



# ASM MICROBE

JUNE 13-17 2024 | ATLANTA

FINAL PROGRAM



AMERICAN  
SOCIETY FOR  
MICROBIOLOGY

Session information as of May 1. For current session information, visit the Online Itinerary Planner or Mobile App.

**KARIUS** | TEST

**The diagnostic detective assisting your lab.**

**One test, multiple diagnostic applications.**



**SPEAKER EVENT**

## **Unraveling the Mysteries of Infectious Diseases: The Role of Metagenomic Sequencing in Your Laboratory**

**Saturday, June 15, 7:30-9:30pm**

**Grand Ballroom A @ The Omni Atlanta at Centennial Park**

**To learn more about our presentation and track down a full set of collectible pathogen pins, visit **booth #1018**.**

The Karius Test is a lab developed test (LDT) designed to detect 1000+ potential pathogens.

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AMERICAN  
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Washington, DC 20036-2904  
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[instagram.com/asmicrobiology](https://instagram.com/asmicrobiology)



[youtube.com/user/MicrobeWorld](https://youtube.com/user/MicrobeWorld)

# Schedule-at-a-Glance

## Thursday, June 13

8:30 a.m. – 4:00 p.m.	Courses/Workshops \$
10:00 a.m. – 3:45 p.m.	Industry & Science Workshops
12:00 p.m. – 3:30 p.m.	City Bus Tour \$
1:30 p.m. – 4:00 p.m.	Mini-Conferences
3:00 p.m. – 4:15 p.m.	Attendee Orientation
4:30 p.m. – 6:15 p.m.	Opening General Session
6:30 p.m. – 7:30 p.m.	Opening Reception

## Friday, June 14

8:15 a.m. – 10:15 a.m.	Cross-Track Plenary
8:15 a.m. – 10:15 a.m.	In-Depth Symposia
9:15 a.m. – 10:15 a.m.	Panel Discussions
10:00 a.m. – 5:00 p.m.	Exhibit & Poster Hall Open
10:30 a.m. – 11:30 a.m.	Poster Presentations
10:45 a.m. – 11:30 a.m.	Track Hub Sessions & Career Talks
11:00 a.m. – 1:30 p.m.	Industry & Science Spotlights
11:00 a.m. – 11:45 a.m.	Industry & Science Showcases
11:45 a.m. – 12:30 p.m.	Track Hubs: Rapid Fire Presentations
12:00 p.m. – 12:45 p.m.	Industry & Science Showcases
1:00 p.m. – 1:45 p.m.	Industry & Science Showcases
12:45 p.m. – 1:30 p.m.	Track Hub Sessions & Career Talks
1:45 p.m. – 2:45 p.m.	Panel Discussions
1:45 p.m. – 3:45 p.m.	In-Depth Symposia
2:00 p.m. – 3:00 p.m.	Lounge & Learn: Late Breaking Abstracts
3:15 p.m. – 4:15 p.m.	Panel Discussions
4:00 p.m. – 4:45 p.m.	Track Hub Sessions
4:00 p.m. – 5:00 p.m.	Exhibit & Poster Hall Happy Hour
4:00 p.m. – 5:00 p.m.	Poster Presentations
4:30 p.m. – 5:00 p.m.	Industry & Science Spotlights
5:15 p.m. – 6:15 p.m.	Meet the Experts
6:00 p.m.	Industry & Science Evening Events
6:30 p.m. – 7:45 p.m.	Joint Receptions

## Saturday, June 15

7:00 a.m. – 8:00 a.m.	Fun Run/Walk \$
8:15 a.m. – 10:15 a.m.	Cross-Track Plenary
8:15 a.m. – 10:15 a.m.	In-Depth Symposia
9:15 a.m. – 10:15 a.m.	Panel Discussions
10:00 a.m. – 5:00 p.m.	Exhibit & Poster Hall Open
10:30 a.m. – 11:30 a.m.	Poster Presentations
10:45 a.m. – 11:30 a.m.	Track Hub Sessions & Career Talks
11:00 a.m. – 11:45 p.m.	Industry & Science Showcases
11:00 a.m. – 1:30 p.m.	Industry & Science Spotlights

11:45 a.m. – 12:30 p.m.	Track Hubs: Rapid Fire Presentations
12:00 p.m. – 12:45 p.m.	Industry & Science Showcases
12:45 p.m. – 1:30 p.m.	Track Hub Sessions & Career Talks
1:00 p.m. – 1:45 p.m.	Industry & Science Showcases
1:45 p.m. – 3:45 p.m.	In-Depth Symposia
2:00 p.m. – 3:00 p.m.	Lounge & Learn: Late Breaking Abstracts
3:15 p.m. – 4:15 p.m.	Panel Discussions
4:00 p.m. – 4:45 p.m.	Track Hub Sessions
4:00 p.m. – 5:00 p.m.	Exhibit & Poster Hall Happy Hour
4:00 p.m. – 5:00 p.m.	Poster Presentations
4:30 p.m. – 5:00 p.m.	Industry & Science Spotlights
5:15 p.m. – 6:30 p.m.	President's Forum
7:15 p.m.	Industry & Science Evening Events

## Sunday, June 16

8:15 a.m. – 10:15 a.m.	Cross-Track Plenaries
8:15 a.m. – 10:15 a.m.	In-Depth Symposia
9:15 a.m. – 10:15 a.m.	Panel Discussions
10:00 a.m. – 4:00 p.m.	Exhibit & Poster Hall Open
10:30 a.m. – 11:30 a.m.	Poster Presentations
10:45 a.m. – 11:30 a.m.	Track Hub Sessions & Career Talks
11:00 a.m. – 11:45 p.m.	Industry & Science Showcases
11:00 a.m. – 1:30 p.m.	Industry & Science Spotlights
11:45 a.m. – 12:30 p.m.	Track Hub: Poster Spotlight
12:00 p.m. – 12:45 p.m.	Industry & Science Showcases
12:45 p.m. – 1:30 p.m.	Track Hub Sessions & Career Talks
1:00 p.m. – 1:45 p.m.	Industry & Science Showcases
1:30 p.m. – 2:30 p.m.	Exhibit & Poster Hall Happy Hour
1:45 p.m. – 3:45 p.m.	In-Depth Symposia
2:00 p.m. – 3:00 p.m.	Lounge & Learn: Late Breaking Abstracts
3:00 p.m. – 4:00 p.m.	Poster Presentations
3:15 p.m. – 4:15 p.m.	Panel Discussions
4:15 p.m. – 5:15 p.m.	Meet the Experts
5:30 p.m. – 6:45 p.m.	Science and Society Keynote Session

## Monday, June 17

8:15 a.m. – 10:15 a.m.	In-Depth Symposia
9:15 a.m. – 10:30 a.m.	Panel Discussions
9:30 a.m. – 12:00 p.m.	Mini-Conferences
10:30 a.m. – 12:00 p.m.	Research Funding Session

\$ Additional fee required

# ASM Microbe 2024 Program Committee

The ASM Microbe program is developed by a dedicated group of your peers. ASM thanks the ASM Microbe 2024 Program Committee for their dedication and service to ASM and ASM Microbe.

## Steering Committee

**Karla J.F. Satchell, Ph.D.**

*Basic Sciences Co-Chair*

**Robert Tibbetts, Ph.D., D(ABMM),  
F(CCM), FIDSA**

*Clinical Co-Chair*

**Yvette S. McCarter, Ph.D., D(ABMM)**

*Meeting Strategy Chair*

**Jacinda Abdul-Mutakabir, Pharm.D.**

*AAR Track Leader*

**Patrick Videau, Ph.D.**

*AES Track Leader*

**Sanchita Das, M.D., D(ABMM)**

*CIV Track Leader*

**Jennifer Guthrie, Ph.D.**

*CPHM Track Leader*

**Britt L. Koskella, Ph.D.**

*EEB Track Leader*

**Vincent Lee, Ph.D.**

*HMB Track Leader*

**Pamela Brown, Ph.D.**

*MBP Track Leader*

**Tatiana Pinto, Ph.D.**

*POM Track Leader*

## Ex-Officio

**Stefano Bertuzzi, Ph.D., MPH**

*CEO*

**Jennifer Tomb, CAE, CMP, CEM**

*Director of Meetings*

## Program Committee

**Jacinda Abdul-Mutakabir, Pharm.D.**

**Kelly Bachtta, Ph.D.\***

**Sara Blosser, Ph.D., D(ABMM)**

**Sada Boyd, Ph.D.\***

**Pamela Brown, Ph.D.**

**Jason Bryowsky, Ph.D.**

**John Buchner, Ph.D.**

**Marianna Byndloss, Ph.D.**

**Josephine Chandler, Ph.D.**

**Derrick Chen, M.D.**

**Kung-Hui (Bella) Chu, P.E.**

**Adrienne Correa, Ph.D.**

**Georgina Cox, Ph.D.**

**Catalina Cuellar-Gempeler, Ph.D.**

**Jan-Ulrick Dahl, Ph.D.**

**Sanchita Das, MBBS, M.D., D(ABMM)**

**Rachel Denyer, M.D.\***

**Erika Espinosa-Ortiz, Ph.D.**

**Prahathees Eswara, Ph.D.**

**Ashley Groshong, Ph.D.\***

**Jennifer Guthrie, Ph.D.**

**William Harcombe, Ph.D.**

**Ryan Hunter, Ph.D.**

**Britt L. Koskella, Ph.D.**

**Ashlan Kunz-Coyne, Pharm. D.\***

**Matthew Lawrenz, Ph.D.**

**Vincent Lee, Ph.D.**

**Scott Wesley Long, M.D., Ph.D.**

**Keri Lydon, Ph.D.\***

**Seema Mattoo, Ph.D.**

**Nicholas Moore, Ph.D., D(ABMM)**

**Randy Morgenstein, Ph.D.**

**Laura Oliveira, M.D.\***

**Utsav Pandey, Ph.D., D(ABMM)**

**David Peaper, M.D., Ph.D.**

**Tatiana Pinto, Ph.D.**

**Alexei Savchenko, Ph.D.**

**Nikki Shariat, Ph.D.**

**Lisa Stempak, M.D.**

**Man Wah Tan, Ph.D.**

**Oscar Tirado Acevedo, Ph.D.**

**Blake Ushijima, Ph.D.**

**Patrick Videau, Ph.D.**

**Lars Westblade, Ph.D.**

**Rebecca Yee, Ph.D.**

**Adrian Zelazny, Ph.D., D(ABMM)\***

## Continuing Education Committee (CEC)

**Robert Tibbetts, Ph.D., D(ABMM),  
F(CCM), FIDSA**

**Jacinda Abdul-Mutakabir, Pharm.D.**

**Katie Barten, DES**

\*Member of the ASM Microbe Junior Advisory Group (JAG) – the Junior Advisory Group's role is to support and encourage the meeting participation of early career investigators (those about to complete, or within 3 years of completing their training), as well as the formation of early career-related sessions at the meeting.

[asm.org/join](http://asm.org/join)

# Explore ASM Membership

Collaborate with peers and experts world-wide in **ASM Connect**, our online member community.

Gain global recognition for your research with rapid publication and rigorous peer review in **ASM Journals** and save up to 50% on publishing fees.

**Discover ASM books** by experts in various microbiology disciplines. Members receive a 20% discount on all titles, including textbooks and e-books.

Jump start your career with **ASM's Microbiology Careers Salary Survey** - view compensation and benefits data across the field to plan your career path.

**Stop by ASM Booth #209  
to learn more.**



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# ASM Microbe 2024 Supporters

The American Society for Microbiology would like to recognize the following companies for their support of ASM Microbe 2024. On behalf of our leadership and our members, we thank them for their continued support and generous contributions.

## PLATINUM SUPPORTERS

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# Diasorin

Booth #925

## GOLD SUPPORTERS

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Booth #1302

## SILVER SUPPORTERS

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Booth #1507

# biolog

Booth #502

# Travel Awards

ASM offers various travel awards to support attendees who travel to ASM Microbe 2024. For the full list of travel awards recipients, visit [www.asm.org/microbe](http://www.asm.org/microbe).

- **ASM-FEMS Mäkelä-Cassell Travel Award for Early-Career Scientists**
- **ASM Microbe Infectious Disease (ID) Travel Award**
- **ASM Microbe Minority Travel Award**
- **ASM Microbe Student and Postdoctoral Travel Award**
- **Bill and Melinda Gates Foundation Travel Award for Scientists from Low and Low-Middle Income Countries**
- **Carlyn Halde Latin American Student Travel Award**
- **Division M Travel Awards**
- **Morrison Rogosa Travel Award**
- **Peggy Cotter Travel Awards Early Career Branch Members**
- **The Richard and Mary Finkelstein Student Travel Award**



# ASM Corporate Council

ASM is pleased to partner with the members of the ASM Corporate Council. Their collaboration and commitment is essential to advancing and promoting the field of microbial sciences.

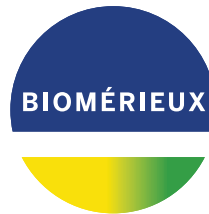
## KINGDOM

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## PHYLUM

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# General Information

## Registration

ASM Microbe 2024 registration is located at the Georgia World Congress Center. Anyone needing to register onsite, full-service registration is available for attendees, speakers, exhibitors, and VIPs in the **Registration Hall at the convention center**. Express registration is available for all pre-registered attendees and exhibitors Thursday & Friday in the Registration Hall at the convention center.

### Registration Hours for Attendees & Exhibitors:

Wednesday June 12 (Exhibitor Only) .....	12:00 p.m. – 5:00 p.m.
Thursday June 13.....	7:00 a.m. – 6:30 p.m.
Friday June 14.....	7:00 a.m. – 6:30 p.m.
Saturday June 15 .....	7:00 a.m. – 5:30 p.m.
Sunday June 16 .....	7:30 a.m. – 5:30 p.m.
Monday June 17 .....	7:30 a.m. – 12:00 p.m.

## Badge Policies and Allocations

All badges must be picked up at Registration. Photo ID is required. For security reasons, all attendees are required to wear their badges for entry into session rooms. It is your responsibility to ensure you always have your badge. **There is a charge of \$50.00 for badge replacement.** No exceptions will be made. *Please note that badges are the property of ASM and may be relinquished at any time at the request of ASM staff.*

### Attendee Badges

- Access to all scientific sessions
- Access to the Opening Reception
- Access to the Exhibit and Poster Hall Sessions
- Continuing education credit

### Guest Badges

- Access to the Exhibit and Poster Hall Sessions
- Access to the Opening Session and Opening Reception
- No access to scientific sessions

### Exhibit Hall Only Badges

- Access to the Exhibit and Poster Hall or the day printed on badge
- Access to the Opening Session
- No access to opening reception or scientific sessions

### Exhibitor Personnel Badges

- Entry to the Exhibit and Poster Hall during installation and dismantling hours
- Entry to the Exhibit and Poster Hall two hours before opening on Friday, and one hour before on Saturday and Sunday
- Access to the hall one hour after closing
- No access to scientific sessions

### Exhibitor Full Conference Badges

- Access to all scientific sessions
- Entry to the Exhibit and Poster Hall during installation and dismantling hours with Early Access Ticket
- Entry to the Exhibit and Poster Hall before opening and after closing with Early Access Ticket

## Press Badges

- Access to all scientific sessions
- Access to the Exhibit and Poster Hall sessions

*Please note that members of the press must register for the meeting and pay the appropriate registration fee to receive continuing education credit.*



## Wireless Access

ASM is pleased to provide free wireless Internet service in the ASM Microbe 2024 meeting space at the Convention Center.

Network: **ASM2024** Password: **atlanta24**

## Information Desk

The Information Desk is located in the main lobby of the Georgia World Congress Center (just inside the International Blvd. entrance).

### Hours:

Thursday, June 13 .....	7:00 a.m. – 7:30 p.m.
Friday, June 14 .....	7:00 a.m. – 6:30 p.m.
Saturday, June 15.....	7:00 a.m. – 6:45 p.m.
Sunday, June 16.....	7:30 a.m. – 6:45 p.m.
Monday, June 17.....	7:30 a.m. – 12:00 p.m.

## Meeting Venues

ASM Microbe 2024 will take place in the Georgia World Congress Center and Omni Atlanta at Centennial Park. Activities and sessions will occur at both locations. Please look for specific building notations in location names.

## Exhibit and Poster Hall

Browse through posters, interact with exhibitors, and participate in Track Hub activities throughout the Exhibit and Poster Hall located in **Halls B2 – B5** of the Georgia World Congress Center.

### Exhibit and Poster Viewing Hours:

Friday, June 14 .....	10:00 a.m. – 5:00 p.m.
Saturday, June 15.....	10:00 a.m. – 5:00 p.m.
Sunday, June 16.....	10:00 a.m. – 4:00 p.m.

### Poster Presentation Hours:

Friday, June 14 .....	10:30 a.m. – 11:30 a.m.; 4:00 p.m. – 5:00 p.m.
Saturday, June 15.....	10:30 a.m. – 11:30am; 4:00 p.m. – 5:00 p.m.
Sunday, June 16.....	10:30 a.m. – 11:30am; 3:00 p.m. – 4:00 p.m.

## Poster Presenter Access

Poster presenters must have their letter and meeting badge to enter the Exhibit and Poster Hall during the designated poster set up and dismantle times. Only the poster presenter will be permitted to enter the hall to set up his or her poster. Poster Presenters need to either have their acceptance letter with them or check in at Poster Services to obtain a pass for the Hall. *After set-up and removal of posters, presenters may not remain in the Hall during closed hours.*

## Poster Services Hours

Convention Center Building- Level 2 Concourse (just outside Room B207)

Friday, June 14 ..... 8:30 a.m. – 5:30 p.m.

Saturday, June 15..... 8:30 a.m. – 5:30 p.m.

Sunday, June 16..... 8:30 a.m. – 5:00 p.m.

## Abstract Access

Poster abstracts are available in the ASM Events mobile app. To download the app, search 'ASM Events' in the Apple App Store or Google Play store. Abstracts can also be found on the ASM Microbe website at [www.asm.org/microbe](http://www.asm.org/microbe).

## Continuing Education (CE) Credit

Attendees of ASM Microbe 2024 will be able to claim up to 33.0 credit hours of the following continuing education credit types:

- *AMA PRA Category 1 Credit™* (CME) (33.0 hours maximum)
- Professional Acknowledgment for Continuing Education (P.A.C.E.®) (32.5 hours maximum)
- California Clinical Laboratory Personnel (CA-CE) (32.5 hours maximum)
- Florida Clinical Laboratory Personnel (FL-CE) (32.5 hours maximum)

The ASM Microbe 2024 Program Planner's 'My Credit Cart' will be available to claim credit hours and download certificates beginning on Wednesday, June 19, 2024. CME credit hours will be available to claim via a separate emailed evaluation from The France Foundation (TFF) through ASM beginning Wednesday, June 19, 2024.

Available credit types have different claiming windows. Reference the dates below to ensure the appropriate steps are completed for each type to claim credit:

### Thursday, June 13, 2024 - Monday, June 17, 2024

- CA-CE & FL-CE (All credit hours will be allocated on-site at ASM Microbe 2024 - credit claiming will be unavailable after the meeting.)

### Wednesday, June 19, 2024 - Friday, July 19, 2024

- CME (*AMA PRA Category 1™*)

### Wednesday, June 19, 2024 - Tuesday, December 17, 2024

- P.A.C.E.®

## Credit Claiming Process

If you are claiming CME credit hours (*AMA PRA Category 1 Credit™*) for ASM Microbe 2024, an administrative fee of **\$75.00** must be added to your registration no later than Monday, June 17, 2024, at noon. You will be prompted to pay this fee during the ASM Microbe 2024 registration process online. You may also add the option to claim CME credit to your registration by visiting the Registration Hall on-site at ASM Microbe 2024. This fee is applicable only to CME credits and no other forms of continuing education credits offered by ASM (e.g., P.A.C.E.®).

For CA-CE or FL-CE credit hours, ASM will report the credit hours attendees received directly to those accrediting bodies based on the required QR code sign-in form process located outside of each eligible session on-site during ASM Microbe 2024. The form must be fully completed for each session attended. Credit hours will not be reported for incomplete or missing sessions. Note: CA-CE and FL-CE certificates are for attendee's records only. The credit hours reported to the accrediting bodies are calculated from the QR code sign-in forms on-site and cannot be altered.

## Certificate of Attendance (COA)

Certificates of Attendance will be available online beginning Wednesday, June 19, 2024, and can be printed or emailed.

## Speaker Ready Rooms

Speakers may preview and upload their presentation(s) in either Speaker Ready Room **located at the convention center**. ASM requests that speakers submit their electronic presentation files and check with the AV operator in the Speaker Ready Room at least 2.5 hours prior to their presentation time.

Speaker Ready Room A – Room A401

Speaker Ready Room B - Room B403

Thursday, June 13 ..... 6:30 a.m. – 5:30 p.m.

Friday, June 14 ..... 6:30 a.m. – 5:30 p.m.

Saturday, June 15..... 6:30 a.m. – 5:00 p.m.

Sunday, June 16..... 6:30 a.m. – 4:30 p.m.

Monday, June 17..... 6:30 a.m. – 10:30 a.m.

## Coat and Baggage Check

Coat and baggage check is located in the **Registration Hall at the convention center**. **Note, you will also be able to check posters.**

### Cost per item (credit cards only accepted):

- Coat: \$3.09
- Poster: \$3.09
- Bags: \$5.15

### Hours:

Thursday, June 13 ..... 10:45 a.m. – 7:30 p.m.

Friday, June 14 ..... 7:30 a.m. – 6:30 p.m.

Saturday, June 15..... 7:45 a.m. – 6:45 p.m.

Sunday, June 16..... 7:45 a.m. – 7:00 p.m.

Monday, June 17..... 7:45 a.m. – 12:00 p.m.

## Lost and Found

Unattended personal belongings will be removed and taken to the Meetings & Member Services Counter located in Registration Hall at the convention center. Anything remaining in Lost and Found at the end of the meeting on June 17 will be turned in to the Georgia World Congress Center.

## Housing

Any changes to hotel reservations should be made directly with your hotel. If you have any problems with your reservation or need to change hotels, please visit the Housing Assistance Counter located in **Registration Hall at the convention center.**

## Press Room

A full press room with workstations, tip sheets, press releases, and media kits for registered reporters is in **room B404 at the convention center.**

### Hours:

Friday, June 14 ..... 12:00 p.m. – 4:00 p.m.

