enable researchers to streamline and accelerate their NK cell research.

## Optimization of a High-Parameter Spectral Flow Cytometry Panel to Investigate Human Immune Diversity

11:15 AM – 12:00 PM

EXHIBITOR WORKSHOP ROOM 2

### BD Biosciences

#### Presenter

Robert (Bob) Balderas, VP of Biological Sciences

In this workshop, we will discuss how different experimental conditions and fluorochrome choices can affect the biological resolution and interpretation of a deep 38-color NK and T cell spectral flow cytometry panel. This presentation will be based on real-life decisions made by immunologists when designing panels and experiments. Ultimately, we will demonstrate the importance of generating high-quality data to reveal the donor-to-donor variability of NK and T cell immunophenotypes at an unprecedented depth.

## Identifying and Isolating Highly Functional Cell Therapy Agents with the Gentle and Sterile WOLF Microfluidic Cell Sorter

11:15 AM – 12:00 PM

EXHIBITOR WORKSHOP ROOM 3

### NanoCollect Biomedical Inc.

#### Presenter

Aaron Christensen-Quick, Ph.D., Senior Scientist

This workshop is for Cell and Gene Therapy (CGT) researchers and industry professionals who would like to learn more about using flow cytometry and cell sorting for CGT production. Along the way, we will highlight the importance of using viable, healthy, functional cells as starting material. We will also explore how the NanoCollect WOLF Cell Sorter can help CGT researchers analyze and gently sort cells that last. Join us for a journey of cell isolation, activation, infection, expansion, and target cell killing.

## High-Speed Image-Enhanced Acoustic Flow Cytometry Offers New Insights into Old Protocols

12:30 PM – 1:15 PM

EXHIBITOR WORKSHOP ROOM 1

### Thermo Fisher Scientific

#### Presenter

Matthew Shallice, Senior Staff Scientist, R&D, Protein and Cell Analysis

As the field of image-enhanced flow cytometry continues to grow in scope and capability, users are embracing the value of visual confirmation of events coupled to traditional flow cytometry data. Conversion of this new information to numeric outcomes via artificial intelligence/machine learning efforts integrates this data with traditional fcs parameters in a highly quantitative manner. In this presentation, data from a range of samples using the Invitrogen™ Attune™ CytPix™ Flow Cytometer with automated image annotation will be reviewed.

## Stimulation with a Superagonistic Anti-CD28 Antibody Shows T<sub>reg</sub> Expansion and Provides an *In Vitro* Model for Immunotherapeutic Research

12:30 PM – 1:15 PM

EXHIBITOR WORKSHOP ROOM 2

### BioLegend

#### Presenter

Rebecca Nickle, Ph.D., Applications Scientist

From bench to bedside, development of immunotherapeutic treatments requires the use of sophisticated technologies and applications to comprehensively describe and understand immunological processes. Here, using BioLegend's cutting edge tools, we characterized the cellular and molecular changes that occur upon human T cell stimulation with a novel anti-CD28 superagonistic monoclonal antibody. Our workflow includes cell isolation using our magnetic separation MojoSort™ Human CD3<sup>+</sup> T cell isolation kit, followed by activation using the Ultra-LEAF™ CD28 superagonistic monoclonal antibody, and expansion using our recombinant proteins. Resulting cultures are then subject to T cell subset characterization using LEGENDplex™ multiplex soluble analyte analysis, intracellular and surface protein analysis with our pre-defined multicolor cytometry panels, and integrated multiomic single-cell protein and RNA analysis with our TotalSeq™—A Human Universal Cocktail. Our data reveals the cellular and molecular signature of a potent human T<sub>reg</sub> activation and expansion promoted by our unique CD28

superagonistic monoclonal antibody. Taken together, we show how a full suite of BioLegend's reagents and applications facilitate immunotherapeutic research to advance our understanding of complex immunological processes.

## Accelerate Immune Research with Pre-optimized Cytex® Panels and Reagent Kits

12:30 PM – 1:15 PM

EXHIBITOR WORKSHOP ROOM 3

### Cytex Biosciences

#### Presenter

Eleanor Kincaid, Ph.D., Regional Technical Applications Specialist Manager—Eastern US

Flow cytometry allows the identification and characterization of immune cell subsets for a variety of research, clinical, and translational applications. Strategies for panel design of multicolor flow cytometry assays based on marker density, fluorophore brightness, and expected co-expression patterns have been extensively discussed and documented. However, even the best theoretical panel design may not perform optimally in practice. In this workshop, we will describe the key components of assay performance and their role in improving assay reliability and robustness. We will present a step-by-step approach to assess the performance of individual markers as well as the overall panel. Examples from the development and optimization of Cytex's cFluor® kits will be presented, as well as the utility of the kits for various fields of immunology and oncology research.

## The Immunopathology of COVID-19 Placentitis: A Spatial Multi-omic Approach

1:45 PM – 2:30 PM

EXHIBITOR WORKSHOP ROOM 1

### Lunaphore Technologies

#### Presenters

Matthew Pugh, Dr., M.Sc. And B.Sc. FRCPath, MSc BSc (Hons) MBBCh (Hons), and Jean Shanks, Pathsoc Intermediate Fellow, Associate Clinical Professor/ Honorary Consultant Histopathologist, Institute of Immunology and Immunotherapy, University of Birmingham

COVID-19 placentitis is a rare complication of maternal SARS-CoV-2 infection. We use multi-omic spatial profiling to characterise placentitis from obstetrically-complicated maternal COVID-19 infection. We found that SARS-CoV-2-infected placentas have a distinct transcriptional and immunopathological signature. Furthermore, quantitative spatial analyses revealed a unique microenvironment

surrounding virus-infected trophoblasts characterised by PD-L1-expressing macrophages, T cell exclusion, and interferon blunting. In contrast to uninfected mothers, ACE2 was localised to the maternal side of the placental trophoblast layer of almost all mothers with COVID-19, which may explain variable susceptibility to placental infection. Our results demonstrate a pivotal role for direct-placental SARS-CoV-2 infection in driving the unique immunopathology of COVID-19 placentitis.

## Peptide Pools: Design, Manufacturing, and Application

1:45 PM – 2:30 PM

EXHIBITOR WORKSHOP ROOM 2

### peptides&elephants GmbH

#### Presenter

Oliver J. Kreuzer, Ph.D.

The p&e's peptide pools are a mixture of overlapping peptides with a length of 15 amino acids and an overlap of 11 amino acids that cover the complete amino acid sequence of their respective protein. They are used to activate protein-specific T cells, and are suitable to analyze T cell immunity after vaccination or to monitor the immune status after infection. They play a major role in adoptive cancer therapies by *in vitro* enrichment of tumor specific T cells. Next to the off-the-shelf peptide pools, p&e's ultra-fast synthesis technology allows to manufacture your individual peptide pools for r&d and adoptive therapy approaches.

## Validating Antibodies for Better Science and Better Medicine

1:45 PM – 2:30 PM

EXHIBITOR WORKSHOP ROOM 3

### Fortis Life Sciences

#### Presenters

Brian McWilliams, Ph.D., Product Manager, Amber Miller, Ph.D., Flow Cytometry Scientist, and Aliyah Weinstein, Ph.D., Marketing Programs Manager

Unreliable data resulting from poorly-characterized antibodies jeopardizes the reproducibility of new discoveries. Yet there are no universal standards for manufacturing or validating antibodies. Antibody validation is crucial for ensuring that the antibody is specific, selective, and reproducible for its intended application. At Bethyl, our antibodies are highly regarded for passing strict validation testing before they arrive in our customers' hands. Learn critical questions to ask when purchasing antibodies and recommended methods for validating antibodies based on their intended application.



SUNDAY, MAY 14

## Making Custom MHC Tetramers at the Lab Bench Using the QuickSwitch Kit

10:00 AM – 10:45 AM

EXHIBITOR WORKSHOP ROOM 1

### MBL International Corporation

#### Presenter

Yuri Poluektov, Ph.D., Lab Scientist,  
Research and Development

In order to fully understand and characterize T cell populations, many MHCs with multiple different peptide combinations need to be screened and tested. A novel technology simplifies the process of screening numerous MHC-peptide combinations to simplify T cell analysis and make the assay cost efficient. In this workshop, we review procedures involved in using the QuickSwitch™ kit to make a custom MHC Tetramer that can be ready to stain T cells in 4 to 18 hours. We will discuss assay workflow and quantification of the binding affinity of the tested peptide for the MHC molecule using this kit.