Saturday, June 15..... 8:30 a.m. – 4:00 p.m.

Sunday, June 16..... 8:30 a.m. – 4:00 p.m.

## Social Media Etiquette

While attending any ASM meeting, as well as when interacting with ASM on social media, ASM expects that all attendees will contribute to the professional atmosphere of the meeting. ASM and the Program Committee reserve the right to remove, delete, or block any individuals or social media comments exhibiting behavior that detracts from or disrupts the scientific environment.

## Shipping

If you need to have a package shipped from Atlanta, Georgia, please visit your hotel's business center. **FedEx Office® at Georgia World Congress Center: 285 Andrew Young International, Atlanta, Georgia.**

## ASM Microbe 2024 ADA

Pursuant to the Americans with Disabilities Act, if you require services or aids to participate fully in ASM Microbe 2024, please visit the Meetings and Membership Services counter at the Main Registration area in the Registration Hall.

### Americans With Disabilities Act (ADA) Needs

ASM strives to host inclusive and accessible events that enable all individuals to engage and participate fully. Pursuant to the Americans with Disabilities Act, if you require services or aids to participate fully in ASM Microbe 2024, please select the type(s) of service and indicate any specific needs during the registration process. ASM will assist with hearing, vision and mobility needs.

*\*Please note accommodations and services are available to registered participants attending ASM Microbe.*

### Accommodation Reservations

Some accommodation requests require advance notice to ensure that we have time to plan accordingly. To request one of the following accommodations, please complete the Accommodation Reservation Form by **Thursday, May 2, 2024.**

- American Sign Language (ASL).
- Assisted Listening Device.
- Mobility Accommodations.

To confirm services, individuals must officially register for the conference by **Monday, May 13, 2024.**

### The Following Accommodations Will Be Available On-Site and Do Not Require a Reservation:

- Gender-Neutral Restrooms.
- Lactation Rooms.
- Prayer/Meditation Room.

## Childcare Services

Children under the age of 18 may accompany registered attendees by completing an accompanied minor registration form on-site in Atlanta. Children are not permitted in the Exhibit and Poster Hall during move-in or move-out hours.

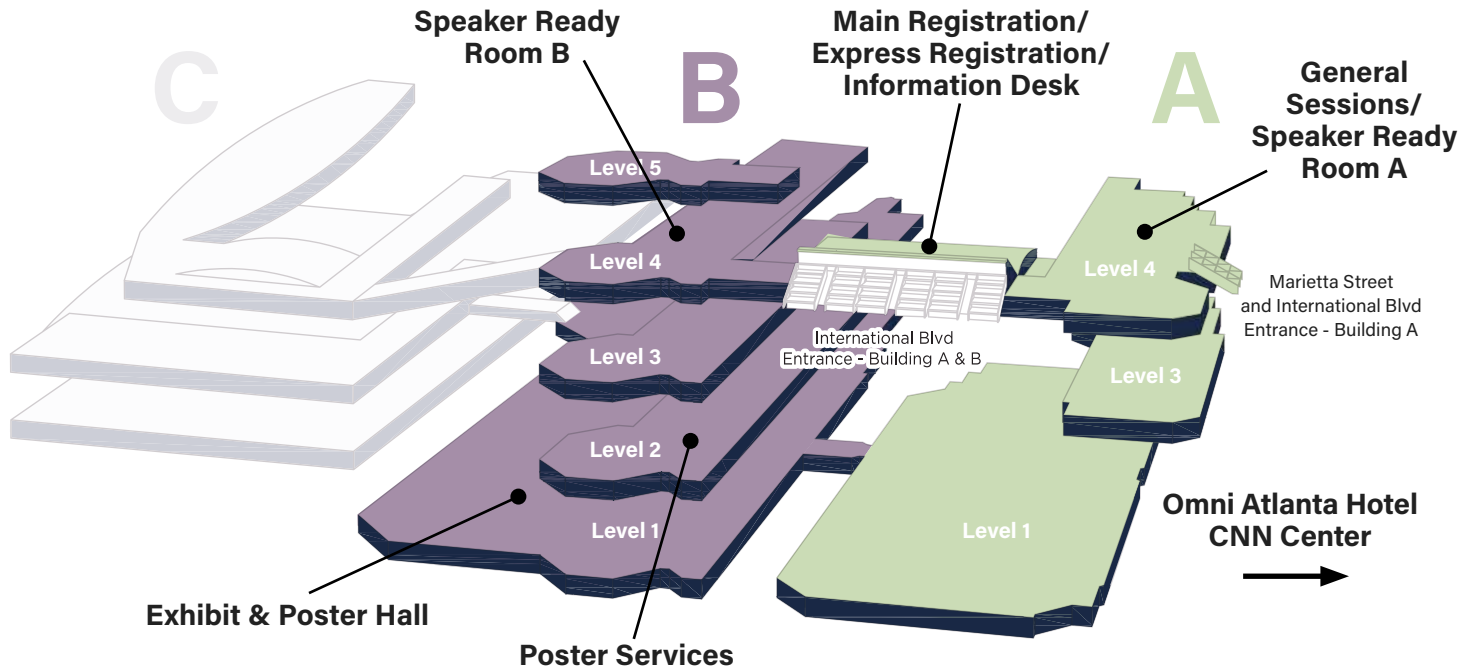
### On-site Childcare

ASM Microbe will offer childcare service at the Georgia World Congress Center. View childcare provider and registration details.

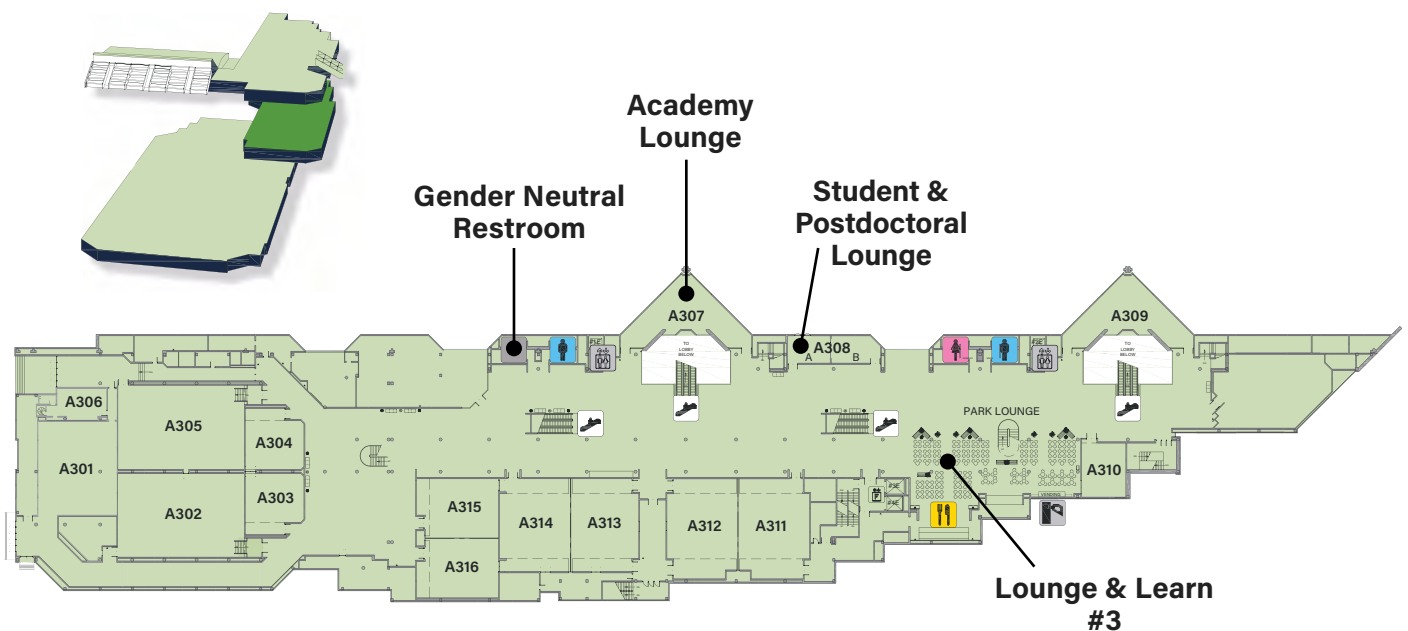
**\*\*The deadline to register for childcare is Monday, May 13, 2024.** Reservations requested after this date will be confirmed based on availability.

# Convention Center Maps

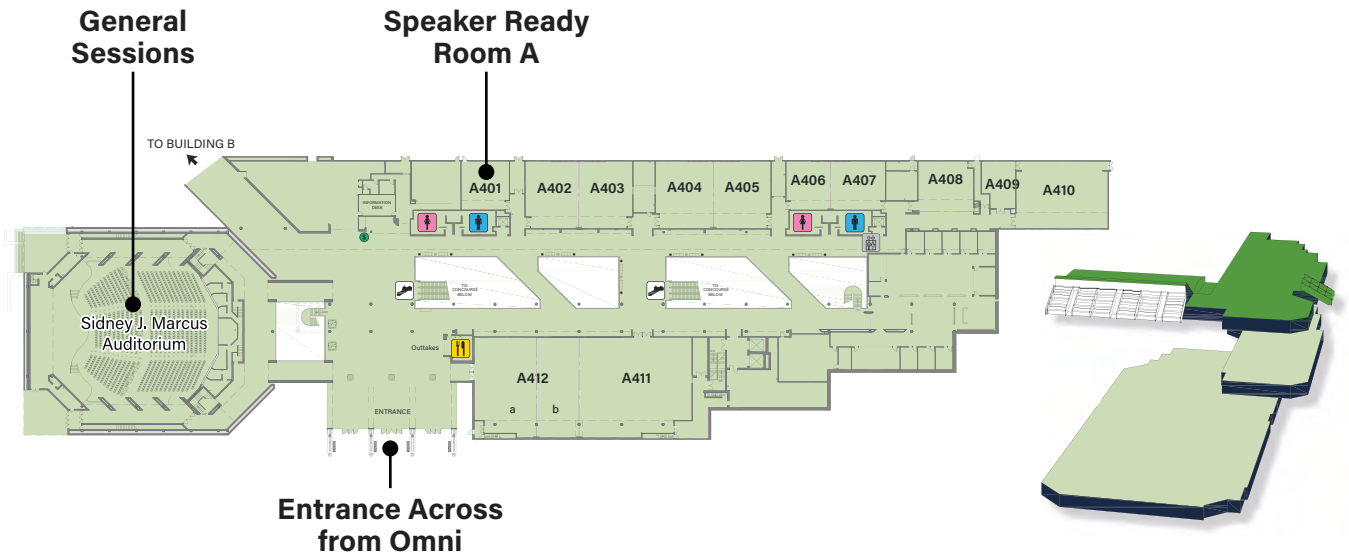
## Overview



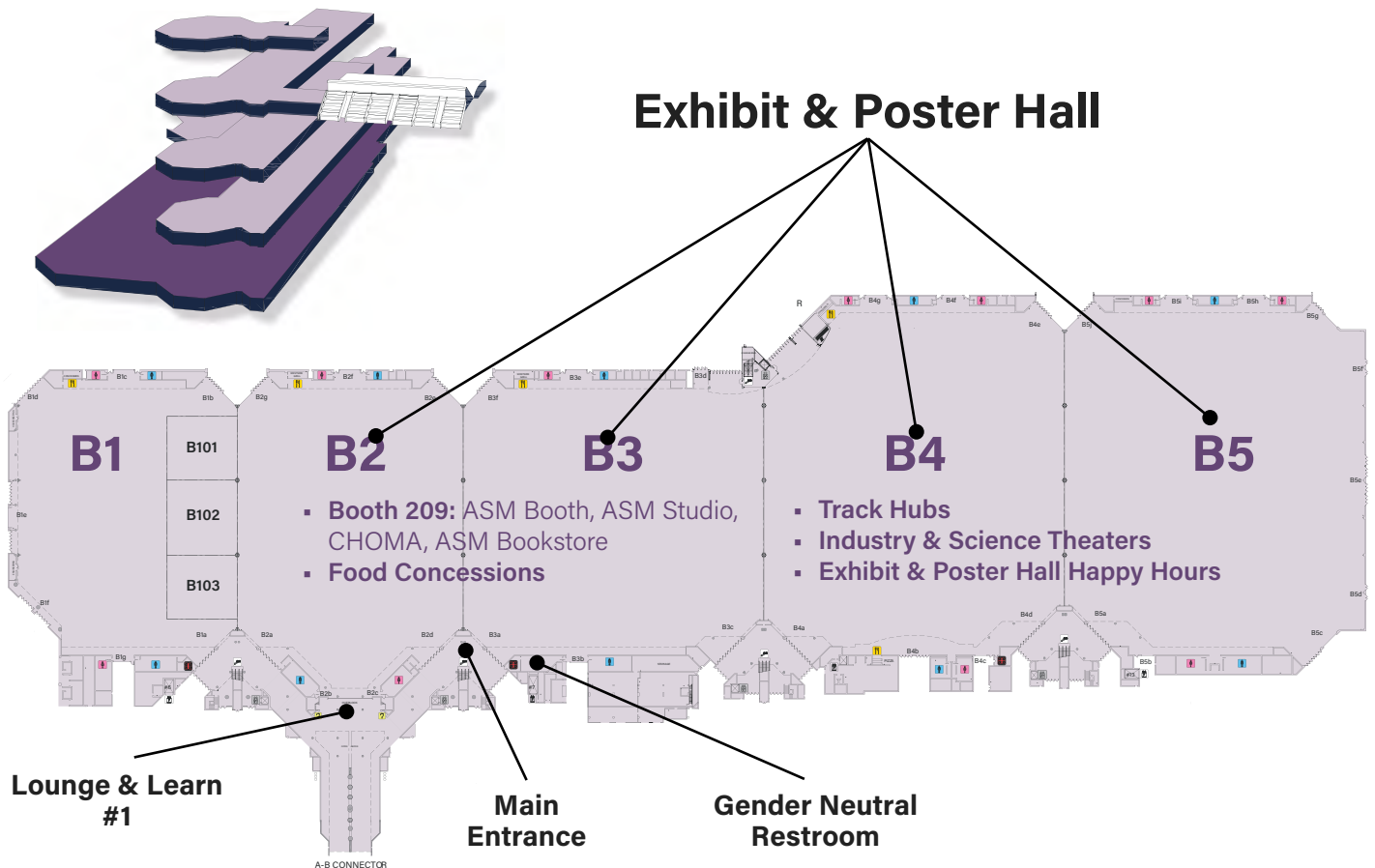
## Building A Level 3 Concourse (Meeting Rooms A301–A316)



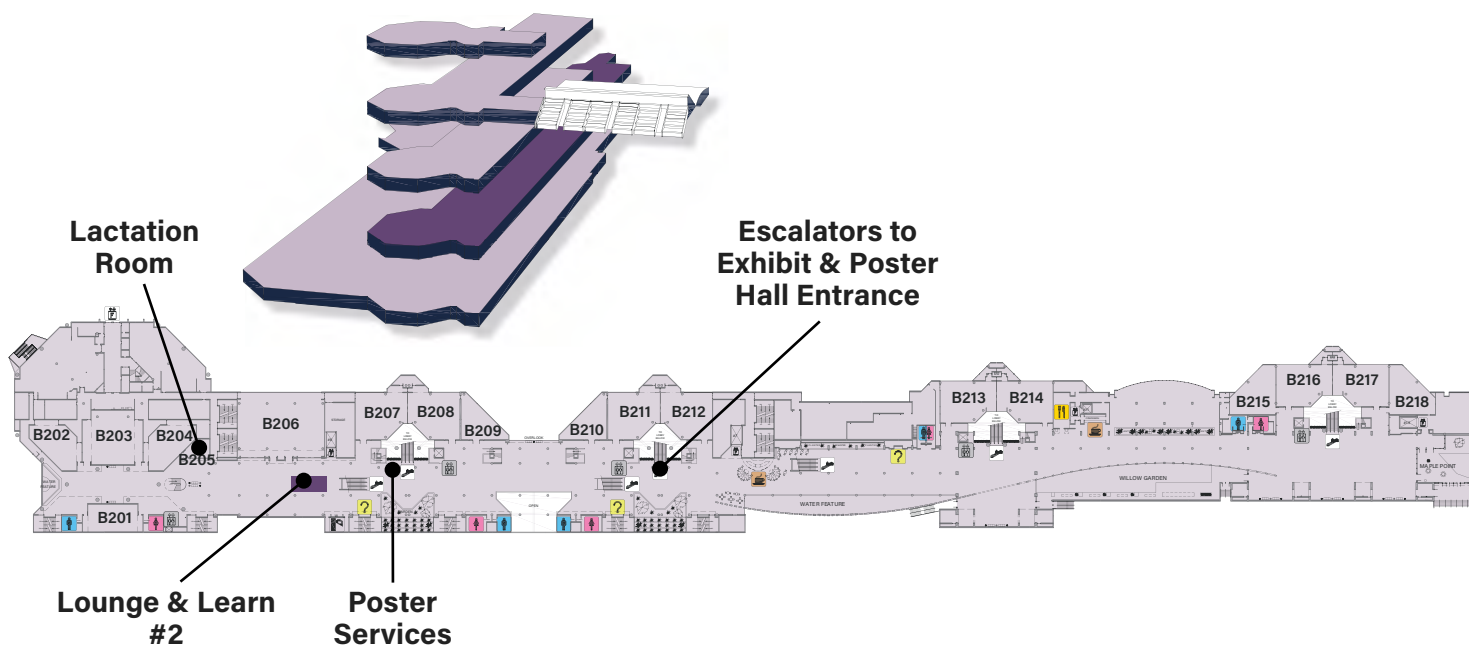
## Building A Level 4 Concourse (Meeting Rooms A401–A412)



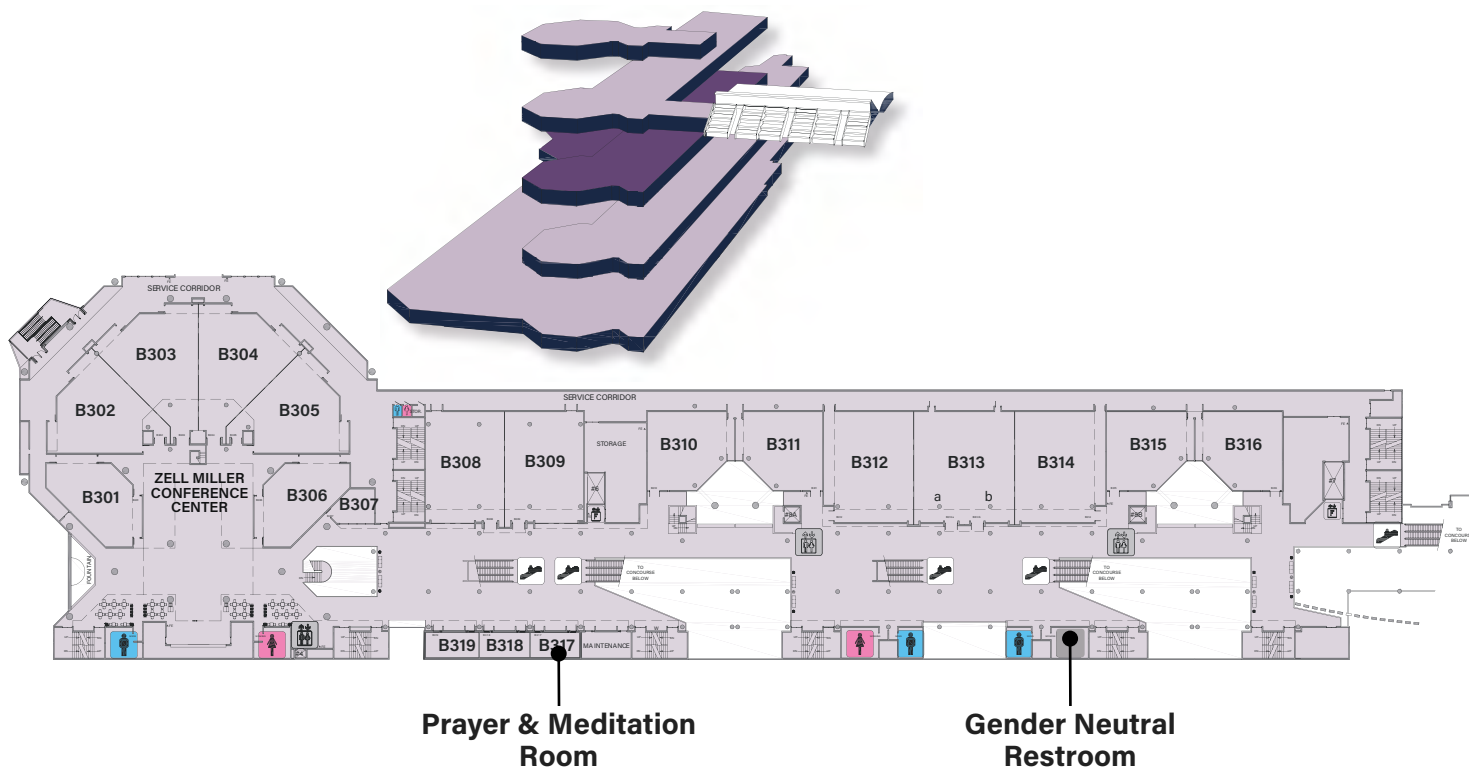
## Building B Level 1 Concourse (Meeting Rooms B101–B103)



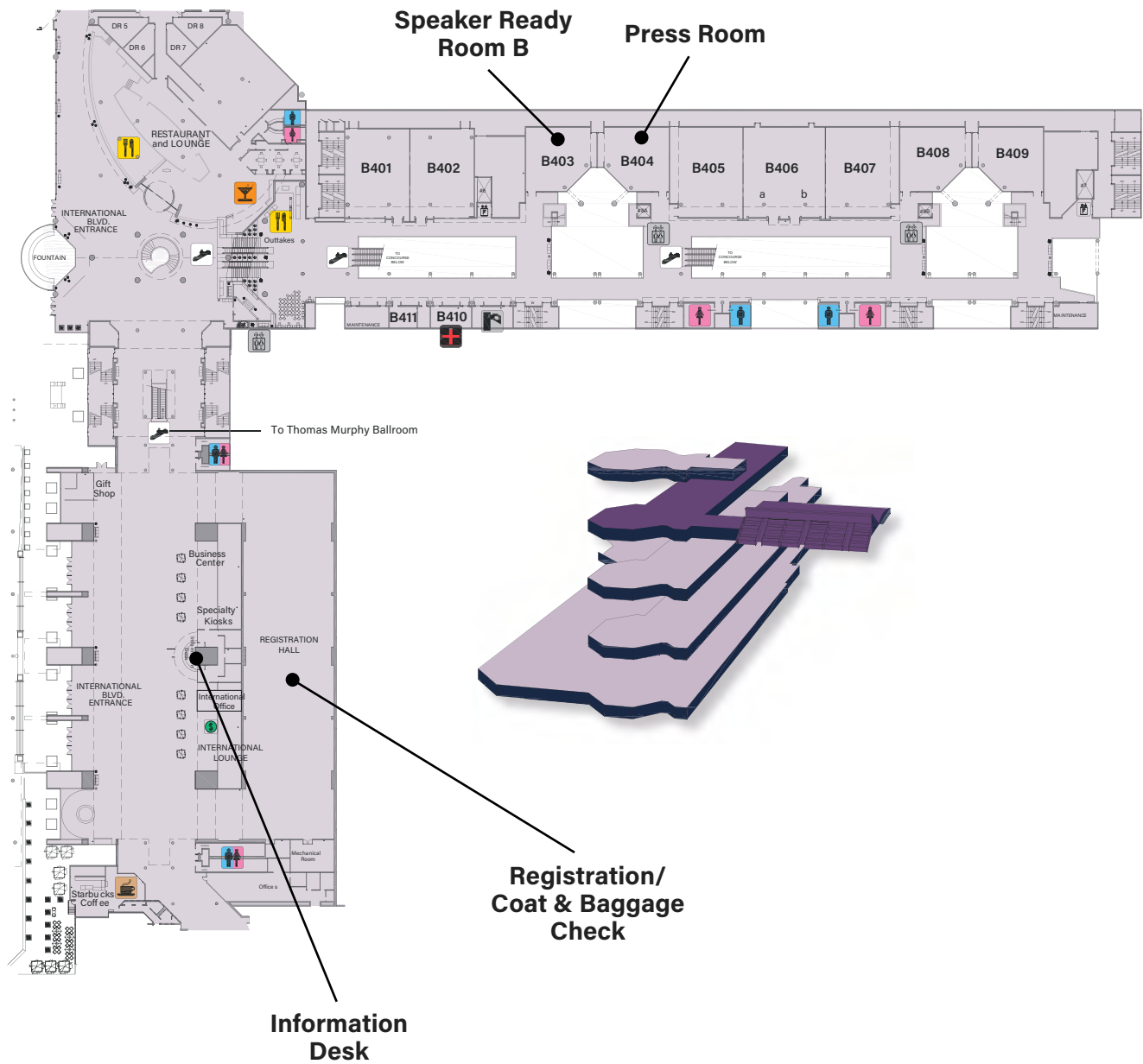
## Building B Level 2 Concourse (Meeting Rooms B201–B218)



## Building B Level 3 Concourse (Meeting Rooms B301–B319)



# Building B Level 4 Concourse (Meeting Rooms B401–B411)





# Safety

At ASM Microbe 2024, your safety is our top priority. That's why we've implemented meeting guidelines to ensure a safe environment for all participants.

## General Safety Tips

- Stay with a group and initiate the buddy system to ensure everyone arrives safely at their destination.
- Be smart about where you go and how you get there. Plan your route. Consult maps or visit the Concierge desk for directions before leaving your hotel.
- Remove your attendee name badge upon leaving the convention center and meeting venues.
- Travel light. Carry only what you need for the day – a small amount of cash, a single credit card and ID. Secure valuable items, credit cards, your passport, and other irreplaceable items in your hotel safe.
- Carry your wallet in the inside front pocket of your pants or jacket. Carry shoulder bags or other handbags under your arm, not by the handle. In a restaurant, keep your bag in your lap, not over the back of the chair.
- Secure your belongings. Utilize the coat/bag check and do not leave unattended items in meeting rooms or the exhibit hall.
- Use ride-shares or taxis when traveling longer distances and after hours. Atlanta has authorized a flat taxi fare of \$6 for all trips in the downtown area.
- Trust your instincts and be aware of odd behavior or places that make you uncomfortable. Be alert, particularly in crowded situations. Staged distractions are a favorite ploy of pickpockets.
- Keep your eyes up, your ears open, and your phone down on city streets and public transportation. This will lower the chance of theft and keep you safe on the busy streets.



# PRESIDENT'S FORUM

## The Power of Microbial Sciences to Change the World

Microbiology—Shaping the Global Future

**Saturday, June 15 - 5:15 p.m.**

Join the Microbe 2024 ASM President's Forum for a captivating gathering of top minds in the microbial sciences! On June 15 in Atlanta, immerse yourself in dynamic discussions led by ASM President Virginia Miller, Ph.D., along with former ASM President Timothy Donohue, Ph.D., antiviral drug strategist Nat Moorman, Ph.D., and metagenomics expert Emiley Eloë-Fadrosh, Ph.D. Together, they'll dive into the exciting realm of microbes as catalysts for a bio-revolution, the pivotal role of READDI in preparing for the next pandemic and the interconnected ecosystems of microbiome research. Don't miss this thrilling exploration of microbiology's power and be part of the conversation shaping the future—with the biggest names in the microbial sciences community!



**Virginia Miller, Ph.D.**  
ASM President



**Nat Moorman, Ph.D.**  
University of North Carolina  
Associate professor studying human cytomegalovirus at the Department of Microbiology & Immunology in the School of Medicine UNC Chapel Hill.



**Timothy Donohue, Ph.D.**  
ASM, University of Wisconsin-Madison  
Former ASM President, Director of the Great Lakes Bioenergy Research Center studying the utilization of networks that microbes use to generate biomass or produce alternative fuels.



**Emiley Eloë-Fadrosh, Ph.D.**  
Joint Genome Institute  
NIH award-winning researcher of the Joint Genome Institute and Berkeley Lab Lead for the National Microbiome Data Collaborative (NMDC).

# Introducing the ASM Microbe **SCIENCE AND SOCIETY KEYNOTE LECTURE SERIES**

## **MSNBC's Jonathan Capehart Takes the Stage to Moderate Science & Society Keynote with Dr. Peter Hotez**

**Sunday, June 16 - 5:30 p.m. – 6:45 p.m.**

The ASM Microbe "Science and Society" keynote lecture is a series that highlights the importance of new scientific discoveries and their impact on our community. Through this series, featuring world-renowned speakers and in-depth discussions on cutting-edge topics, ASM will showcase how microbes are essential in our lives and, through innovative technologies, can solve the world's most pressing public health concerns.

At ASM Microbe 2024, MSNBC's Jonathan Capehart will take the stage to moderate the annual Science & Society Keynote with renowned scientist Dr. Peter Hotez.



**Dr. Peter Hotez M.D., Ph.D.**

Dean for the National School of Tropical  
Medicine Baylor College of Medicine



**Jonathan Capehart**

Pulitzer Prize-Winning Journalist

ASM Press will host a book signing with Dr. Peter Hotez immediately following this session.



## ASM Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) Program!

The ASM MOSAIC program, a cooperative agreement between NIH and ASM, is a 5-year initiative designed to facilitate the transition of promising postdoctoral researchers from diverse backgrounds into independent, tenure-track or equivalent research-intensive faculty positions.

The program will equip scholars with skillset and mentorship to achieve robust careers as microbiologists and immunologists and prepare them to mentor the next generation of scientists.

### **MOSAIC has 2 components:**

- The career transition award for postdoctoral researchers to enhance diversity through the well-established K99/R00 award system.
- The research education cooperative agreement for ASM and other scientific societies to provide courses for skills development and mentoring activities.

### **The program provides courses, workshops and mentor support for scholars in the microbial sciences to achieve the following goals:**

- Hone Essential Skills for Faculty Positions
- Launch a Flourishing Tenure-Track Career
- Foster Growth Towards Scientific Leadership

[Apply Now](#)

*This ASM program is supported by the National Institute of Allergy and Infectious Diseases of the National Institutes of Health (NIH) Grant #UE5AI178763.*



**AMERICAN  
SOCIETY FOR  
MICROBIOLOGY**

# Session Types

## Career Talks

This type of session features informal, interactive sessions with microbiologists from a wide variety of careers, sharing information on what they do and what to do to join their field. Attendees are encouraged to bring their questions.

## Course/Workshop \$

Held prior to the core meeting dates on Thursday, courses and workshops have a separate registration fee. Courses feature a series of instructors that cover a selection of related subjects typically presented in a lecture format—interactions center on small group discussions and question/answer periods. Workshops are interactive, and the attendees participate in instructional training that takes a deeper dive into a particular subject, software, or specialized equipment.

## Cross-Track Plenary

This type of session focuses on interdisciplinary topics of broad interest and showcases transcendent science. Cross-Track Plenary provide an opportunity to expand scientific knowledge and better understand new trends in the field of microbiology. The format is 2-hours in length and invited speakers, followed by a panel discussion or Q&A segment.

## In-Depth Symposium

This type of session addresses an important issue and/or research on a particular subject, with a diversity of knowledge and/ or points of view presented by leading experts. The format is 2-hours in length and includes invited speakers and 3 or 4 oral abstracts.

## Meet the Expert

This session type features a speaker from a symposia or an award recipient who addresses a significant problem and/or gap in knowledge on a particular subject. The format includes audience interaction with the speaker following their presentation.

## Mini-Conference

This session type is an extended format focusing on a specific topic area in the microbial sciences. Mini-Conferences will be scheduled on Thursday, June 13 and Monday, June 17.

## Panel Discussion

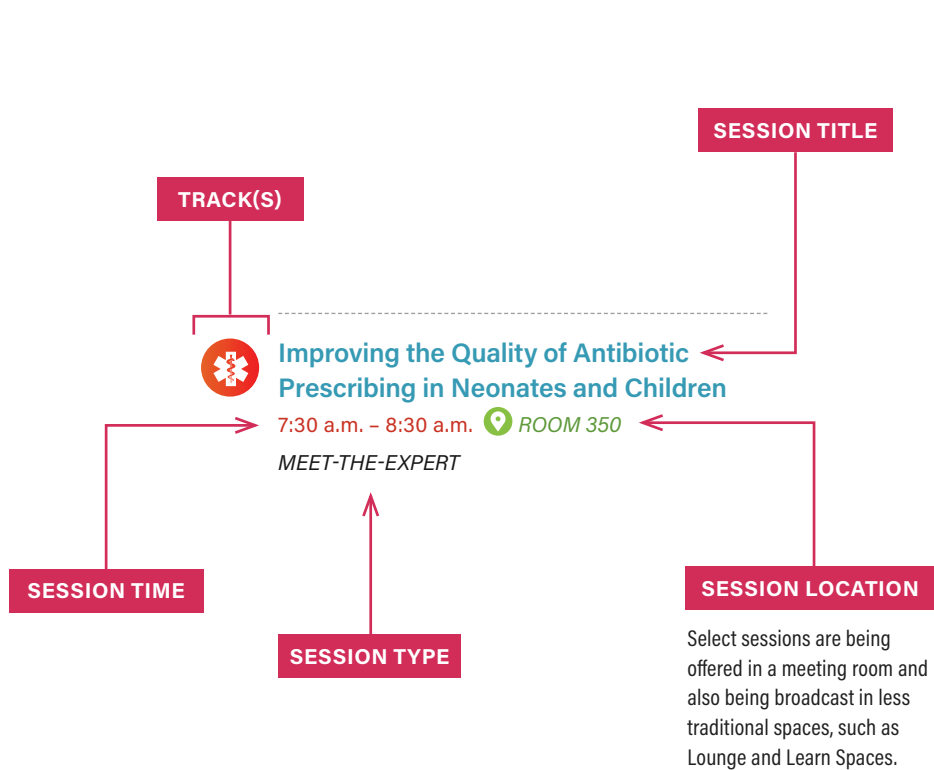
This type of session generates spontaneous interaction among panelists and between panelists and the audience in response to questions posed by the session convener.

## Track Hub Sessions

This type of session features a short, highly interactive presentation on a track-specific topic held in informal, open- space Track Hubs on the Exhibit and Poster Hall floor.

# Navigating the Final Program

We hope you'll enjoy the innovative programming we've put together for you at ASM Microbe 2024. As you make your way through this program, we thought it might be helpful to let you know exactly what you're reading. A quick guide below will help you understand "how to use this program."



Select sessions are being offered in a meeting room and also being broadcast in less traditional spaces, such as Lounge and Learn Spaces.

## Icon Legend



**AAR**

Antimicrobial Agents and Resistance



**MBP**

Molecular Biology and Physiology



**AES**

Applied and Environmental Science



**POM**

Profession of Microbiology



**CIV**

Clinical Infections and Vaccines



**EEB**

Ecology, Evolution and Biodiversity



**CPHM**

Clinical and Public Health Microbiology




**HMB**

Host-Microbe Biology



Additional Fee



# Discover the Future of the Microbial Sciences at ASM Studio

Join the live audience at the ASM Studio, in the ASM Booth (#209). The ASM Studio is an intimate stage, featuring conversational, informative and exciting talks exploring the latest innovations in the microbial sciences.

Join us, Friday, June 14th through Sunday, June 16th, 10:00 a.m. – 4:00 p.m. ET. Highlights include:

## Friday, June 14, 10:15 a.m. | Microbial Myths (5th edition)

From the commonly accepted to completely bizarre, *Microbial Myths* puts urban legends, superstitions and home remedies to the test—using science to determine fact or fiction!

## Saturday, June 15, 10:30 a.m. | microTalk—Eradication of the Guinea Worm

Adam Weiss, MPH, Director of the Guinea Worm Eradication Program at the Carter Center, will discuss guinea worm disease, the projected extinction of the guinea worm and other infectious disease eradication programs of the Carter Center, founded by President Jimmy Carter.

## Sunday, June 16, 1:30 p.m. | H5N1 Bird Flu in Cows: What Does That Mean for Us?

Highly pathogenic avian influenza (H5N1) has been circulating in the U.S. and Canada among wild birds since 2021 and isn't new. So, why is it such a concern in 2024, and what is the reason for its spread to mammals, including seals, foxes and now cows? Sanchita Das, MBBS, M.D., D(ABMM), explores the newest emergence of H5N1.

Don't miss live recordings of your favorite podcasts, including: Meet the Microbiologist, This Week in Microbiology, Editors in Conversation and microTalk.



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View the entire ASM Studio schedule in the ASM Events App (Scan the QR codeS or search the app store for ASM Events).

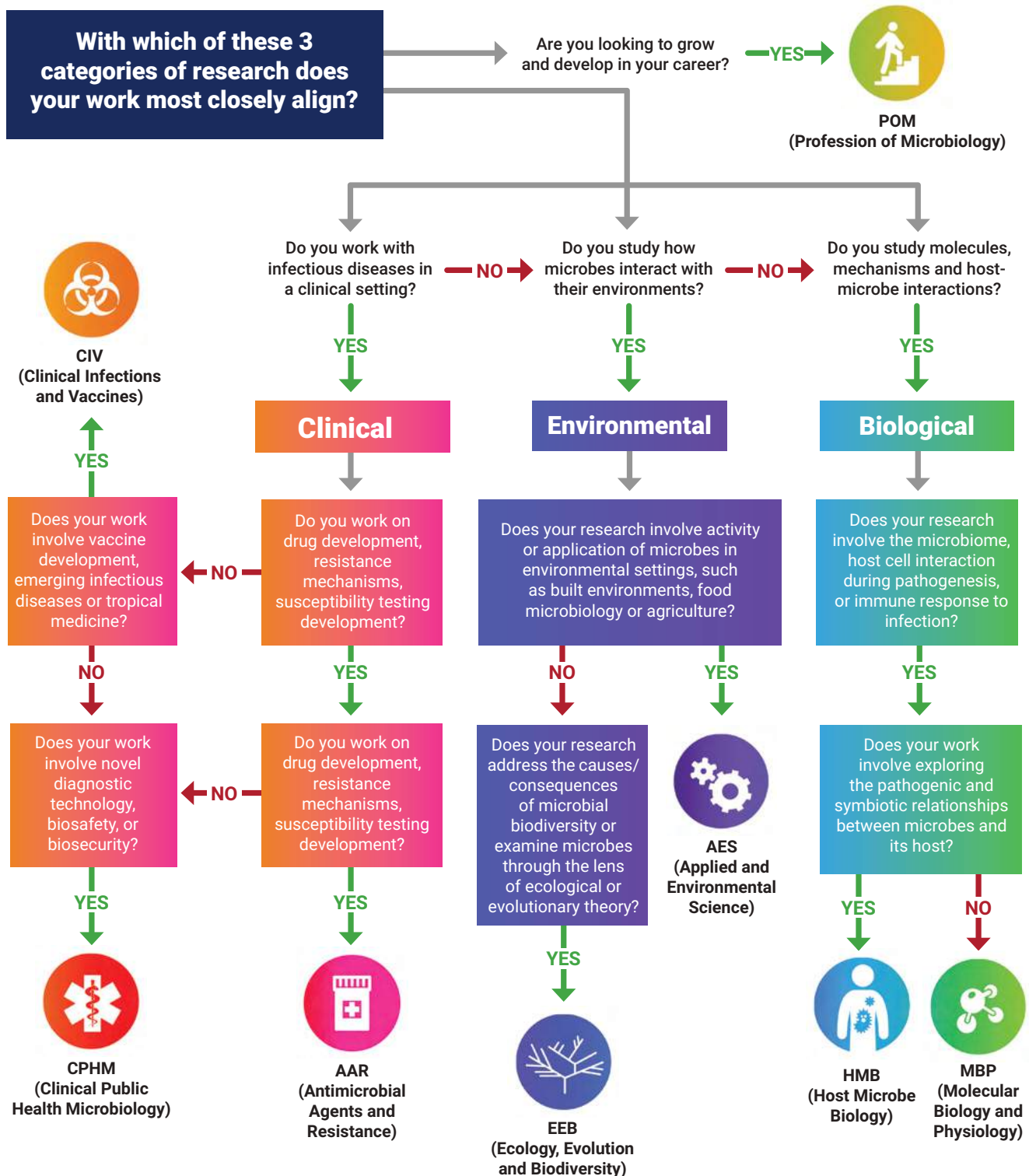
APP STORE



GOOGLE PLAY



# Find Your Track





# Tracks and Subtracks

Programming and posters for ASM Microbe 2024 are organized under nine Tracks, with multiple Subtracks to help you find your science and navigate the meeting with ease.



## **AAR** Antimicrobial Agents and Resistance

- AAR01 Surveillance of Antimicrobial Resistance in Clinical Isolates: Molecular Typing and Molecular Epidemiology
- AAR02 Antibiotic Agents: Mechanisms of Action and Resistance
- AAR03 Antifungal Agents: Mechanisms of Action and Resistance
- AAR04 Antiviral Agents (including HIV Drugs): Mechanisms of Action and Resistance
- AAR05 Antimicrobial Stewardship
- AAR06 Novel Approaches: Diagnostics/Discovery and Non-Traditional Therapies to Combat Drug-Resistant Infections
- AAR07 Antimicrobial Pharmacokinetics and Pharmacodynamics
- AAR08 New Antimicrobial Agents (in vitro and in vivo Studies)
- AAR09 Antimicrobial Properties of Plants and Natural Products



## **AES** Applied and Environmental Science

- AES01 Agricultural Systems Microbiology
- AES02 Food Systems & Food Fermentations Microbiology
- AES03 Engineered, Built and Urban Environments Microbiology

- AES04 Wastewater and Drinking Water Microbiology
- AES05 Industrial Microbiology: Bioproductions, Bioconversions and Fermentations
- AES06 Bioengineering: Synthetic Biology, Metabolic Engineering, Bioproducts, Biofuels & More
- AES07 Source Tracking: Non-clinical Microbial & AMR Detection and Monitoring
- AES08 Biotransformations: Bioremediation, Biodegradation, Biofouling and Biocorrosion
- AES09 Marine and Freshwater Microbiology
- AES10 Terrestrial, Extraterrestrial & Extreme Environments Microbiology



## **CIV** Clinical Infections and Vaccines

- CIV01 Clinical Studies of Adult Infectious Diseases, including Epidemiology and Clinical Trials
- CIV02 Infection Prevention and Control including Healthcare-associated Infections
- CIV03 Global Health
- CIV04 Transplant Infectious Diseases
- CIV05 Pediatric Infectious Diseases
- CIV06 Vaccines and Immunization Science
- CIV07 Infection Biology and Dynamics



## **CPHM** Clinical and Public Health Microbiology

- CPHM01 Administering the Clinical/Public Health Microbiology Laboratory
- CPHM02 Antimicrobial Susceptibility Testing
- CPHM03 Diagnostic Bacteriology
- CPHM04 Diagnostic Immunology

- CPHM05 Diagnostic Mycobacteriology
- CPHM06 Diagnostic Mycology
- CPHM07 Diagnostic Parasitology
- CPHM08 Diagnostic Public Health Microbiology
- CPHM09 Diagnostic Veterinary Microbiology
- CPHM10 Diagnostic Virology
- CPHM11 Laboratory Safety, Security and Biodefense
- CPHM12 Molecular Diagnostic Microbiology
- CPHM13 Laboratory Informatics
- CPHM14 Practical Tools for Bench Technologists
- CPHM15 One Health Practices and its Impact



## **EEB** Ecology, Evolution and Biodiversity

- EEB01 Microbial Ecology
- EEB02 Microbial Evolution and Comparative Genomics
- EEB03 Microbial Biodiversity and Systematics



**HMB**  
Host-Microbe  
Biology

- HMB01 Host Interactions of Human Pathogens Using Animal Model Systems
- HMB02 Basic Research of Pathogens in Human Systems
- HMB03 Microbial Pathogenesis of Non-human Hosts
- HMB04 Inflammation and Immunity
- HMB05 Cell Signaling Responses to Pathogens
- HMB06 Bacterial Toxins and Effectors in Eukaryotes and Inter Bacterial Competition
- HMB07 Invasion and Survival of Microbes in Host Cells
- HMB08 Microbiome Profiling
- HMB09 Microbiome Impact on Host Biology/Pathology
- HMB10 Eukaryotic Virus-Host Interaction
- HMB11 Phage-Host Interactions
- HMB12 Fitness and Virulence Regulatory Mechanisms
- HMB13 Surface Structures of Commensal and Pathogenic Microbes
- HMB14 Genetic and Physiological Adaptation to the Host
- HMB15 Polymicrobial Pathogenicity and Symbiosis



**MBP**  
Molecular Biology  
and Physiology

- MBP01 Gene Expression and Regulation
- MBP02 Signal Transduction
- MBP03 Stress Responses
- MBP04 Growth, Morphogenesis and Development
- MBP05 Genome Dynamics, including Replication, Repair and Recombination
- MBP06 Metabolism Enzyme Mechanics and Physiology
- MBP07 Biofilms, Motility and Other Collective Behaviors
- MBP08 Transport Systems
- MBP09 Phage and Viruses
- MBP10 New Microbiological Techniques
- MBP11 Computational Genomics/ Databases and Modeling



**POM**  
Profession of  
Microbiology

- POM01 Microbiology Education
- POM02 Microbiology Communication and Outreach
- POM03 Career and Professional Development
- POM04 History of Microbiology
- POM05 Microbiology Policy
- POM06 Diversity, Equity and Inclusion in Microbiology

TRACK AND SUBTRACK LEGEND CAN BE FOUND AT THE BEGINNING OF EACH DAILY SCHEDULE.