## Comparing Tumor Killing Mechanisms of Antibody Drug Conjugates (ADCs) with the iQue® Flow Cytometry System

10:00 AM – 10:45 AM

EXHIBITOR WORKSHOP ROOM 2

### Sartorius

#### Presenters

Kirsty McBain, Scientist, and Don Weldon, Cell Analysis  
Technology Expert, Product Management

Antibody drug conjugates (ADCs) marry together two types of cancer treatment, chemotherapy and immunotherapy, to create highly-specific and efficacious therapeutics. Each ADC has been designed with unique features such as the position, number and identity of the cytotoxic payload, as well as the structure of the adjoining linker. These characteristics mean that even ADCs based on the same monoclonal antibody backbone can have largely different functional profiles. We describe the use of the iQue® Flow Cytometry Platform to profile the binding and tumor cell-killing mechanism of anti-HER2 ADCs.

## Streamline Your B Cell Research from Isolation to Expansion

11:15 AM – 12:00 PM

EXHIBITOR WORKSHOP ROOM 1

### STEMCELL Technologies Inc.

#### Presenters

Anthea Nice, Ph.D., Product Manager, Immunology, and  
Hitesh Arora, Ph.D., Scientist, Research and Development

Due to their essential role in the adaptive immune response, B cells continue to be a focal point for infectious disease, cancer, and autoimmune research, but isolating and generating these cells in relevant numbers continues to be a major challenge in the field. Join this workshop to learn about reagents for efficient B cell isolation and expansion. We will feature streamlined culture systems that enable feeder- and serum-free expansion of both human and mouse B cells with high yields, thus providing a complete workflow solution for B cell research.

## TCR and BCR Repertoire Analysis and Other Approaches for the Discovery of Drug Targets, Resistance Mechanisms, and Biomarkers

11:15 AM – 12:00 PM

EXHIBITOR WORKSHOP ROOM 2

### Cellecta Inc.

#### Presenters

Paul Diehl, Ph.D., Chief Operating Officer, *Flexible and Scalable Genetic Screens for Discovery and Characterization of Novel Therapeutic Targets*, and Alex Chenchik, Ph.D., President & Chief Scientific Officer, *Improved Adaptive Immune Receptor Repertoire*

We will introduce a number of Cellecta technologies along with relevant data for drug and biomarker discovery and validation, including CRISPR functional screening and cell tracking tools. Also introduced will be the recently-launched DriverMap™ Adaptive Immune Receptor (AIR) Profiling Assay that enables the identification of more clonotypes and their activation levels with great sensitivity and reproducibility.

## Expanding Capabilities in Single-Cell RNA Sequencing

11:15 AM – 12:00 PM

EXHIBITOR WORKSHOP ROOM 3

### Parse Biosciences

#### Presenter

Anna Malinkevich, Senior Field Application Scientist

Single cell RNA-seq studies increasingly require larger sample and cell numbers, but existing technologies limit throughput. Evercode split-pool combinatorial barcoding overcomes these limitations by providing up to a million cells and 96 samples in one experiment. Learn about Evercode as well as two new additions to the Parse Biosciences single cell portfolio: Evercode TCR for immune profiling at scale and Gene Capture for targeted analysis of specific genes with 10 times less sequencing.

## Practical Considerations for Spatial Phenotyping

12:30 PM – 1:15 PM

EXHIBITOR WORKSHOP ROOM 1

### Thermo Fisher Scientific

#### Presenter

Leticia Montoya, Ph.D., Staff Scientist, R&D, Protein & Cell Analysis

Spatialomics leverages multiplex imaging to achieve translational profiling of tissue specimens by assessing the relative spatial orientations of biological structures with RNA and protein expression *in situ*. While spatialomics has emerged as an important approach for classifying targets in cancer research, this complex workflow can be challenging. This presentation will provide key prerequisite considerations around reliable biomarker panel design, staining protocols, and mature data interpretation for successful spatialomics research applications.

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