<b>AAR</b> Antimicrobial Agents and Resistance	<b>AES</b> Applied and Environmental Science	<b>CIV</b> Clinical Infections and Vaccines	<b>CPHM</b> Clinical and Public Health Microbiology	<b>EEB</b> Ecology, Evolution and Biodiversity	<b>HMB</b> Host-Microbe Biology	<b>MBP</b> Molecular Biology and Physiology	<b>POM</b> Profession of Microbiology	<b>Additional Fee</b>

# Contributors

The following individuals are recognized for assisting with abstract and travel award reviews for ASM Microbe 2024. We value your contributions and appreciate your continued support.

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Kathryn Elliott	Angela Ma	Natividad Ruiz	
	Erica Majumder	Victoria Ruiz	

# Posters

More than 2500 posters are featured in this year's Exhibit and Poster Hall. Meet poster presenters during dedicated Poster Presentation times, and view posters during official Exhibit and Poster Hall Hours. Plus, posters are organized by track, making it easy for you to navigate through all the science in your area of interest.

## Poster Key Dates and Times

	Friday, June 14	Saturday, June 15	Sunday, June 16
<b>Poster Services Hours</b>	8:30 a.m. – 5:30 p.m.	8:30 a.m. – 5:30 p.m.	8:30 a.m. – 4:30 p.m.
<b>Poster Set-Up</b>	9:30 a.m. – 10:00 a.m.	9:30 a.m. – 10:00 a.m.	9:30 a.m. – 10:00 a.m.
<b>Exhibit and Poster Hall Hours</b>	10:00 a.m. – 5:00 p.m.	10:00 a.m. – 5:00 p.m.	10:00 a.m. – 4:00 p.m.
<b>Poster Session 1</b>	10:30 a.m. – 11:30 a.m.	10:30 a.m. – 11:30 a.m.	10:30 a.m. – 11:30 p.m.
<b>Poster Session 2</b>	4:00 p.m. – 5:00 p.m.	4:00 p.m. – 5:00 p.m.	3:00 p.m. – 4:00 p.m.
<b>Poster Removal</b>	5:00 p.m. – 5:30 p.m.	5:00 p.m. – 5:30 p.m.	4:00 p.m. – 4:30 p.m.



# ASM CPHM

## Virtual Journal Club

Join us monthly for a discussion on hot topics in the lab!  
Visit [ASM.org](http://ASM.org) for more information.

# Poster Sessions

Poster sessions take place in the Poster and Exhibit Hall. Posters will be available for viewing from 10:00 a.m. – 5:00 p.m. on Friday and Saturday with poster presentations from 10:30 a.m. – 11:30 a.m. and 4:00 p.m. – 5:00 p.m.. Posters will be available for viewing from 10:00 a.m. – 4:00 p.m. on Sunday with poster presentations from 10:30 a.m. – 11:30 a.m. and 3:00 p.m. – 4:00 p.m.. Abstracts are available in the online program planner and mobile app.

## Friday, June 14



### Antimicrobial Agents and Resistance (AAR) Poster Sessions

Antibiotic Agents: Mechanisms of Action and Resistance  
Antimicrobial Pharmacokinetics and Pharmacodynamics  
Antimicrobial Properties of Plants and Natural Products  
Antimicrobial Stewardship  
Antiviral Agents (including HIV Drugs): Mechanisms of Action and Resistance  
New Antimicrobial Agents (In Vitro and In Vivo Studies)  
Novel Approaches: Diagnostics/Discovery and Non-Traditional Therapies to Combat Drug-Resistant Infections  
Surveillance of Antimicrobial Resistance in Clinical Isolates: Molecular Typing and Molecular Epidemiology



### Applied Environmental Science (AES) Poster Sessions

Agricultural Systems Microbiology  
Bioengineering: Synthetic Biology, Metabolic Engineering, Bioproducts, Biofuels and More  
Biotransformations: Bioremediation, Biodegradation, Biofouling and Biocorrosion  
Food Systems and Food Fermentations Microbiology  
Industrial Microbiology: Bioproductions, Bioconversions and Fermentations  
Marine and Freshwater Microbiology  
Source Tracking: Non-clinical Microbial and AMR Detection and Monitoring  
Wastewater and Drinking Water Microbiology



### Clinical Infections and Vaccines (CIV) Poster Sessions

Clinical Studies of Adult Infectious Diseases, including Epidemiology and Clinical Trials  
Global Health  
Infection Biology and Dynamics: Bacteria and Mycobacteria  
Infection Prevention and Control including Healthcare-associated Infections: Behaviors and Disinfection  
Pediatric Infectious Diseases  
Transplant Infectious Diseases  
Vaccines and Immunization Science: COVID



### Clinical and Public Health Microbiology (CPHM) Poster Sessions

Antimicrobial Susceptibility Testing  
Diagnostic Bacteriology  
Diagnostic Mycobacteriology  
Diagnostic Parasitology  
Diagnostic Public Health Microbiology  
Diagnostic Veterinary Microbiology  
Diagnostic Virology  
Molecular and Genome Sequencing for Diagnostics and AMR Detection  
One Health Practices and Its Impact



### Ecology, Evolution, and Biodiversity (EEB) Poster Sessions

Microbial Ecology  
Microbial Evolution and Comparative and Genomics  
Microbial Biodiversity and Systematics



### Host Microbe Biology (HMB) Poster Sessions

Cell Signaling Responses to Pathogens  
Eukaryotic Virus-Host Interaction  
Fitness and Virulence Regulatory Mechanisms  
Genetic and Physiological Adaptation to the Host  
Host Microbe Interactions using Vertebrate (non-human) Model Systems  
Host Microbe Interactions with Human as the Host  
Inflammation and Immunity  
Microbiome Impact on Host Biology/Pathology  
Microbiome Profiling  
Phage-Host Interactions

Surface Structures of Commensal and Pathogenic Microbes  
Therapeutics, Diagnostics, and Vaccines (Basic Science Stage)



### **Molecular Biology and Physiology (MBP) Poster Sessions**

Biofilms, Motility and Other Collective Behaviors  
Computational Genomics/Databases and Modeling  
Metabolism Enzyme Mechanics and Physiology  
Stress Responses  
Transport Systems



### **Profession of Microbiology (POM) Poster Sessions**

History of Microbiology  
Microbiology Education  
Microbiology Policy

## **Saturday, June 15**



### **Antimicrobial Agents and Resistance (AAR) Poster Sessions**

Antibiotic Agents: Mechanisms of Action and Resistance  
Antifungal Agents: Mechanisms of Action and Resistance  
Antimicrobial Pharmacokinetics and Pharmacodynamics  
Antimicrobial Properties of Plants and Natural Products  
Antimicrobial Stewardship  
Antiviral Agents (including HIV Drugs): Mechanisms of Action and Resistance  
New Antimicrobial Agents (In Vitro and In Vivo Studies)  
Novel Approaches: Diagnostics/Discovery and Non-Traditional Therapies to Combat Drug-Resistant Infections  
Surveillance of Antimicrobial Resistance in Clinical Isolates: Molecular Typing and Molecular Epidemiology



### **Applied Environmental Science (AES) Poster Sessions**

Agricultural Systems Microbiology  
Bioengineering: Synthetic Biology, Metabolic Engineering, Bioproducts, Biofuels and More  
Biotransformations: Bioremediation, Biodegradation, Biofouling and Biocorrosion  
Engineered, Built and Urban Environments Microbiology  
Industrial Microbiology: Bioproductions, Bioconversions and Fermentations  
Food Systems and Food Fermentations Microbiology

Marine and Freshwater Microbiology  
Source Tracking: Non-clinical Microbial and AMR Detection and Monitoring  
Terrestrial, Extraterrestrial and Extreme Environments Microbiology  
Wastewater and Drinking Water Microbiology



### **Clinical Infections and Vaccines (CIV) Poster Sessions**

Clinical Studies of Adult Infectious Diseases, Including Epidemiology and Clinical Trials  
Infection Biology and Dynamics: COVID-19  
Infection Prevention and Control including Healthcare-associated Infections: Clostridium and Multidrug Resistant Bacteria  
Global Health  
Pediatric Infectious Diseases  
Transplant Infectious Diseases  
Vaccines and Immunization Science: Bacteria



### **Clinical and Public Health Microbiology (CPHM) Poster Sessions**

Antimicrobial Susceptibility Testing  
Diagnostic Bacteriology  
Diagnostic Mycobacteriology  
Diagnostic Mycology  
Diagnostic Parasitology  
Diagnostic Public Health Microbiology  
Diagnostic Veterinary Microbiology  
Diagnostic Virology  
Laboratory Informatics  
Laboratory Safety, Security and Biodefense  
Molecular and Genome Sequencing for Diagnostics and AMR Detection  
Practical Tools for Bench Technologists



### **Ecology, Evolution, and Biodiversity (EEB) Poster Sessions**

Microbial Ecology  
Microbial Evolution and Comparative and Genomics  
Microbial Biodiversity and Systematics



### **Host Microbe Biology (HMB) Poster Sessions**

Fitness and Virulence Regulatory Mechanisms  
Host Microbe Interactions Using Non-vertebrate Model Systems

Host Microbe Interactions Using Vertebrate (Non-human) Model Systems  
Host Microbe Interactions with Human as the Host  
Inflammation and Immunity  
Invasion and Survival of Microbes in Host Cells  
Microbiome Impact on Host Biology/Pathology  
Microbiome Profiling  
Phage-Host Interactions

Food Systems and Food Fermentations Microbiology  
Marine and Freshwater Microbiology  
Source Tracking: Non-clinical Microbial and AMR Detection and Monitoring  
Terrestrial, Extraterrestrial & Extreme Environments Microbiology  
Wastewater and Drinking Water Microbiology



### **Molecular Biology and Physiology (MBP) Poster Sessions**

Gene Expression and Regulation  
Genome Dynamics, Including Replication, Repair and Recombination  
Growth, Morphogenesis and Development  
New Microbiological Techniques  
Stress Responses  
Phage and Viruses



### **Profession of Microbiology (POM) Poster Sessions**

Career and Professional Development  
Diversity, Equity and Inclusion in Microbiology  
Microbiology Communication and Outreach

## **Sunday, June 16**



### **Antimicrobial Agents and Resistance (AAR) Poster Sessions**

Antibiotic Agents: Mechanisms of Action and Resistance  
Antifungal Agents: Mechanisms of Action and Resistance  
Antimicrobial Properties of Plants and Natural Products  
Antimicrobial Stewardship  
New Antimicrobial Agents (In Vitro and In Vivo Studies)  
Novel Approaches: Diagnostics/Discovery and Non-Traditional Therapies to Combat Drug-Resistant  
Surveillance of Antimicrobial Resistance in Clinical Isolates: Molecular Typing and Molecular Epidemiology



### **Applied Environmental Science (AES) Poster Sessions**

Agricultural Systems Microbiology  
Biotransformations: Bioremediation, Biodegradation, Biofouling and Biocorrosion  
Engineered, Built and Urban Environments Microbiology



### **Clinical Infections and Vaccines (CIV) Poster Sessions**

Clinical Studies of Adult Infectious Diseases, Including Epidemiology and Clinical Trials  
Global Health  
Infection Biology and Dynamics: Parasitology and Virology (not COVID-19)  
Infection Prevention and Control Including Healthcare-associated Infections: Viruses, Outbreaks, and Surveillance  
Pediatric Infectious Diseases  
Transplant Infectious Diseases  
Vaccines and Immunization Science: Viruses (non-COVID), Yersinia, TB, and Parasites



### **Clinical and Public Health Microbiology (CPHM) Poster Sessions**

Administering the Clinical/Public Health Microbiology Laboratory  
Antimicrobial Susceptibility Testing  
Diagnostic Bacteriology  
Diagnostic Immunology  
Diagnostic Mycobacteriology  
Diagnostic Mycology  
Diagnostic Parasitology  
Diagnostic Public Health Microbiology  
Diagnostic Veterinary Microbiology  
Diagnostic Virology  
Molecular and Genome Sequencing for Diagnostics and AMR Detection  
One Health Practices and Its Impact



### **Ecology, Evolution, and Biodiversity (EEB) Poster Sessions**

Microbial Biodiversity and Systematics  
Microbial Ecology  
Microbial Evolution and Comparative and Genomics



### **Host Microbe Biology (HMB) Poster Sessions**

Bacterial Toxins and Effectors in Eukaryotes and Inter



Bacterial Competition  
Genetic and Physiological Adaptation to the Host  
Host Microbe Interactions Using Non-vertebrate Model Systems  
Host Microbe Interactions Using Vertebrate (Non-human) Model Systems  
Host Microbe Interactions with Human as the Host  
Microbiome Impact on Host Biology/Pathology  
Microbiome Profiling  
Polymicrobial Pathogenicity and Symbiosis  
Therapeutics, Diagnostics, and Vaccines (Basic Science Stage)

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## **Molecular Biology and Physiology (MBP) Poster Sessions**

Biofilms, Motility and Other Collective Behaviors  
Gene Expression and Regulation  
Metabolism Enzyme Mechanics and Physiology  
New Microbiological Techniques  
Phage and Viruses  
Signal Transduction

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## **Profession of Microbiology (POM) Poster Sessions**

Microbiology Communication and Outreach  
Microbiology Education

You

Pick your panel |



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Influenza A



Adenovirus (A-F)



*Bordetella holmesii*



Influenza A (subtype H1)



Parainfluenza 1



*Bordetella parapertussis*



Influenza A (subtype H3)



Parainfluenza 2



*Bordetella pertussis*



Influenza B



Parainfluenza 3



*Chlamydophila pneumoniae*



SARS-CoV-2



Parainfluenza 4



*Mycoplasma pneumoniae*



Human Coronavirus



RSV A/B



Human Metapneumovirus



Enterovirus/Rhinovirus



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# 2024 Awards & Prize Recipients

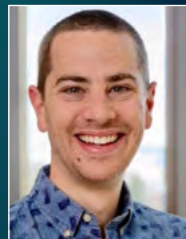
ASM Awards & Prize highlight individuals who have made significant contributions to advance the field, their careers and their institutions. These awards recognize outstanding science at every career level and in every sub-discipline of the microbial sciences.

**Join us to Congratulate the 2024 Awards & Prize Recipients!**



**ASM Alice C. Evans Award for Advancement of Women**

**Shannon D. Manning, Ph.D.**  
Michigan State University



**ASM Award for Early Career Basic Research**

**Aaron Whiteley, Ph.D.**  
University of Colorado Boulder



**ASM Award for Applied and Biotechnological Research**

**James E. Crowe, Jr., M.D.**  
Vanderbilt University Medical Center



**ASM Award for Early Career Clinical Microbiology Research**

**Alexander L. Greninger M.D., Ph.D.**  
University of Washington Medical Center



**ASM Award for Basic Research**

**Christine Jacobs-Wagner, Ph.D.**  
Stanford University and Howard Hughes Medical Institute



**ASM Award for Environmental Research**

**Nicole Dubilier, Ph.D.**  
Max-Planck-Institute for Marine Microbiology, Germany



**ASM Award for Early Career Applied and Biotechnological Research**

**Nathan Grubaugh, Ph.D.**  
Yale School of Public Health



**ASM Award for Research or Leadership in Clinical Microbiology**

**Bobbi S. Pritt, M.D., M.Sc.**  
Mayo Clinic



**ASM Award for Service**

**Audrey Schuetz, M.D.**

Mayo Clinic College of Medicine and Science



**ASM Lifetime Achievement Award**

**Rita R. Colwell, Ph.D.**

University of Maryland at College Park and Johns Hopkins Bloomberg School of Public Health



**ASM Carski Award for Undergraduate Education**

**Lee Hughes, Ph.D.**

University of North Texas



**ASM Microbiome Data Prize**

**Ami Bhatt, M.D., Ph.D.**

Stanford University



**ASM D.C. White Award for Interdisciplinary Research**

**Gemma Reguera, Ph.D.**

Michigan State University



**ASM Moselio Schaechter Award in Recognition of a Developing-Country Microbiologist**

**Iruka N. Okeke, Ph.D.**

University of Ibadan, Nigeria



**ASM Elizabeth O. King Lecturer Award**

**Fang Li, Ph.D.**

University of Minnesota



**ASM Scherago-Rubin Award for Clinical Microbiology**

**David Lonsway, M.Med.**

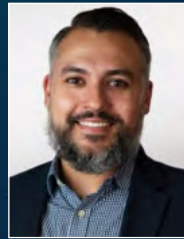
Centers for Disease Control and Prevention



**ASM Honorary Diversity Lecturer Award**

**Arturo Casadevall, M.D., Ph.D.**

Johns Hopkins School of Medicine



**ASM William A. Hinton Award for Advancement of a Diverse Community of Microbiologists**

**Jesús Antonio Romo, Ph.D.**

The University of Texas at San Antonio

**Know other colleagues who are excellent candidates for these awards?**

Nominate them for a 2025 Award at [asm.org/awards](http://asm.org/awards)

Deadline: June 24, 2024

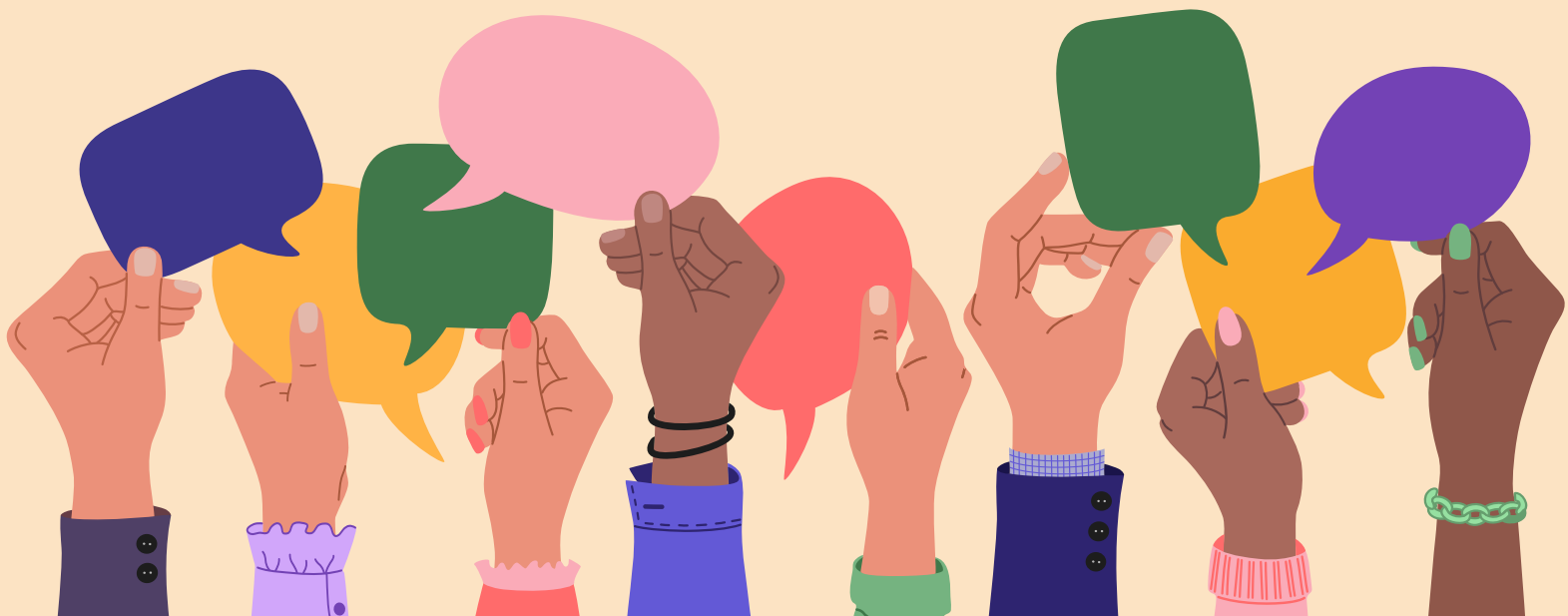


**While you're at ASM Microbe 2024, make sure to catch their sessions!**

Scan QR code to view all sessions with talks by the 2024 ASM Awards and Prize recipients.

**Learn more at [asm.org/awards](http://asm.org/awards)**

*The ASM Awards and Prize program is managed by the American Academy of Microbiology, the honorific leadership group and think tank within ASM.*



# Gather and Connect at the IDEAA Town Hall.

Join the Inclusive Diversity with Equity, Access and Accountability (IDEAA) Town Hall. Meet and connect with the ASM's IDEAA Committee, June 14 from 7:30-8 p.m., B216-217, GWCC.

[Attend the Town Hall](#)

## Explore the ASM Microbe DEI Curated Itinerary!










In the DEI curated sessions, you'll engage with thought leaders, participate in critical discussions on educational disparities and discover strategies to overcome them.

[Discover DEI Sessions](#)

# Daily Schedule

## Wednesday Schedule

WEDNESDAY, JUNE 12

 <b>AAR</b> Antimicrobial Agents and Resistance	 <b>AES</b> Applied and Environmental Science	 <b>CIV</b> Clinical Infections and Vaccines	 <b>CPHM</b> Clinical and Public Health Microbiology	 <b>EEB</b> Ecology, Evolution and Biodiversity	 <b>HMB</b> Host-Microbe Biology	 <b>MBP</b> Molecular Biology and Physiology	 <b>POM</b> Profession of Microbiology	 Additional Fee
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**Council on Microbial Sciences Meeting** (invitation only)

8:30 a.m. – 5:00 p.m.  International Ballroom, D, Omni

**ASM Future Leaders Mentorship Fellowship Networking Meet & Greet** (invitation only)

5:30 p.m. – 7:00 p.m.  RT60 Rooftop, Reverb Hotel



# 20 Years Strengthening Laboratory and Health Systems Around the World

## Our Work

We strengthen laboratory and health systems by building capacity across the One Health spectrum to address the world's most critical health challenges, like antimicrobial resistance, HIV, TB, and Malaria, to improve global health outcomes.










With a commitment to sustainability and local ownership, we're not just responding to public health emergencies —we're preparing for a healthier future!



Learn more about GPHP's transformative global initiatives at [asm.org/global-health](https://asm.org/global-health) and contact us at [globalhealth@asmusa.org](mailto:globalhealth@asmusa.org)

# Thursday Schedule

THURSDAY, JUNE 13

 <b>AAR</b> Antimicrobial Agents and Resistance	 <b>AES</b> Applied and Environmental Science	 <b>CIV</b> Clinical Infections and Vaccines	 <b>CPHM</b> Clinical and Public Health Microbiology	 <b>EEB</b> Ecology, Evolution and Biodiversity	 <b>HMB</b> Host-Microbe Biology	 <b>MBP</b> Molecular Biology and Physiology	 <b>POM</b> Profession of Microbiology	 Additional Fee
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## GPHP Committee Meeting (invitation only)

8:00 a.m. – 9:30 a.m.  Sycamore, Omni

## ASM Young Ambassador of Science Retreat (invitation only)

8:00 a.m. – 12:00 p.m.  Grand Ballroom AB, Omni

## AEM Editors' Meeting (invitation only)

8:00 a.m. – 2:00 p.m.  Magnolia, Omni

## ASM Future Leaders Mentorship Fellowship Symposium (invitation only)

8:00 AM - 2:30 PM  B303, Georgia World Congress Center



## How to Empower Diversity and Foster Inclusivity in STEM



8:30 a.m. – 4:00 p.m.  B312, Georgia World Congress Center

*COURSE-WORKSHOP (ADDITIONAL FEE REQUIRED; LUNCH INCLUDED)*

Convener: **Amy Reese**

Speakers: **Tasha Sturm, Madeline Shay, Karl Thompson, Jeffrey Olimpo, Rachel Roper, Margaret Powers-Fletcher**

There is a significant role for diversity in science education and the future of STEM. This session will explore the multifaceted aspects of diversity, including race, gender, ability, and socioeconomic backgrounds, and how they intersect with science education. This interactive, full day workshop will cover how to pursue STEM outreach and recruitment in areas where education disparities exist, to maintain strong mentorship relationships, develop training curricula that support equitable and inclusive learning, and present strategies to support and overcome challenges. Our speakers will share personal experiences, best practices, and success stories in promoting inclusivity within STEM disciplines.



## You Can't Resist: Detecting, Characterizing, and Interpreting Antimicrobial Resistance



8:30 a.m. – 4:00 p.m.  B308, Georgia World Congress Center

*COURSE-WORKSHOP (ADDITIONAL FEE REQUIRED; LUNCH INCLUDED)*

Convener: **Carey-Ann Burnham**

Speakers: **Carey-Ann Burnham, Hannah Wang, Eric Ransom, Reeti Khare, Sarah Kidd, Mimi Precit, Daniel Rhoads**

Antimicrobials are unique among all therapeutic agents in that the use of an antimicrobial in one patient can compromise its efficacy in another. Therefore, an intimate understanding of antimicrobial susceptibility testing and resistance detection is essential for all those involved in the practice of clinical microbiology. Guided by subject matter experts, attendees of this workshop will be immersed in interactive presentations brimming with news you can use; covering the fundamentals of these topics as they relate to bacteria, mycobacteria, fungi, and viruses. You can't resist attending!



# Thursday Schedule (Continued)

THURSDAY, JUNE 13



## Histopathology of Infectious Diseases for Clinical Microbiologists



8:30 a.m. – 4:00 p.m.  B401, Georgia World Congress Center

*COURSE-WORKSHOP (ADDITIONAL FEE REQUIRED; LUNCH INCLUDED)*

Convener: **Bobbi Pritt**

Speakers: **Blaine Mathison, Bobbi Pritt, Gary Procop, Benjamin Bradley**

The histopathologic study of infectious diseases is not well-covered in most Clinical Microbiology fellowship training programs, and yet is a helpful skill for clinical practice. This updated, interactive, case-based, full-day workshop expands on previous courses to cover the fundamentals of infectious disease pathology, provide helpful algorithms and resources for everyday practice, and reinforce knowledge through an array of brand-new cases. Topics covered will include histology of commonly seen organs, inflammatory patterns associated with infectious diseases, and specific features of bacterial, fungal, viral and parasitic pathogens in tissue sections.


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## MicroBio-LEAP Training-of-Leaders Scholars Summit (invitation only)

9:00 a.m. – 3:30 p.m.  Cottonwood AB, Omni

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## Driving Health Equity through One Health

10:00 a.m. – 12:00 p.m.  Dogwood A, Omni

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## CMR Editors' Meeting (invitation only)

11:30 a.m. – 2:30 p.m.  Juniper, Omni

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## Branch Officers Forum (invitation only)

12:00 p.m. – 3:00 p.m.  International Ballroom F, Omni

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## City Bus Tour



12:00 p.m. – 3:30 p.m.

*(ADDITIONAL FEE REQUIRED)*

Join us for an amazing tour of the City of Atlanta! Take a journey back in time as we start from downtown sites like the world-famous Underground Atlanta. Did you know Atlanta was completely burned to the ground in 1864? Come on tour with us and find out all the secrets of the city known as The Phoenix.

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## Microbial Solutions for Climate Change – Science & Policies Required to Support a Sustainable Economy for the Future

12:30 p.m. – 3:00 p.m.  A406, Georgia World Congress Center

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## Early Career Microbiologists' Day: Empowering Tomorrow's Leaders (advance registration required)

12:30 p.m. – 4:00 p.m.  A410, Georgia World Congress Center

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## Workshop for Water Quality Testing at the Community Level (invitation only)

12:30 p.m. – 4:30 p.m.  Grand Ballroom AB, Omni

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## Better Together: Pathogen Genomics and Cross-sector Collaboration and Training to Drive Innovation for Public Health

1:00 p.m. – 4:15 p.m.  Dogwood A, Omni

# Thursday Schedule (Continued)

THURSDAY, JUNE 13



## Annual Meeting of the Oversea Chinese Society for Microbiology

12:30 p.m. – 4:00 p.m. B314, Georgia World Congress Center

MINI-CONFERENCE

Convener: **Zhao-Qing-Luo**

Speakers: **Yiping Han, Benjamin Liu, Xuesong He, Jian Xu, J. Zhu**

This will be session with diverse research topics, attendees will learn the recent advancement in the study of bacteria that impact both the environment and human and animal health. Topics that cover microbiome and biochemical study of bacterial virulence factors will be also covered. Mechanism of antibiotic resistance and its mitigation.



## Biofilms Mini-Conference

1:30 p.m. – 4:00 p.m. A315, Georgia World Congress Center

MINI-CONFERENCE

Convener: **Birthe Kjellerup**

Speakers: **Mette Burmølle, Gabriele Micali, David Karig, Benjamin Bradley, Clara Belzer**

While research was initially focused solely on their destruction, the complexity, interactions, and utility of biofilms have been the subject of much research in recent decades. Technological advancements in e.g., sequencing and imaging have facilitated advancements in our understanding of the structure, formation, and microbial interactions within and outside of biofilms. The speakers in this mini conference will present research on ASTM methods and biofilm standards, environmental biofilms, bioremediation and biodegradation, and electrified/ synthetic biofilms.



## New Frontiers in Shigella Vaccine Development: First Clinical Readouts from Multivalent Parenteral Shigella Vaccines and Trials Among Infants in Low- and Middle-income Countries

1:30 p.m. – 4:00 p.m. A311, Georgia World Congress Center

MINI-CONFERENCE

Convener: **Calman MacLennan**

Speakers: **Laurence Mulard, Patricia Martin, Francesca Micoli**

Shigellosis is the leading bacterial cause of diarrheal deaths globally and is associated with linear growth faltering and rising levels of antimicrobial resistance. Despite 120 years of Shigella vaccine development and clinical efficacy with a Shigella sonnei conjugate vaccine 25 years ago, there is no licensed vaccine. However, promising new-generation parenteral vaccines utilizing a range of technologies are completing clinical trials for the first time in multivalent format and/or in the target population of infants in low- and middle-income countries. This mini-conference will present the findings of these studies, providing the learner with background information on each candidate and vaccine technology and results from these clinical trials, and enabling them to understand what is advancing to late-stage clinical studies with a view to a first licensed vaccine against shigellosis.



## Microbial Data and Tools Without Borders: Advancing an Open Science Ecosystem

1:30 p.m. – 4:00 p.m. A302, Georgia World Congress Center

MINI-CONFERENCE

Convener: **Emiley Eloë-Fadrosh**

Speakers: **Christina Kellogg, Srimathy Sriskantharajah, Amalia Corby, Chloe Mirzayi, Scott Jackson, Julia Kelliher, J. Rodney Brister, Luke Thompson, Katherine Thibault, Mamta Rawat**

The microbial sciences are poised to make significant contributions towards advancing the bioeconomy. To realize this future, a multiagency ecosystem supporting data, software, infrastructure, and synthesis is needed. This mini-conference will bring together resource providers spanning diverse areas of microbial science to share perspectives on data sharing and standards, broadening access, training an inclusive workforce, and the current needs to support national capacity. Panelists will highlight current tools and resources that enable the generation of Findable, Accessible, Interoperable, and Reusable (FAIR) data and discuss how FAIR data practices enable data reuse. Panelists will explore existing and future ways to support broadening access and providing learning opportunities with an emphasis on fostering interdisciplinary team science. Content will cover resources provided by the National Microbiome Data Collaborative (NMDC), the National Ecological Observatory Network (NEON), NASA GeneLab, the National Center for Biotechnology Information (NCBI), and the International Microbiome and Multi-Omics Standards Alliance (IMMSA). Attendees will participate in open discussion with panelists to outline priorities in support of a collaborative open science ecosystem that transcends existing agency and domain borders. Attendees will also gain an understanding of data stewardship best practices and an understanding of the available tools and resources that can further their research goals.

# Thursday Schedule (Continued)

THURSDAY, JUNE 13



## CDC's Legacy of Triumphs and Challenges in Tackling the Biggest Microbial Challenges of Our Era

1:30 p.m. – 4:00 p.m. A402, Georgia World Congress Center

MINI-CONFERENCE

Convener: **Sergio Rodriguez**

Speakers: **Tomislav Mestrovic, Sergio Rodriguez**

The Centers for Disease Control and Prevention (CDC) has had a significant historical role in safeguarding public health and addressing the ever-evolving microbial landscape, not only in the U.S., but throughout the world. There were many triumphs in eradicating lethal diseases, coupled with the discovery of novel pathogens with manifold implications for modern microbial sciences and clinical practice. This symposium, developed by the Center for the History of Microbiology/ASM Archives (CHOMA), will explore the most important and captivating stories of the agency's past successes, challenges and controversies in tackling pressing microbial challenges of our time, with an emphasis on international collaboration. The symposium will look at CDC's central role in 1) eradicating smallpox, a testament to the application of scientific surveillance principles in addressing a complex problem; 2) its work on Ebola virus, understanding sexual transmission of hepatitis B. 3) isolating the hepatitis C virus 4) isolating the organism responsible for Legionnaires disease. 5) formulating the Study of the Effectiveness of Nosocomial Infection Control (SENIC), a substantial undertaking that demonstrated, for the first time, the efficacy of recommended infection-control practices. Speakers in this session will: 1) Analyze how CDC identified the causes of Legionnaires' disease and toxic shock syndrome during the mid-1970s and early 1980s and played a pivotal role in investigating and reporting on the emerging acquired immunodeficiency syndrome (AIDS) epidemic. Since then, CDC's ongoing efforts in addressing AIDS have been supported by a significant portion of its budget and staff, underscoring its dedication to combat this formidable health challenge. 2) Discuss Sanchez and Heinz Feldman efforts between the mid-1980s and mid-1990s to study and characterize the Ebola virus genome. 3) Explore how CDC played a trailblazing role in the international smallpox eradication campaign. As a global leader in public health, CDC spearheaded efforts to combat smallpox, coordinating with various international partners and institutes. Through rigorous research, vaccination campaigns, and surveillance, CDC's leadership paved the way for the successful eradication of smallpox, leaving a lasting impact on global health and showcasing the power of international collaboration in conquering deadly diseases. 4) Explain how the Venereal Disease Program, which became a part of CDC in 1957, laid the foundation for comprehensive STI surveillance, prevention, and treatment efforts. Although concentrated on syphilis and gonorrhoeae during 1950s and 1960s, its pioneering work in understanding the epidemiology of STIs and implementing public health interventions has informed current strategies to combat these infections. 5) Examine how the Tuskegee Syphilis Study impacted CDC's approach to studying and battling infectious diseases, striving for a more equitable, inclusive and effective response to protect public health. In addition to the 2 suggested speakers listed later in this proposal, a third speaker is TBD\*; topic for 3rd speaker is "The Trailblazing Role of CDC in International Smallpox Eradication Campaign" A panel discussion with session speakers/CDC reps will conclude the session.

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## ASM Microbe 2024 Attendee Orientation

3:00 p.m. – 4:15 p.m. A314, Georgia World Congress Center

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## Opening General Session

4:30 p.m. – 6:15 p.m. Sidney J. Marcus Auditorium, Georgia World Congress Center

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## Opening Reception

6:30 p.m. – 7:30 p.m. Level 4 Concourse, Georgia World Congress Center

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## CMR Editors' Dinner (invitation only)

7:00 p.m. – 10:00 p.m. Offsite

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## AEM Editors' Dinner (invitation only)

7:00 p.m. – 10:00 p.m. Offsite

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Visit **ASM Booth (209)** to participate in interactive activities and earn exciting giveaways.

## Lounge & Learn sessions:

**Artificial Intelligence and Scholarly Publications: Expectations, Equity, and Ethics**

Friday at 1:00 p.m.

**Submission 101: I Have Done the Science Now How do I Submit?**

Friday at 3:15 p.m.  
Saturday at 11:00 a.m.

**Early Career Researcher Engagement at ASM Journals**

Friday at 4:15 p.m.












AMERICAN  
SOCIETY FOR  
MICROBIOLOGY



Explore the Full  
Journals and Publishing  
Curated Itinerary

# Friday Schedule

FRIDAY, JUNE 14

 <b>AAR</b> Antimicrobial Agents and Resistance	 <b>AES</b> Applied and Environmental Science	 <b>CIV</b> Clinical Infections and Vaccines	 <b>CPHM</b> Clinical and Public Health Microbiology	 <b>EEB</b> Ecology, Evolution and Biodiversity	 <b>HMB</b> Host-Microbe Biology	 <b>MBP</b> Molecular Biology and Physiology	 <b>POM</b> Profession of Microbiology	 Additional Fee
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## CMR Editorial Board Breakfast (invitation only)

7:00 a.m. – 8:15 a.m.  Juniper, Omni

## CPEP Fellows Breakfast (invitation only)

7:00 a.m. – 8:15 a.m.  Dogwood B, Omni

## AEM Editorial Board Breakfast (invitation only)

7:00 a.m. – 8:15 a.m.  Cottonwood AB, Omni



## Microbial Innovations for a Sustainable Tomorrow

8:15 a.m. – 10:15 a.m.  Sidney J. Marcus Auditorium, Georgia World Congress Center

*CROSS-TRACK PLENARY*

Convener: **Yaprak Ozakman**

Speakers: **Jason Peters, Angela Sessitsch, Suzanne van Asten**

This session focuses on the intersection of microbiology and sustainability, where microbial innovations hold immense potential for shaping a sustainable future. Microorganisms play vital roles in various sustainability-related areas. In this session, we will explore cutting-edge research and transformative applications that leverage the power of microorganisms to address global sustainability challenges. Through engaging presentations and interactive discussions, attendees will discover the latest advancements in harnessing microbial capabilities for eco-friendly solutions including advanced use of genetic approaches and microbiome approaches. From novel biotechnological approaches to microbiome innovations, we will highlight the wide range of possibilities that microbes offer for creating a sustainable tomorrow. The discussion will also center on how to implement responsible and sustainable lab management to save resources and costs in microbiology everyday practice. This session aims to bridge the gap between theory and practice by providing hands-on examples on how we can live up to our responsibility of sustainability. This session is co-hosted with the ASM Young Leader's Circle.



## New Therapeutic Options for Treating Gram-negative Infections; The Uprising of the Beta-lactam/ Beta-lactamase Compounds

8:15 a.m. – 10:15 a.m.  A412, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Laurent Poirel**

Speakers: **Ryan Shields, Pranita Tamma, Laurent Poirel**

The recent development of novel therapeutic drugs aiming to provide novel therapeutic alternatives against infections caused by the so-called multidrug-resistant isolates opens a totally novel landscape in the bacterial-related infectious diseases field. Indeed, although very few therapeutic options were still available in many infectious contexts and in many geographical areas quite recently, there is currently a new wave of therapeutical options that are not or will soon be available. The tremendous development of  $\beta$ -lactamase inhibitors now provides new alternatives when combined to some  $\beta$ -lactam antibiotics (being either old or new molecules). Those  $\beta$ -lactamase inhibitors belonging to several molecule classes (i.e. diazabicycloonate-derived, boronic acid-derived, etc...) are currently under clinical evaluation, implying that fundamental and clinical investigations are currently required to i) evaluate their potency in association with some other antibacterial agents, ii) identify any possible resistance mechanisms, and iii) perform some corresponding epidemiological / surveillance surveys to better evaluate their overall efficacy and added value in different epidemiological contexts.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Immune Recognition of Microbial Troublemakers

8:15 a.m. – 10:15 a.m. B312, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Christopher LaRock**

Speakers: **Christopher LaRock, Igor Brodsky, Kim Robinson**

Detecting infiltration by prospective pathogens plays a crucial role in safeguarding the health and survival of organisms. Conventional pattern recognition receptors are adept at recognizing microbe-associated molecular patterns. However, this is typically too non-specific at barrier sites to discriminate an infectious threat from resident microbiota species that must be tolerated. Furthermore, several species blur this line and can be microbiota, cause routine mild disease, or deadly infections; escalation of the immune response in these circumstances would be advantageous. In recent years several exciting advances are detailing mechanisms in the threat assessment of a microbe. This session will cover emergent topics in cell-intrinsic immunity and effector-triggered immunity to discuss how cells can specifically detect pathogenesis through the activities of microbial toxins or effectors, and how successful pathogens can subvert this for their growth, survival, and transmission.



## Battle of the Brains: Clinical and Public Health Microbiology

8:15 a.m. – 10:15 a.m. A411, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Moderators: **Alexandra Bryson, Kyle Rodino**

This session is an interactive, case-based way to test your clinical microbiology knowledge and learn about the latest technologies and emerging pathogens. Four teams comprised of diverse members in infectious diseases, clinical microbiology, and public health microbiology will compete in three rounds of infectious diseases diagnostics trivia. The audience can participate alongside the teams and help provide answers when the teams need to phone a friend for assistance in answering the case question.



## The Rise and Fall of Proteins

8:15 a.m. – 10:15 a.m. B314, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Karl Thompson**

Speakers: **Peter Dedon, Peter Chien, Aisha Burton**

This session will introduce the audience to critical cis and trans acting factors that control the efficiency of translational elongation in bacteria. While translational initiation can be regulated by small RNAs and RNA chaperones, the mechanisms used by bacteria to regulate translation during elongation are not as well characterized. The elongation process is a committed process, whereby termination within the reading frame does not occur unless translational errors occur. In this session the audience will learn about tRNA modifications, synonymous codon usage, and codon context that, taken together, can fine tune translation elongation. The learner should attend this session to obtain a greater understanding of this re-emerging topic, particularly in the context of emerging epitranscriptome studies in microbial and non-microbial systems. This will also illuminate potential scenarios in various regulatory systems whereby these factors may play an unexpected but influential role in the expression of a given gene.



## AI and the Search for New Antimicrobials

8:15 a.m. – 10:15 a.m. A311, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Georgina Cox**

Speakers: **Jonathan Stokes, Cesar de la Fuente, Silvia Cardona**

The ever-increasing emergence of drug-resistant microbial pathogens emphasizes the need for innovation in the drug discovery field. Artificial intelligence (AI) and machine learning algorithms could revolutionize the search for new antimicrobial agents. Over the last decade, monumental technological advances have led to an increase in AI-integrated drug discovery endeavors. This session will explore how AI is transforming and expediting the search for new antibiotics.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Recent Advances from the Next Generation of Scientists

8:15 a.m. – 10:15 a.m. B303, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Ashley Groshong**

Research within the Molecular Biology and Physiology Track embodies a wide array of topics within the microbiological sciences. This session will highlight groundbreaking work from trainee submitted abstracts within and beyond the areas emphasized in our in-depth symposia programming.



## Fine-Tuning Beta-Lactams: Prolonged Infusion Therapy and Therapeutic Drug Monitoring

8:15 a.m. – 10:15 a.m. A302, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Jacinda Abdul-Mutakabbir**

Speakers: **Marc Scheetz, Erin Barreto**

This session will be focused on optimizing PK/PD to achieve targeted concentrations to overcome resistance and promote positive patient outcomes.



## Synthetic Biology for Natural Products Discovery and Production

8:15 a.m. – 10:15 a.m. B401, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Benjamin Philmus**

Speakers: **Jay Keasling, Alessandra Eustaquio**

This session will present updates on synthetic biology approaches to define and activate novel/cryptic gene clusters and create means of increasing specificity and yields.



## A New Look at an Old Disease: Tuberculosis

8:15 a.m. – 10:15 a.m. A402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Adrian Zelazny**

Speakers: **Juliet Sekandi, Russell Kempker, Bruno Bezerril Andrade**

New approaches are now being used to understand pathogenesis, and in diagnosis and treatment of infections. In this session speakers will explore novel techniques such as artificial intelligence and single cell transcriptomics in the approach to tuberculosis and lung diseases.



## Impact of Metabolism on Microbial-host Interactions

8:15 a.m. – 10:15 a.m. B308, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Shaun Brinsmade**

Speakers: **Casey Theriot, Jeff Boyd, Robert Quinn**

The gut microbiota utilizes, interacts and transforms GI metabolites to mediate growth, virulence, and regulate the host. Recent advances to analyze the consequences of such manipulations on a genome- and system-wide level have revealed unexpected connections between metabolism and virulence. These metabolic interactions have a significant impact on human health. This session highlights some of these recent discoveries and the impacts they are having on our understanding of host-microbiome crosstalk through these important molecules in the human gut.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Phage Therapy in the Age of AMR: Strategies to Accelerate Phage Therapy from Lab to Market

8:15 a.m. – 10:15 a.m. A315, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Ashlan Kunz Coyne**

Speakers: **Susan Lehman, Ghady Haidar**

In the face of rising antimicrobial resistance (AMR), phage therapy emerges as a promising countermeasure. This session offers a deep dive into the journey of phages from laboratory discovery to clinical application. We'll tackle key challenges from pre-clinical validation and clinical trials to regulatory complexities and production scalability. Through expert insights and collaborative discussions, attendees will gain a comprehensive understanding of current barriers and strategies to expedite the market readiness of phage therapies in the AMR era. Ideal for professionals in antimicrobial research, phage biology, clinical therapeutics, and regulatory domains.

## Microbiome Lounge & Learn Session

9:00 a.m. – 9:45 a.m. Lounge & Learn 2, Georgia World Congress Center



## Can Artificial Intelligence Solve Environmental Microbiology's Greatest Challenges?

9:15 a.m. – 10:15 a.m. B304, Georgia World Congress Center

*PANEL DISCUSSION*

Moderator: **Peter Girguis**

Regenerative AI models such as ChatGPT have revolutionized the way we interact with online information and has presented new opportunities for various scientific disciplines, including environmental microbiology. Indeed, these could be of value in exploring and analyzing complex datasets. In this panel, we will explore ChatGPT's potential to tackle one of environmental microbiology's "grand challenges": The identification of processes, patterns, and relationships across disparate datasets, and consider the advantages and limitations of using such models in environmental microbiology...and microbiology writ large.

Environmental microbiology began over two hundred years ago, and since its inception has faced the challenge of deciphering complex and intricate relationships between biological, geochemical, and physical factors. The complexity of these data hinders the identification of patterns and relationships in natural and anthropogenic environments. Regenerative AI such as ChatGPT is, by nature, ideally suited to identifying patterns in its training dataset (the "corpus") and presenting distillations of those patterns in readily accessible formats. Thus, environmental microbiologists can potentially leverage its natural language processing abilities to explore intricate datasets more efficiently.

There is an opportunity to adapt such models specifically to environmental microbiology. For example, the model could be trained on environmental microbiological data, and as it becomes better acquainted with these datasets and the field's nuances, it might develop a more effective capacity to offer domain-specific insights that enhance scholars' understanding of patterns and processes in microbial ecosystems. Via these explorations, researchers can iteratively refine their questions and investigate novel hypotheses, ultimately leading to more precise and targeted investigations.

That said, and despite its remarkable potential, several questions remain regarding these models' efficacy in enhancing scientific discovery. First, given the complexities of natural ecosystems, will they be able to comprehend and process such vast volumes of data without introducing biases or oversimplifications? Next, how well can models handle very disparate data types, for example biological (e.g., cellular physiology, genetic expression and regulation, genomic evolution), geochemical (e.g., spatial and temporal variation in local and regional chemistry), and physical (e.g., variations in barometric or hydrostatic pressure, water activity, etc.) data? Finally, will they be able to offer rigorous statistical analyses and avoid spurious correlations that may mislead researchers?

As regenerative AI models continue to evolve, they hold significant promise for transforming the way researchers access and analyze information. Nevertheless, the successful application of large language models to environmental microbiology relies on addressing potential limitations and biases and recognizing the model's role as a tool to complement, rather than replace, scholarly expertise. To put it succinctly, the microbiological community is going to have to actively engage with these models and determine if/how they are suitable for the aforementioned applications (among others). As such, it is essential to critically assess their efficacy in advancing scientific inquiry and to establish responsible practices to ensure reliable and meaningful discoveries in the field.



# Friday Schedule (Continued)

FRIDAY, JUNE 14



## "Game On!" – The Utilization of Apps, Card-based Games, and Board-games in Medical Education

9:15 a.m. – 10:15 a.m. B305, Georgia World Congress Center

TRACK HUB

Moderator: **Kenneth Gavina**

There has been an explosion in the creation of different games & apps targeting the medical sciences. Many of these have been designed and produced by subject matter experts (MD, PharmD, PhD, etc.) with the intent of providing a fun and alternative means of medical education for trainees and all learners. In this session, we will discuss some of the merits and pitfalls of medical education games (MEGs) as it pertains to microbiology and other subjects, as well as provide an opportunity for attendees to play some of the games provided.



## Practical Approaches to Establishing and Maintaining Successful Industry Research Partnerships

9:15 a.m. – 10:15 a.m. A314, Georgia World Congress Center

PANEL DISCUSSION

Moderator: **Sophonie Oyeniran**

Speakers: **Daniel Rhoads, Ana Maria Cardenas, Nathan Ledebor**

This panel discussion will provide an overview to junior-level clinical and public health microbiology faculty with an interest in developing diagnostic research programs. Senior clinical microbiologists and industry executives with active research programs will share their experience navigating regulatory and institutional requirements as part of industry-sponsored research programs. This session will provide a framework to tackle the logistics and challenges of establishing and maintaining an externally funded research program.

## Unraveling Microbiology Workforce Trends

9:45 a.m. – 10:30 a.m. Lounge & Learn 1, Georgia World Congress Center



## A Sustainable Tomorrow: What Can You Do?

10:45 a.m. – 11:30 a.m. CPHM Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Francis Muchaamba**

Speakers: **Danai Etter, Celested Allaband, Sinalo Mani, Iyiola Oladunjoye**

Microbiologists are uniquely positioned to lead the charge in implementing eco-conscious practices, such as embracing green chemistry principles, utilizing renewable resources, employing sustainable procurement strategies, and adopting energy-efficient equipment to minimize waste and reduce the environmental footprint of laboratory operations. Join us for an insightful session where we explore actionable strategies for promoting sustainability within the scientific community. We will discuss how microbiologists can harness microbial processes for sustainability, including utilizing microbial biotechnology for waste treatment and bioremediation, as well as promoting microbial biodiversity conservation efforts. Additionally, we will address sustainable conference practices, such as advocating for and facilitating carbon offset programs. Through interdisciplinary collaboration and advocacy, microbiologists can lead the way in promoting sustainability, advocating for policy changes, and raising awareness about the importance of eco-conscious practices in microbiology. Don't miss this opportunity to gain insights into practical approaches and collaborative opportunities that will contribute to a more environmentally conscious scientific landscape. This session will follow-up on the morning plenary Cross-Track session on "Microbial Innovations for a Sustainable Tomorrow". This session convened by the ASM Young Leaders Circle will extend the conversation and be comprised of short talks addressing our role as microbiologist to promote sustainability to assure a better future.



## Breaking Boundaries: US Fungal Meningitis Outbreak following Medical Procedures

10:45 a.m. – 11:30 a.m. CIV Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Rachel Denyer**

Speaker: **Tom Chiller**

This session discusses recent outbreaks of human disease associated with devices and medical procedures, including the current outbreak of fungal meningitis due to *Fusarium solani* amongst persons who received epidural anesthesia in Mexico as well as tuberculosis associated with bone allograft material.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Bringing Outreach In; Making Outreach Mainstream to Increase STEM Recruitment

10:45 a.m. – 11:30 a.m. POM Track Hub, Georgia World Congress Center

*CAREER TALK*

Moderator: **Amy Reese**

Speaker: **Tasha Sturm**

As we study the “pipeline” problem of recruiting and retaining in science, we see that STEM-themed outreach events can be vital to exposing young students to science and potentially inspiring them to pursue science as a career. Opportunities for introductions to science fields and activities can be particularly important in areas where education disparities exist, and school districts may not have structures in place to support strong science programs and therefore students may not even consider science as an area of interest or a career option. Educational events aimed at children and adults have an added benefit of community education, engagement, and can enhance public trust of science in the general public as a whole. This session will address the value and impact of outreach and strategies for incorporating outreach events into “big” science.



## Mobile-ome Revolution: Advancements in Mobile- and Genome-Resolved Metagenomics for Plasmids and Phages

10:45 a.m. – 11:30 a.m. EEB Track Hub, Georgia World Congress Center

*TRACK HUB*

Moderator: **Will Harcombe**

Speaker: **Ivan Liachko**

Major developments in third-generation sequencing technologies have moved the field of genome-resolved metagenomics from the realm of the “possible”, to now being prevalent. Alongside these advances has been an expansion of tools and methods that have made it increasingly feasible to study the “mobile-ome”: the collection of mobile genetic elements that mediate diverse processes including phage infection, horizontal gene transfer (HGT), transmission of pathogenicity, and antimicrobial resistance (AMR) mechanisms. Our speakers will present cutting-edge research on these techniques to explore the composition, role, and host-range of mobile genetic elements. They will highlight the transformative power of long-read and proximity-ligation sequencing technologies, along with other novel approaches, to explore the mobile-ome in diverse microbial communities. Attendees will gain insights into the latest advancements which allow for the reliable discovery and host-attribution of these mobile genetic elements without the need for culturing. We will explore the challenges and opportunities which arise from analyzing these information-rich datasets and will highlight published and unpublished discoveries resulting from the application of “mobile-resolved” metagenomics.



## Microbiology Careers Outside Academia: Navigating through Government Opportunities

10:45 a.m. – 11:30 a.m. Lounge & Learn 3, Georgia World Congress Center

*LOUNGE AND LEARN*

Moderator: **Anthony Tran**

Speakers: **Matthew Arduino, Anthony Tran, Anna Lau**

This session will provide attendees the opportunity to learn more about career opportunities outside of the traditional academic route and focus on jobs in the governmental sector. Presenters will discuss their perspectives and share experiences from both the federal and state levels. This will be an interactive panel discussion that allows for questions from the audience to be answered by the panelists.



## Supporting Sustainable Outreach Initiatives through Hands-on Community Engagement

10:45 a.m. – 11:30 a.m. MBP Track Hub, Georgia World Congress Center

*TRACK HUB*

Moderator: **Pamela Brown**

Speaker: **Adronisha Frazier**

Effective science outreach plays a critical role in bridging the gap between researchers and the public, fostering understanding, and inspiring the next generation of scientists. This session will dive into successful outreach strategies, such as community engagement programming and showcasing the community work of the ASM Young Ambassadors and Young Leaders Circle. Attendees will gain valuable insight in designing impactful and sustainable outreach initiatives to effectively communicate complex microbiological concepts to diverse audiences. Emphasis will be on how to effectively convey intricate scientific concepts, like the mechanisms of microbial life at the molecular, cellular, and multi-cellular level. The overarching objective is to encourage microbiologists to participate in science outreach to enhance societal science literacy while nurturing the budding scientific minds of tomorrow.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Data Analysis in Microbiome Studies

10:45 a.m. – 11:30 a.m. HMB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Vincent Lee**

Speaker: **Mihaela Pertea**

Microbiome studies based on characterization of the composition of microbes through high-throughput sequencing has led to conclusions regarding the participation of microbes in various disease states. Recent studies have suggested that there are specific associations between specific bacterial species and specific disease outcomes. If true, these associations can provide a scientific basis to interrogate whether these novel bacterial species are causing the disease outcome or a consequence of the disease outcome. However, independent analysis of the data from these studies suggest that the processing of the data has led to several systematic errors. Thus, the conclusions drawn from the results of this analysis should be reconsidered. Furthermore, this session will discuss the key processes in data processing that can lead to the introduction of unintended systematic errors.



## All New Creepy Dreadful Wonderful Parasites

10:45 a.m. – 11:30 a.m. Lounge & Learn 1, Georgia World Congress Center

TRACK HUB

Moderator: **Lars Westblade**

Speaker: **Bobbi Pritt**

Parasitology is among the most diverse and challenging fields in Clinical Microbiology, given its broad membership of single-celled protozoa, multicellular helminths, and arthropods; heavy reliance on subjective identification methods; and relative paucity of instruction in clinical parasitology. This fun and interactive case-based session will provide important pearls for identification of clinically relevant parasites and discuss the associated implications for patient care. Updated taxonomic designations will be provided for common parasites.

## Learn about NSF Programs at Microbe, Part 1

11:45 a.m. – 12:30 p.m. Lounge & Learn 1, Georgia World Congress Center

## ASM Future Leaders Mentorship Fellowship Networking Power Hour (invitation only)

12:00 p.m. – 1:00 p.m. B305, Georgia World Congress Center

## ASM Editorial Team Meeting (invitation only)

12:30 p.m. – 3:30 p.m. Magnolia, Omni



## Greasing the Wheels: Top 10 Strategies for Breaking the Peer-review Bottleneck and Publish Your Beautiful Research

12:45 p.m. – 1:30 p.m. CPHM Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Marine Lebrun-Corbin**

Speaker: **Steven Blanke**

Are you new to the process of writing and publishing your scientific research? Are you writing your first paper or struggling to navigate the publication system. This session for early career scientists will provide engaged presentation and discussion outlining the publication process and providing tips on how to succeed. Intended for both early career clinical and basic science researchers.



## Green Cards for Scientific Researchers: How to Win Your EB-1A/NIW Case

12:45 p.m. – 1:30 p.m. POM Track Hub, Georgia World Congress Center

CAREER TALK

Moderator: **Irene Hulede**

Speaker: **Brian H. Getson**

Learn about the U.S. immigration process and how to maximize your chances of immigration success from attorney Brian Getson. Mr. Getson's presentation will help scientists learn how to obtain a green card in the U.S. through the EB-1A and NIW categories and how to avoid costly immigration mistakes. Participants will be able to set up one on one consultations with the speaker following the session.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Changing Abortion Laws and It's Implications for Sepsis and Maternal Mortality

12:45 p.m. – 1:30 p.m. CIV Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Boghuma Titanji**

Speaker: **David Aronoff**

After the legalization of abortion in the United States in 1973, the risk of infectious morbidity and mortality from this procedure notably decreased. With increasingly restrictive legislation targeting access to safe abortion services, reviewing infectious complications of unsafe pregnancy termination is crucial, particularly the diagnosis and management of life-threatening clostridial and related anaerobic bacterial infections that can complicate unsafe abortion. It is important for clinicians and microbiologists to re-familiarize themselves with these infections and the causal pathogens.



## Computational Approaches for Identifying Bacterial Outer Membrane Proteins

12:45 p.m. – 1:30 p.m. MBP Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Josephine Chandler**

Speaker: **Joanna Slusky**

Outer membrane proteins of Gram-negative bacteria are frequently the focus of vaccine targets, yet many outer membrane proteins remain poorly understood. This track hub will describe the development of an algorithm to classify bacterial membrane proteins based on their amino acid sequence. This web-accessible database (IsItABarrel) can be used to identify new features and functions of outer membrane proteins, which will be a useful tool for uncovering new targets for vaccine development.



## Antimicrobial Resistance (AMR) Coming into Existence: Overview of AMR and the Real-world Use of Novel Beta-lactams in the Pediatric Population

12:45 p.m. – 1:30 p.m. AAR Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Jacinda Abdul-Mutakabbir**

Speaker: **Taylor Morrisette**

This session will provide a broad scoping review of antimicrobial resistance within the pediatric population and provide real-world perspectives on the use of novel beta-lactams to mitigate the observed resistance.



## Next-generation Lineage Tracking of Bacterial Cells: How Imaging Millions of Cell Lineages Grown out from Single Microbes Under Exquisitely Controlled Conditions Can Empower Discovery and AST Mechanistic Understanding

12:45 p.m. – 1:30 p.m. Lounge & Learn 1, Georgia World Congress Center

TRACK HUB

Moderator: **NA**

Speaker: **Johan Paulsson**

Classic microbiological techniques focus on the bulk behavior of average cells. However, it has been increasingly recognized that microbial populations are phenotypically diverse and can engage in complex interactions, even when cells are genetically identical. In this session, we describe a suite of next generation approaches combining ultra-high throughput cell lineage tracking under precisely controlled conditions with modern microscopy methods such as live-cell super resolution and label-free imaging. This allows us to capture the population structure of close to a billion individual microbial cells, including near-instant single-cell responses to antibiotics and other environmental perturbations. We will describe how to use this platform combined with e.g. scRNA-seq and genome-wide perturbation-based methods to help battle antimicrobial resistance (AMR), from diagnostics to systematic susceptibility tests, drug discovery and a deeper understanding of the underlying molecular mechanisms of antimicrobial resistance. Future clinical uses of this technology include rapid diagnostics of sepsis-causing microbes and rapid antimicrobial susceptibility testing to enhance clinical treatment of critical infections.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Genomics to Uncover Hidden Aspects of Virus Ecology and Epidemiology

12:45 p.m. – 1:30 p.m. AES Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Kung-Hui Chu**

Speaker: **Nathan Grubaugh**

This session will describe how advances in sequencing and phylogenetics are revealing new information about virus ecology and epidemiology, and how the implementation of these technologies during the COVID-19 pandemic provides an opportunity to accelerate this process. Two recent studies from the Grubaugh group on the tick-borne Powassan virus and the mosquito-borne Eastern equine encephalitis virus where genomic analyses provide new information to inform public health responses will be highlighted.



## Development of Organoid Systems to Study Host-microbe Interactions

12:45 p.m. – 1:30 p.m. HMB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Nicholas Zachos**

Speaker: **Seema Mattoo**

Human organoids offer the key advantage of recapitulating 3D cellular architecture, heterogeneity and primary cell function. Dr. Zachos is recognized for developing co-culture organoid systems that incorporate human immune cells with human intestinal organoids to interrogate host cell responses to enteric pathogens. These organoid model systems have accurately recapitulated physiological epithelial and mucosal immune responses to gut commensals and enteropathogens, in addition to providing insights for other gastrointestinal, metabolic and pre-cancer disorders. Further, comparing multicellular co-culture organoids from healthy versus diseased subjects can provide important information about disease etiology to facilitate development of novel therapeutics.



## Data-driven Frameworks to Create and Validate Ecologically-relevant Preclinical Models

12:45 p.m. – 1:30 p.m. EEB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Britt Koskella**

Speaker: **Marvin Whiteley**

In this session, we will discuss the use of functional data from natural environments to quantify and improve the accuracy of common model systems used to study microbiome-host interactions.

## Germ Theory 2e: Meet the Author, Robert P. Gaynes

1:00 p.m. – 1:30 p.m. ASM Bookstore - Booth 209, Georgia World Congress Center

## Artificial Intelligence and Scholarly Publications: Expectations, Equity, and Ethics

1:00 p.m. – 1:45 p.m. Lounge & Learn 2, Georgia World Congress Center

## MicroBio-LEAP ToL Scholars Meet-and-Greet

1:45 p.m. – 2:30 p.m. POM Track Hub, Georgia World Congress Center



## Antifungal Drug Resistance and Emerging Fungal Pathogens

1:45 p.m. – 3:45 p.m. A311, Georgia World Congress Center

IN-DEPTH SYMPOSIUM

Convener: **Rebecca Shapiro**

Speakers: **Jesús Romo, Johnanna Rhodes**

The incidence of invasive fungal infections and the prevalence of drug-resistant fungi has increased worldwide. Fungal pathogens are emerging at an alarming rate due to environmental changes and expansion of at-risk populations. In this session, speakers will highlight the changing landscape of fungal pathogens and infections, highlighting recent advances in our knowledge of antifungal drug resistance, host-pathogen interactions, and how fungi can adapt to environmental stressors. Such information is critical to guide interventions to address antifungal resistance and emerging fungal pathogens.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Are Tetracyclines Cool Again?: Exploring Advancements in Tetracycline Chemistry and Clinical Application

1:45 p.m. – 3:45 p.m.  A302, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Jacinda Abdul-Mutakabbir**

Speakers: **Robbie Christian, Dionicio Siegel**

This session will discuss the chemical alterations in tetracyclines designed to increase activity against MDR organisms. The session will also discuss tetracycline protective benefits against *C. difficile* and benefits in clinical application.

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## Are We Missing Something?: The Resurgence of Hard-to-treat Gram-positive Infections

1:45 p.m. – 3:45 p.m.  A315, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Jacinda Abdul-Mutakabbir**

Speakers: **Felicia Ruffin, Michael Veve**

The focus of this in-depth symposium is to enlighten the participants about the intricate dynamics surrounding the resurgence of invasive Group A Streptococcus (iGAS) infections. Our aim is to delve into the complex interplay of factors contributing to this resurgence, including viral co-infections, age-related susceptibility, and the impact of vaccination strategies. By exploring these intricate connections, we seek to deepen understanding and enhance awareness regarding iGAS infections and their implications for clinical practice, public health measures, and interdisciplinary research efforts.

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## The Promise of a Microbe-driven Bioeconomy

1:45 p.m. – 3:45 p.m.  B401, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Erika Espinosa-Ortiz**

Speakers: **Erica Majumder, Rohan Jain**

This session will summarize key concepts of bioeconomy and strategies to achieve circular economies that create fuel, chemical, food and materials.

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## With a Little Help from My Friends: Using Marine Probiotics to Protect Food and Health

1:45 p.m. – 3:45 p.m.  B402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Blake Ushijima**

Speakers: **Neha Garg, Lone Gram**

This session will present novel probiotics and techniques aimed at increasing yield in aquaculture and protecting marine organisms from disease.

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## Wound Cultures from Bench to Bedside: Review of What's New and a Clinician's Perspective

1:45 p.m. – 3:45 p.m.  A412, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Alexandra Bryson**

Speakers: **Christopher Doern, Julie Reznicek**

Join an Infectious Diseases Physician and a Clinical Microbiologist to explore the complex workup of wound cultures through example cases and an interactive discussion. The session will cover the latest updates in wound cultures with a focus on diabetic wounds and prosthetic joint infections. Learn what your patients' providers wished you knew and how the laboratory can help.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## The Year in Clinical Microbiology

1:45 p.m. – 3:45 p.m.  A411, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Alexander McAdam**

Speakers: **Patricia Simner, Elitza (Elli) Theel**

The most important publications in clinical microbiology from the previous year will be discussed. Editors from the "Journal of Clinical Virology" and the "Journal of Clinical Microbiology" will discuss significant papers about diagnostic testing for viruses, bacteria, fungi and mycobacteria, as well as antibiotic susceptibility testing and testing stewardship. Publications from a variety of journals will be discussed. Attendees will gain an understanding of the significant advances in clinical microbiology in the past year.



## Ebola and Marburg Viruses: Have We Tamed the Beasts?

1:45 p.m. – 3:45 p.m.  A402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Derrick Chen**

Speakers: **Andrea Marzi, Jonathan Towner**

It has been 10 years since the 2014 West Africa Ebola epidemic, the largest Ebola outbreak in history. While Ebola has faded from headlines, much work has been done to prevent and combat future outbreaks, and this session will update the audience on the developments in medications and vaccines, healthcare infrastructure, and sociopolitical and economic conditions. Globalization has also increased the likelihood of an outbreak by another filovirus, Marburg virus, and this session will update the audience about progress made for this deadly virus as well.



## Phage-encoded Auxiliary Metabolic Genes (AMGs) in Human and Environmental Microbiomes

1:45 p.m. – 3:45 p.m.  B304, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Simon Roux**

Speakers: **Karthik Anantharaman, Cynthia Silveira, Lee Hughes**

Since their discovery, Auxiliary Metabolic Genes (AMGs), i.e., metabolic genes encoded by bacteriophages and used to complement or reprogram the metabolism of their host cell, have captivated the field of viral ecogenomics. Because the existence of these genes unexpectedly suggested phage infections could deeply impact microbial metabolism, many tools and studies were dedicated to the search for more AMGs. From only a handful of experimentally characterized examples, metagenome analyses now routinely report hundreds to thousands of "AMGs" from uncultivated phages. In this session, attendees will hear about the latest examples of phage-encoded metabolic genes that have been discovered and, for some, experimentally characterized, including the potential role(s) of these AMGs in impacting microbial metabolism and biogeochemistry across ecosystems. Attendees will also learn about the limits of AMG detection from (meta) genome analysis recently highlighted, as well as newly proposed frameworks to better identify and classify phage-encoded genes involved in various phage-host interactions, including but not limited to metabolic genes.



## Enhancing Methane Mitigation Strategies via Methanogenesis and Methanotrophy

1:45 p.m. – 3:45 p.m.  B305, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Jay-Terrence Lennon**

Speakers: **Dipti Nayak, Jeremy Semrau**

Methane is a potent greenhouse gas but has a short atmospheric residence time of about 12 years. Consequently, effective mitigation of methane emissions and/or removal of methane from the atmosphere can be a fast-acting and important lever to slow climate change. Significant sources and sinks of methane include microbial processes in agriculture, waste management and natural ecosystems. Several designs for using filters or biofilms to remove methane from environments with elevated concentrations depend upon microbial components. This session will highlight how advancements in our understanding of microbial diversity, methanogenesis and methanotrophy inform mitigation options in engineered systems, agriculture, and natural ecosystems to reduce overall methane emissions.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Microbial Dynamics Within their Hosts

1:45 p.m. – 3:45 p.m.  B308, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Karthik Hullahalli**

Speakers: **Matthew Waldor, Charlotte Michaux**

Populations of microorganisms undergo complex dynamics when they colonize or infect their hosts, such as heterogeneous patterns of replication, dissemination to distal sites, and stringent bottlenecks that constrain diversity. This session will explore these hidden dynamics and how they influence the outcomes of host-microbe interactions. Presentations will leverage technologies that enable monitoring of distinct clones within microbial communities to reveal how microbes replicate, traffic, and are cleared from their hosts. Findings will highlight how these population dynamics are controlled by various factors, such as the microbiota, the host innate immune system, and pathogen-encoded virulence genes. Together, this session will examine the unseen population dynamics of microbes across different animal models, providing a quantitative exploration of microbial behavior within their hosts.



## Advances in Polysaccharide Capsule Export and Function

1:45 p.m. – 3:45 p.m.  B312, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Kimberly Walker**

Speakers: **Chris Whitfield, Kimberly Walker**

This session will highlight several new advances in our understanding of production, regulation, and function of capsule, an essential virulence factor in many pathogens. Topics covered by invited speakers will include 1) an overview of capsule production from structural biology perspective covering recent discoveries from new structural analyses, and 2) new or expanded role(s) for capsule in virulence or a novel mechanism regulating capsule gene transcription or capsule function. Other topics we anticipate including are recent use of phage therapy targeting capsules and adaptive evolution of capsules. We will target topic diversity with a goal of including talks on 3-4 different organisms. Emphasis will be placed on compiling a diverse cohort of speakers from the abstracts in race/ethnicity, gender, and career stage. Why this topic is important: Capsule (CPS) has been recognized as an essential virulence factor for nearly 100 years. Early studies showed that loss of CPS in many pathogens reduced or eliminated their ability to establish disease, and the role of CPS was determined to be in protecting the bacterium from phagocytosis and opsonization. The *cps* locus is complex and can be heterogeneous even within the same species. Although genes encoding the proteins involved in CPS production have been identified, their function has been difficult to ascertain due to the challenges of studying multimeric and membrane bound proteins. However, recent advances in structural biology have led to important new discoveries on how many of the export proteins function. In addition, transcriptional regulation of *cps* gene expression is multifaceted and new regulators of capsule gene expression are still being identified, the complexity of which illustrates how synthesis of this important factor must be finely tuned. In multiple bacterial pathogens, sequence analysis has revealed that isolates with CPS mutations are found in clinical samples, and that both gain and loss of function mutations can arise during the course of infection. These data are improving our understanding of the types of infections where CPS is beneficial or detrimental to the pathogen, as well as providing more information on how capsule is produced. Lastly, capsule is a target for vaccine development and antibacterial therapies using phage. A more complete understanding of the biology of polysaccharide capsules is essential for development of broadly applicable vaccines and phage therapy. It appears there has not been a session specifically dedicated to bacterial capsules in several years, and a focused update would benefit the research community. This session would begin with a structural overview of capsule synthesis and export proteins, then highlight recent discoveries that have substantially increased our knowledge about capsule function and the roles played by capsule during infection.



## Microbial Responses to Stressful Environments - A Focus on Metabolism

1:45 p.m. – 3:45 p.m.  B303, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Sadia Sultana**

Speakers: **Thomas Kehl-Fie, Jason Yang**

Microorganisms are exposed to a large and diverse number of stressors both in their natural and host environment. To survive these potentially hazardous conditions, organisms must be able to quickly and efficiently sense and respond to changes in their environment. Many of the cellular responses include transcriptional, post-translational, and metabolic adaptations. This in-depth symposium will feature the latest research that sheds light on how microorganisms utilize defense mechanisms to survive different stress environments – with particular focus on metabolic adaptations.



# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Antagonistic Microbial Interactions

1:45 p.m. – 3:45 p.m. B314, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Ramya Rajagopalan**

Speakers: **Michele Leroux, Souvik Bhattacharyya**

Microbial populations face a diverse set of antagonistic challenges in their microecosystems. Recently, the molecular and evolutionary mechanisms governing such behaviors have been the focus of several studies – made possible by latest cutting-edge techniques. This session will focus on microbial antagonistic behaviors such as predation, phage-induced lysis, secretion of antimicrobial compounds and proteolytic agents, and resistance mechanisms against antagonism. The presentations can encompass a range of sub-topics such as the molecular mechanisms and signaling pathways governing these processes, the role of secreted metabolites, and the evolution of resistance mechanisms.

## Late-Breaker Presentations

2:00 p.m. – 3:00 p.m. Lounge & Learn 1, 2 and 3, Georgia World Congress Center

## Navigating Academia as an Early Career Woman

2:45 p.m. – 3:30 p.m. POM Track Hub, Georgia World Congress Center

## Submission 101: I have done the science now how do I submit?

3:15 p.m. – 4:00 p.m. Lounge & Learn 2, Georgia World Congress Center



## Bench to Bedside: Challenging Clinical Cases - Part 1

3:15 p.m. – 4:15 p.m. A314, Georgia World Congress Center

*PANEL DISCUSSION*

Moderator: **Rachel Denyer**

Following William Osler's advice to 'have no teaching without a patient for a text', this cross track symposium allows attendees to learn from a diverse array of challenging clinical cases. The diagnosis and management of four highly interesting and unusual patient cases will be presented by CPEP (or infectious diseases) fellows, with Q and A discussion facilitated by experts in the field of public health, clinical microbiology and infectious diseases. The session will offer trainees a chance to present their best cases but we anticipate broad appeal of the session to an audience ranging from novice to expert.

## How Studying Symbiosis Helps Shape One's Research Journey - Conversation with 2024 ASM Awardee for Environment Research

3:45 p.m. – 4:30 p.m. POM Track Hub, Georgia World Congress Center

## Larone's Medically Important Fungi 7e: Meet the Authors: Lars Westblade, Eileen Burd, Shawn Lockhart, and Gary Procop

4:00 p.m. – 4:30 p.m. ASM Bookstore - Booth 209, Georgia World Congress Center



## Promotion and Tenure Strategies for Early-Stage Faculty

4:00 p.m. – 4:45 p.m. CIV Track Hub, Georgia World Congress Center

*TRACK HUB*

Moderator: **Alfa Herrera**

Speaker: **Jacob Yount**

This special session is directed toward early-stage faculty in microbiology and immunology. Jacob Yount will present practical tips for navigating the many roles of faculty with emphasis on attaining promotion and tenure and contributing to long-term scientific and career advanced. Tips will include suggestions for success across research, service, teaching, and mentoring. The session will include opportunity for Q&A with this award-winning mentor.

# Friday Schedule (Continued)

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## Antimicrobial Agents and Resistance (AAR) Community Meet-Up

4:00 p.m. – 4:45 p.m. AAR Track Hub, Georgia World Congress Center

TRACK HUB

Moderators: **Jacinda Abdul-Mutakabbir, Silvia Pineiro**

Join the Antimicrobial Agents and Resistance (AAR) community for a meet-up! Connect with colleagues to discuss topics relevant to your scientific track community. This event is moderated by the ASM Council on Microbial Sciences (COMS) AAR Community Leader and the ASM Microbe AAR Track Leader.



## Molecular Biology and Physiology (MBP) Community Meet-Up

4:00 p.m. – 4:45 p.m. MBP Track Hub, Georgia World Congress Center

TRACK HUB

Moderators: **Gisela Storz, Pamela Brown**

Join the Molecular Biology and Physiology (MBP) community for a meet-up! Connect with colleagues to discuss topics relevant to your scientific track community. This event is moderated by the ASM Council on Microbial Sciences (COMS) MBP Community Leader and the ASM Microbe MBP Track Leader.



## Applied and Environmental Science (AES) Community Meet-Up

4:00 p.m. – 4:45 p.m. AES Track Hub, Georgia World Congress Center

TRACK HUB

Moderators: **Erin Field, Patrick Videau**

Join the Applied and Environmental Sciences (AES) community for a meet-up! Connect with colleagues to discuss topics relevant to your scientific track community. This event is moderated by the ASM Council on Microbial Sciences (COMS) AES Community Leader and the ASM Microbe AES Track Leader.



## Clinical and Public Health Microbiology (CPHM) Community Meet Up

4:00 p.m. – 4:45 p.m. CPHM Track Hub, Georgia World Congress Center

TRACK HUB

Moderators: **Andrea Prinzi, Jennifer Guthrie**

Join the Clinical and Public Health Microbiology (CPHM) community for a meet-up! Connect with colleagues to discuss topics relevant to your scientific track community. This event is moderated by the ASM Council on Microbial Sciences (COMS) CPHM Community Leader and the ASM Microbe CPHM Track Leader.



## Evolution in Human Gut Microbiomes

4:00 p.m. – 4:45 p.m. EEB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Catalina Cuellar-Gempeler**

Speaker: **Nandita Garud**

Microbiomes are dynamic environments where evolutionary events can result in dramatic shifts in bacterial populations. How and when these evolutionary processes occur can relate to human disease, development and historical events in human history. New tools reveal precise evolutionary events from metagenomic data and may lead to answering longstanding questions regarding the evolution of human microbiomes.

# Friday Schedule (Continued)

FRIDAY, JUNE 14



## Use of Defined Microbiomes to Interrogate Host-microbe Interactions

4:00 p.m. – 4:45 p.m. HMB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Mariana Byndloss**

Speaker: **Alice Cheng**

Microbiome studies are complicated by the unique microbiome that exists in different individuals and multi-omics approaches that cannot determine the gut microbiota's causative role in disease. One strategy to reduce the complexity is the use of genetically tractable defined microbiota communities to dissect host-microbiome and commensal-pathogen interactions. The speaker will discuss the advantages and disadvantages of these approaches and strategies that can be used to design mechanistic microbiome studies.

## Poster Sessions

4:00 PM – 5:00 PM Exhibit and Poster Hall, Georgia World Congress Center

## Happy Hour

4:00 p.m. – 5:00 p.m. Exhibit and Poster Hall, Georgia World Congress Center

## Early Career Researcher Engagement at ASM Journals

4:15 p.m. – 5:00 p.m. Lounge & Learn 1, Georgia World Congress Center

## Practical Guidance for Clinical Microbiology Laboratories

4:15 p.m. – 5:00 p.m. Lounge & Learn 2, Georgia World Congress Center

## Division C Business Meeting

5:00 p.m. – 6:15 p.m. International Ballroom E, Omni



## Why Diversity Matters in Symbioses Between Chemosynthetic Bacteria and Deep-sea Mussels

5:15 p.m. – 6:15 p.m. B305, Georgia World Congress Center

MEET-THE-EXPERT

Moderator: **Britt Koskella**

Speaker: **Nicole Dubilier**

Symbioses between chemosynthetic bacteria and marine invertebrates occur when bacterial symbionts use chemical energy sources such as hydrogen sulfide to fix CO<sub>2</sub> into organic compounds and feed their hosts. Chemosynthetic symbionts have acquired a wide and flexible repertoire of pathways in adaptation to the energy and carbon sources available in their environment. Intriguingly, most of this flexibility appears to have been gained through high strain diversity and the acquisition, through horizontal gene transfer, of metabolic versatility. This talk will explore the toolkit of methods ranging from in situ experiments to meta'omic' and imaging analyses of chemosynthetic symbioses that have revealed some of the adaptive processes that play a key role in the ecology and evolution of these host-microbe associations.



## On the Possible Role of Climate Change in the Emergence of New Infectious Diseases

5:15 p.m. – 6:15 p.m. B401, Georgia World Congress Center

MEET-THE-EXPERT

Moderator: **Patrick Videau**

Speaker: **Arturo Casadevall**

Climate change is unarguably an existential threat to humanity and all organisms. As the most abundant organisms on Earth, microbes are significantly impacted by the changing climate. By their nature, microbes evolve to survive in the novel environment, which raises many unknowns for human health and well-being. In this session, Dr. Casadevall, the 2024 ASM Honorary Diversity Lecturer, will discuss the risks of climate change that lead to new infectious diseases and share his career path that led to his involvement in this topic.

# Friday Schedule (Continued)

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## Multiplexed PCR Panels for Diagnosis of Infectious Diseases: Perspective from the Laboratory

5:15 p.m. – 6:15 p.m. A402, Georgia World Congress Center

MEET-THE-EXPERT

Moderator: **Sanchita Das**

Speaker: **Mark Gonzalez**

This session will provide an update on the use of commercial FDA approved PCR panels and the success and challenges of these rapid diagnostic platforms. Specifically, it will be a discussion of the experience in using the PCR panels for a syndromic etiologic diagnosis and its impact on patient care.



## Let's Have a (Ka)Hoot!

5:15 p.m. – 6:15 p.m. B314, Georgia World Congress Center

MEET-THE-EXPERT

Moderator: **Lily McKnight**

An ice breaker session for MBP community.



## Unraveling COVID-19: Molecular Insights and Therapeutic Strategies Targeting SARS-CoV-2 Spike Protein

5:30 p.m. – 6:30 p.m. B308, Georgia World Congress Center

MEET-THE-EXPERT

Moderator: **Matthew Lawrenz**

Speaker: **Fang Li**

The spike protein of SARS-CoV-2 is the major determinant of the COVID-19 pandemic. Early on, our decade-long structural studies of the related SARS-CoV-1 spike protein facilitated predictions regarding the receptor usage and host range of SARS-CoV-2. Our subsequent studies identified three unique molecular mechanisms of the SARS-CoV-2 spike protein, revealing its enhanced capability to infect human cells. These critical insights were instrumental in the development of therapies aimed at blocking SARS-CoV-2 entry into cells.

## Division M: Phage Awards

6:30 p.m. – 7:30 p.m. B402, Georgia World Congress Center

## ABMM/ABMLI Diplomate Reception

6:30 p.m. – 7:45 p.m. B213, Georgia World Congress Center

## ASM Ambassadors Reception

6:30 p.m. – 7:45 p.m. B214, Georgia World Congress Center

## 40th Annual Minority Mixer

6:30 p.m. – 7:45 p.m. B216–217, Georgia World Congress Center

## LGBTQIA+ Reception

6:30 p.m. – 7:45 p.m. B218, Georgia World Congress Center

## Subcommittee on the Status of Women in Microbiology (SSWiM) Reception

6:30 p.m. – 7:45 p.m. B215, Georgia World Congress Center

## IAI Editors' Working Dinner (Hybrid) (invitation only)

7:00 p.m. – 10:00 p.m. Dogwood A, Omni

# Friday Schedule (Continued)

FRIDAY, JUNE 14

## MMBR Editors' Dinner (invitation only)

7:00 p.m. – 10:00 p.m.  Offsite

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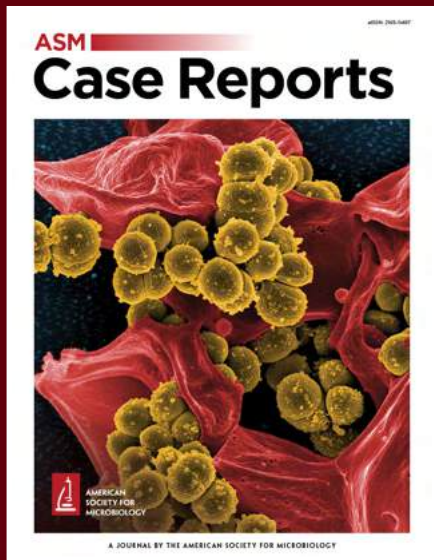
## IDEAA Town Hall

7:30 p.m. – 8:00 p.m.  B216-217, Georgia World Congress Center

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## Academy Fellows and Award Reception

7:30 p.m. – 9:00 p.m.  International Ballroom E, Omni



# Bridge Science and Practice with **ASM Case Reports**

**ASM Case Reports** is ASM's newest fully open-access journal. The journal aligns with ASM's mission, providing a dedicated platform for the high quality case reports in clinical microbiology and infectious diseases.

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**Editor-in-Chief announced  
at ASM Microbe 2024**

**Want to publish with us? Visit [journals.asm.org](https://journals.asm.org) for more information.**

# Saturday Schedule

SATURDAY, JUNE 15

 <b>AAR</b> Antimicrobial Agents and Resistance	 <b>AES</b> Applied and Environmental Science	 <b>CIV</b> Clinical Infections and Vaccines	 <b>CPHM</b> Clinical and Public Health Microbiology	 <b>EEB</b> Ecology, Evolution and Biodiversity	 <b>HMB</b> Host-Microbe Biology	 <b>MBP</b> Molecular Biology and Physiology	 <b>POM</b> Profession of Microbiology	 Additional Fee
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## Branch Organization Subcommittee Meeting (invitation only)

6:45 a.m. – 8:15 a.m.  Juniper, Omni

## Fun Walk/ Run

7:00 a.m. – 8:00 a.m.

(ADDITIONAL FEE REQUIRED)

Lace-up & explore Atlanta! Join your colleagues for an early morning trek around the city. All paces welcome.

## Spectrum Editorial Board Breakfast (invitation only)

7:00 a.m. – 8:15 a.m.  Cottonwood AB, Omni

## JCM Editorial Board Breakfast (invitation only)

7:00 a.m. – 8:15 a.m.  Dogwood A, Omni

## Young Leaders Circle Meeting (invitation only)

7:15 a.m. – 8:15 a.m.  A303, Georgia World Congress Center



## Climate Change, AMR, and Global Surveillance of Emerging Microbes

8:15 a.m. – 10:15 a.m.  Sidney J. Marcus Auditorium, Georgia World Congress Center

*CROSS-TRACK PLENARY*

Convener: **Vanessa Sperandio**

Speakers: **Iruka Okeke, Rino Rappuoli, Salvador Almagro-Moreno**

The COVID-19 pandemic reminded the world of the potential destructive power of microbes. Though not new, antimicrobial resistance has always been a major public health concern to society. The impact of the changing climate on microbes leading to resistance to current treatments cannot be overlooked. The purpose of the session is to look at microbial surveillance, interactions of microbes and hosts, and potential public health response to antimicrobial resistance globally to gain new insights about our current readiness and the important steps that the scientific community (from basic, applied and clinical microbiology) will need to take to prepare ourselves for the possible future. This plenary session will be convened by the American Academy of Microbiology (Academy), which is the honorific leadership group & scientific think tank within the American Society for Microbiology (ASM). The Fellows of the Academy are experts in their respective fields. Every year, the Chair of the Academy Governors invites distinguished experts to discuss an important topic in microbial sciences. The intention is to bring the attention of the community toward that topic and stimulate discussions and action to advance that area.



## Heteroresistance: The New Frontier in the War on Antimicrobial Resistance

8:15 a.m. – 10:15 a.m.  A311, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Tho Pham**

Speakers: **Vanthida Huang, David Weissl**

Heteroresistance, first discovered in 1947, is a phenomenon wherein bacteria harbor a small subpopulation of resistant cells co-existing with a majority of susceptible population. The emergence of heteroresistance among Gram-positive pathogens, particularly *Staphylococcus aureus*, *Enterococci*, and *Streptococcus pneumoniae* over the past decades has posed significant challenges for clinicians and diagnostic

# Saturday Schedule (Continued)

SATURDAY, JUNE 15

microbiologists. The challenges stem from the lack of standardized methods of detection and the phenotypic instability associated with heteroresistance. The main objective of this program is to examine the underlying mechanisms of heteroresistance, various factors contributing to its emergence, how we can address resistance development, and how we can elucidate it. By attending the section, attendees will gain a comprehensive understanding of the phenomenon, its implications on clinical practice and public health, and potential strategies to overcome the challenges it presents.



## New Mechanisms in Viral Resistance: Special Considerations for Clinical Practice

8:15 a.m. – 10:15 a.m. A302, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Jacinda Abdul-Mutakabbir**

Speakers: **Alireza FakhriRavarix, Nada Fadul**

This session will provide a broad overview of newly identified viral resistance and strategies for overcoming hard to treat infections.



## Data Science and Microbial Systems in Food Safety

8:15 a.m. – 10:15 a.m. B401, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Kali Kniel**

Speakers: **Teresa Bergholz, Arie Havelaar, Shannon Manning**

Bacterial persistence across food systems is a complex challenge. Multiple bacterial genera survive in non-host environments and are linked epidemiologically to cases of foodborne illness. Analysis of metadata, including climactic and processing conditions, in combination with genomic tools are used to identify influential patterns in bacterial survival and persistence in pre- and post-harvest food systems. Functional genomics can be used to evaluate mechanisms of persistence across food systems as well as for the development of mitigation and control mechanisms to enhance food safety. Genomic and physiological data are then applied to epidemiological models to better understand the burden of foodborne illness.



## Crossing Paths: Microscopy Across Clinical Laboratories for the Unified Diagnosis of Infection

8:15 a.m. – 10:15 a.m. A411, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Neil Anderson**

Speakers: **D. Jane Hata, Rebecca Marrero Rolon, Neil Anderson**

There are numerous advanced diagnostic modalities for the diagnosis of infections, though they are not widely available to all laboratories. Microscopic evaluation of stained direct specimen smears and cultures in microbiology, and of cytopathologic and histopathologic preparations in anatomic pathology can provide valuable diagnostic information and are available to most laboratories. Recognizing distinct microscopic morphologic features of infectious microorganisms continues to be an important skill for microbiologists and integrating findings obtained from different specimen preparation types can help establish an early diagnosis with improved accuracy. Often, arriving at the correct diagnosis based on direct morphology requires a synthesis of microscopic findings, a knowledge of available staining techniques and a familiarity with specimen processing. This session will focus on reviewing key morphologic features seen from different microscopic specimen preparations with an overview of specimen processing, focusing on body fluids, tissues, and gastrointestinal specimens. Sample cases will be presented to demonstrate the importance of collaborations between the microbiology laboratory and other areas of clinical and anatomic pathology.



## When Hoofbeats Reveal Zebras: Atypical Infections in Immunocompetent Populations

8:15 a.m. – 10:15 a.m. B304, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Sheila Johnson**

Speakers: **Patrick McGann, Mitsuru Toda**

This session will explore non-traditional infections in healthy immunocompetent individuals that arise from atypical scenarios such as natural disasters, wilderness settings, military deployments, and warzones. The symposium will highlight unexpected infections with multidrug resistant bacteria affecting casualties in Ukraine, invasive fungal infections after natural disasters, and infections associated with diverse environmental sources: marine, freshwater, and soil sources. This symposium promises to be an enriching and thought-provoking event, covering unexpected infections in otherwise healthy populations.



# Saturday Schedule (Continued)

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## What's New with HIV Diagnostics? Laboratory Challenges in the Era of Highly Potent Antiretrovirals

8:15 a.m. – 10:15 a.m.  A315, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Sara Blosser**

Speakers: **Jeff Johnson, Ron Kagan**

Because of highly potent antiretrovirals (ARVs), persons with HIV (PWH) are able to live full lives and, together with the availability of both preexposure (PrEP) and postexposure (PEP) prophylaxis regimens, transmission of HIV has the potential to be halted – the ultimate objective of Ending the HIV Epidemic in the US (EHE). The future looks bright – so why attend a session on laboratory challenges in HIV diagnostics? These improvements in HIV prevention and treatment can cause significant diagnostic dilemmas for the clinical microbiology laboratory. From the development of antiviral resistance to delayed seroreactivity and even suppression of RNA detection, clinical microbiologists need to be aware of the unintended consequences of newer ARVs. In this session, we will look at the rise in proviral resistance testing to aid in switching patients to long-active ARVs, the need to include resistance panels for newer ARVs (such as cabotegravir and doravirine), troubleshooting RNA nonreactive/delayed seroreactive/occult infection cases in the context of PrEP and PEP, and the role of DNA testing within HIV diagnostics.



## What Will AI Provide to Clinical Microbiology and Public Health in 10 Years?

8:15 a.m. – 10:15 a.m.  A412, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Susan Sharp**

Speakers: **Audrey Schuetz, Paula Snippes Vagnone, Kendall Bryant**

Artificial Intelligence is beginning to revolutionize the fields of clinical microbiology, public health microbiology/epidemiology and infectious diseases diagnosis. This session will focus on what is offered by AI now and where experts in these areas see this movement going in the future for diagnostic testing and monitoring public health.



## Novel Approaches and Challenges of Laboratory Diagnosis of Invasive Fungal Diseases

8:15 a.m. – 10:15 a.m.  A402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Sean Zhang**

Speakers: **Heather Glasgow, Niaz Banaei, Thomas Walsh**

This session will highlight recent advanced using novel plasma cell-free PCRs as a non-invasive approach for diagnosis of invasive aspergillosis, mucormycosis, pneumocystis pneumonia, and other invasive fungal diseases. Fungal diseases of the central nerve system (CNS) have been increasingly recognized, particularly from a recent outbreak possibly caused by *Fusarium* associated with contaminated epidural anesthesia procedures performed in clinics in Mexico. However, laboratory diagnosis of fungal diseases of the CNS remains challenging and progress including utilizing fungal biomarkers or next generation sequencing is reviewed in this session. Furthermore, the challenges of diagnosing invasive fungal diseases in pediatric patients are reviewed and strategies to improve their detection are discussed.



## How to Train Your Microbiome

8:15 a.m. – 10:15 a.m.  B305, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **David Baltrus**

Speakers: **Kevin Hockett, Taichi Suzuki**

As the number of characterized microbiomes has increased over the past few decades, and our understanding of relationships between microbiome composition and phenotypic effects on hosts has increased, research efforts have shifted towards learning new ways to effectively design and shape microbiomes using ecological and evolutionary principles. This symposium will explore how we can use ecological principles to manipulate microbiomes in intended ways and will explore the ways in which host organisms can craft and control their own microbiomes.

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## It Takes Two to Tango: How the Molecular Crosstalk of Protein Evolution and Target Recognition Guides Cell Signaling

8:15 a.m. – 10:15 a.m.  B312, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Seema Mattoo**

Speakers: **Michael Laub, Jeffery Miller, Gemma Reguera**

Biology often relies on gene duplication to generate divergent protein-protein interactions and evolve novel cell signaling functions. How functionally robust are these events, do they generate crosstalk between otherwise insulated pathways, and how does nature avoid detrimental crosstalk? Experts Dr. Michael Laub and Dr. Jeff F. Miller will provide mechanistic insights into such protein evolution and molecular recognition events using examples of deep mutational scanning and diversity generating retroelements.



## Protect the Barrier!: The Essential Bacterial Cell Envelope

8:15 a.m. – 10:15 a.m.  B303, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Wanda Figueroa-Cuilan**

Speakers: **Stephen Trent, Kumaran Ramamurthi, Christine Jacobs-Wagner**

In this session, we will scrutinize how bacterial cells employ various mechanisms to ensure bacterial survival and fitness in diverse, often hostile, environments. The bacterial cell envelope is a multilayer structure that protects bacteria from the environment. However, bacterial cells utilize several mechanisms to cope with environmental cues, stresses, and microbial insults including alterations in metabolic states and physiology, the formation of spores, induction of bacterial variants such as L-forms, and the use of secretion systems, appendages, and nanomachines to allow broad behaviors including DNA uptake. As a result, this session will delve into how these mechanisms are at play in response to environmental conditions and how these can be utilized to improve current therapies.

## Navigating Scientific Synergy: Unleashing the Power of Online Networking on ASM Connect

9:00 a.m. – 9:45 a.m.  Lounge & Learn 1, Georgia World Congress Center



## Local Insight, Global Impact: Collaborative Strategies for Clinical Microbiology Laboratory Capacity Building in Resource-Limited Settings

9:15 a.m. – 10:15 a.m.  B308, Georgia World Congress Center

*PANEL DISCUSSION*

Convener: **Rose Lee**

Panelists: **Rachel Idowu, Wes Kim, Justine Michel**

Explore the intersection of local wisdom and international cooperation in 'Local Insight, Global Impact: Collaborative Strategies for Laboratory Capacity Building in Resource-Limited Settings.' This session assembles a panel of three distinguished speakers: Justine Michel, a Médecins Sans Frontières field implementer of the Mini-Lab program; Dr. Rachel Idowu, the US Centers for Disease Control Country Director for Liberia; and Wes Kim, Director, Global Public Health Programs for ASM's involvement in global health laboratory capacity development. The discussion will focus on two main themes: identifying the challenges and gaps in resource-limited settings, and exploring both existing and needed solutions. Key aspects to be discussed include best practices for capacity building and training and inclusion of local stakeholders, ethical considerations, promotion of interdisciplinary collaboration, and strategies for funding and sustainability. The session will conclude with a Q&A segment, offering attendees the opportunity to engage directly with the panel on these vital issues.

# Saturday Schedule (Continued)

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## Regulatory Alphabet Soup: Interaction of CAP, CLIA, and FDA

9:15 a.m. – 10:15 a.m. A314, Georgia World Congress Center

PANEL DISCUSSION

Moderator: **Lauren Cooper**

Panelists: **Kris Roth, Lauren Cooper, Bobbi Pritt**

The session is to go into more details of where clinical laboratories need to comply with the FDA and where they need to comply with CLIA. An example of topics would include when LDT's can be done (because they are under CLIA) and where they cannot (because they are under the FDA).

## Thinking about Science: Meet the Authors, Ferric Fang and Arturo Casadevall

10:30 a.m. – 11:30 a.m. ASM Studio - Booth 209, Georgia World Congress Center



## Advancing Polymyxin Combination Therapies: Unveiling PK/PD Dynamics, Innovative Dosing, Translational Insights, and Collaborative Frontiers

10:45 a.m. – 11:30 a.m. AAR Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Ashlan Kunz Coyne**

Speaker: **Gauri Rao**

The purpose of the track hub is to educate the audience on the intricate landscape of polymyxin combination therapy through the lenses of PK/PD principles, innovative dosing strategies, translational strategies, and interdisciplinary collaboration.



## New Approaches to Antimicrobial Stewardship: Utilizing Telestewardship to Mitigate AMR

10:45 a.m. – 11:30 a.m. Lounge & Learn 2, Georgia World Congress Center

TRACK HUB

Moderator: **Jacinda Abdul-Mutakabbir**

Speaker: **Matthew Davis**

This session will discuss antimicrobial resistance and the utility in telestewardship in optimizing antimicrobial regimens and mitigating resistance.



## One Health Bridges the Gap for Food Safety

10:45 a.m. – 11:30 a.m. AES Track Hub, Georgia World Congress Center TRACK HUB

Moderator: **Nikki Shariat**

Speaker: **Sandra Tallent**

One Health is a holistic approach that seeks to understand the intersect of human, animal, food crops, and environment providing a model for prevention of foodborne illnesses through public health officials' acknowledgement that shared data is shared knowledge. The combined knowledge and ideas of many scientists has been realized in the ongoing development of open database repositories of genomic data from various samples collected during surveillance activities or foodborne outbreaks. The data is used by researchers to propose and support evolutionary theories, discover microbial adaptations, or define knowledge gaps relating to specific microbes. This presentation will provide insights about data collection, workflow, and how shared data contributes to achieving a safe and wholesome food supply.



## CLSI's New Guidance on Antifungal Intrinsic Resistance

10:45 a.m. – 11:30 a.m. Lounge & Learn 1, Georgia World Congress Center

TRACK HUB

Moderator: **Audrey Schuetz**

Speaker: **Tanis Dingle**

The Clinical and Laboratory Standards Institute (CLSI) recently released new guidance on intrinsic resistance of yeasts and molds. These reporting guidelines have been recently published in various CLSI antifungal documents. This session will cover the process and criteria by which intrinsic resistance was determined by CLSI for various organism-antifungal combinations. The speaker will present case scenarios to demonstrate various ways in which these new antifungal reporting guidelines can be incorporated into a laboratory's protocols.

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Quick Chat on Rapid AST

10:45 a.m. – 11:30 a.m. CPHM Track Hub, Georgia World Congress Center

TRACK HUB

Speaker: **Daniel Rhoads**

Numerous rapid susceptibility test systems are being developed and brought to market: Selux, Q-Linea, bioMerieux (Specific) Reveal, QuickMIC, LifeScale, Accelerate, rapid KB. This session will provide a brief overview of the technologies.



## Global Clinical Phage Rounds: Oh, the Places Phages and Phage Clinicians Will Go!

10:45 a.m. – 11:30 a.m. CIV Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Greg German**

Speaker: **Ameneh Khatami**

Due to antimicrobial resistance epidemic and lack of production and access to new antibiotics clinicians are returning to a 100-year-old strategy and adapting it for modern personalized medicine. Bacteriophage or phage therapy is increasingly seen as the last resort anti-bacterial solution for difficult to treat infections that would otherwise require either extensive surgery, lifelong antibiotics, or palliation. Global Clinical Phage Rounds is where phage clinicians and their laboratory colleagues meet monthly to discuss challenging cases and progressive methods of providing Phage therapy for compassionate and clinical research use. We have over 150 physicians and phage researchers in our group. Leading this virtual collaboration is the Mayo Clinic, the Canadian and European Microbiology & Infectious disease societies, as well as Phage Australia. Each country that has participated has had a unique production, regulatory and clinical microbiology path to bring phage therapy to the bedside. Come join us and participate in our global journey as we discuss challenging and groundbreaking phage therapy cases.



## Deciphering Microbial Phenotypic Heterogeneity with Single-cell RNA Sequencing of Complex Samples

10:45 a.m. – 11:30 a.m. EEB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Marian Schmidt**

Speaker: **Anna Kuchina**

In this session, we will explore high throughput transcriptome quantitation of thousands of single bacterial cells. The speaker will discuss new biological insights into the extent of bacterial phenotypic heterogeneity afforded by these technological advances, such as metabolic division of labor, bet-hedging strategies, variation in pathogenic gene expression and heterogeneous responses to stress. It will also highlight the potential of the new methodologies to uncover new aspects of bacterial biology with high-resolution and discuss future research directions they enable for the field.



## Mass Spectrometry-based Approaches to Bacterial Lipidomics and Metabolomics

10:45 a.m. – 11:30 a.m. HMB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Ryan Hunter**

Speaker: **Kelly Hines**

Cutting-edge bioanalytical methods using ion mobility-mass spectrometry (IM-MS) enhance the throughput and dimensionality of bacterial lipidomics and metabolomics. This session will feature new MS approaches towards characterizing the metabolic alterations in antibiotic resistant pathogens and developing IM-MS methods for antibiotic susceptibility testing and small molecule screening.

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Synthetic Biology Approaches to Study Microbial Development

10:45 a.m. – 11:30 a.m. MBP Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Josephine Chandler**

Speaker: **W. Seth Childers**

Synthetic biology is an interdisciplinary field that focuses on designing and engineering biological components, pathways, and organisms at the molecular level to create novel, artificially constructed microbial systems with specific functions. This session will consider how synthetic biology strategies can be applied to questions in microbial development, including the advantages and disadvantages of these approaches. Strategies will include bottom-up reconstitution of signaling pathways in distantly related organisms to construct and deconstruct how pathways work. Moreover, biosensors can be engineered to track key metabolites, secondary messengers, quorum-sensing molecules or cell-cycle checkpoint events. These synthetic biology strategies will be leveraged to understand how a subcellularly localized signaling pathway regulates the asymmetric division of *Caulobacter crescentus*.



## Advancing Inclusive and Equitable Mentoring in Biology Laboratory Course Contexts

10:45 a.m. – 11:30 a.m. POM Track Hub, Georgia World Congress Center

CAREER TALK

Moderator: **Jeffrey Olimpo**

Speaker: **Aimee Hernandez**

Empirical evidence indicates that positive mentorship has the potential to advance mentees' self-efficacy, identity development, sense of belonging, and persistence in the STEM fields. Yet, limited studies have explored the types of mentoring relationships and structures that support equitable and inclusive learning in the context of biology laboratory curricula. In this interactive session, we will address this concern through evaluation and discussion of student/instructor data about mentoring in the context of an introductory course-based undergraduate research experience (CURE) as well as case study excerpts extrapolated from the facilitators experience working in CURE environments. Real-time polling will be used to gauge attendees' familiarity with various mentoring approaches, with the session culminating in the generation of a matrix detailing inclusive and equitable mentoring strategies designed to promote student learning and success in biology laboratory spaces.

## Submission 101: I Have Done the Science Now How Do I Submit?

11:00 a.m. – 11:45 a.m. Lounge & Learn 3, Georgia World Congress Center

## African Initiative Group for Microbiology Annual Meeting

11:00 a.m. – 1:00 p.m. A314, Georgia World Congress Center

## COMS and Track Leader Luncheon (invitation only)

12:00 p.m. – 1:00 p.m. International Ballroom C, Omni

## Perspectives on the Long-Term Horizon of Host-Microbe Biology from the ASM Council on Microbial Sciences (COMS)

11:45 a.m. – 12:30 p.m. Lounge & Learn 2, Georgia World Congress Center

## National Institutes of Health (NIH): Improving the Review of Research Project Grant and Fellowship Applications

12:00 p.m. – 1:00 p.m. A311, Georgia World Congress Center

## Exploring the Intersection Between Climate Stabilization and Microbiology

12:00 p.m. – 1:30 p.m. A412, Georgia World Congress Center

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Meet the Speakers for Climate Change, AMR, and Emerging Microbes

12:45 p.m. – 1:30 p.m. AAR Track Hub, Georgia World Congress Center

PANEL DISCUSSION

Moderator: **Vanessa Sperandio**

Panelists: **Iruka Okeke, Rino Rappuoli, Salvador Almagro-Moreno**

This session convenes an extended panel discussion following the Cross-Track Plenary session on Climate Change, AMR, and Global Surveillance of Emerging Microbes. This more informal Q&A session in the Track Hub space is intended to engage more scientists in the conversation about how global warming is impacting the spread of antimicrobial resistance and pathogenic microbes. The session will feature the speakers of the morning plenary as panelists. This session is convened in conjunction with the American Academy of Microbiology.



## Microbiology in Microgravity: A History of Space Biology Hardware and How it Applies to Your Science

12:45 p.m. – 1:30 p.m. AES Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Erika Espinosa-Ortiz**

Speaker: **Kathleen Ryan**

Anyone interested in exploring how their science could be enabled in space should consider attending this talk. This activity will review a short history of hardware and other tools that have enabled space biology experiments, the challenges of working in an extreme environment, and the NASA-defined processes of preparing for a flight project. If the learner is interested in the microgravity environment, boundary-pushing research, or wants to take their current research to the next level, this talk is for them. If the learner is only casually interested in spaceflight experiments, this talk is for them!



## Clinical Microbiology Virtual Journal Club - Live!

12:45 p.m. – 1:30 p.m. CPHM Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Richard Davis**

Speaker: **David Gaston**

This session is the live, in-person continuation of the long-running monthly Clinical Microbiology Virtual Club. Presenters and panelists will discuss a recent publication and discuss the details, impact, and implications of the study.



## Preparing for a Cyberattack

12:45 p.m. – 1:30 p.m. Lounge & Learn 2, Georgia World Congress Center

Moderator: **Scott Long**

Speaker: **Christina Wojewoda**

Cyberattacks are increasingly common in medicine. One presenter will give their experience in a clinical microbiology laboratory during a 25-day downtime.



## Precision Metagenomic Testing: The Next Frontier

12:45 p.m. – 1:30 p.m. CIV Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Derrick Chen**

Speaker: **Charles Chiu**

The session will focus on current and future applications of clinical metagenomic testing beyond its use for multiplexed pathogen identification. Speakers will review the latest advances in the field that leverage metagenomics to allow point-of-care testing and antimicrobial resistance prediction on rapid nanopore sequencers, incorporation of a patient's host / immune response to infection to aid in diagnosis, and differential diagnosis of cancer. Attendees will learn how metagenomic testing has the potential to become a key tool for precision medicine in microbiology by providing the capability of diagnosing non-infectious as well as infectious conditions. This session will also cover what will be needed for practical implementation of these state-of-the-art technologies in clinical microbiology laboratories.

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Understanding Bats as Reservoirs for Virulent Emerging Zoonoses

12:45 p.m. – 1:30 p.m. EEB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Britt Koskella**

Speaker: **Cara Brook**

A reductionist view of metabolites as simple downstream products of gene and protein expression has been revised in light of evidence demonstrating that small molecules are able to modulate all steps in the flux of genetic information, through mechanisms such as feedback inhibition and cell signaling. This session aims to highlight advancement in metabolomics methods and their application to microbial research to delineate mechanisms of microbe-microbe, and microbe-drug, microbe-host interactions.



## Understanding the Function of Microbial Effector Proteins

12:45 p.m. – 1:30 p.m. HMB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Seema Mattoo**

Speaker: **Matthias Machner**

Pathogenic bacteria secrete effector proteins that hijack/manipulate host cell signaling events to promote pathogenesis. Many of these effectors can have redundant functions that make deciphering effector function difficult. Using *Legionella pneumophila*, which secretes over 300 effectors, as a model, Dr. Matthias Machner will describe innovative strategies - such as multiplex, randomized CRISPR interference sequencing (MuRCIS) and FRET-based high throughput screening - employed to delineate overlapping effector functions.



## The Perks of Being Squishy: Archaea as a Skillful Mechanoresponsive Machine

12:45 p.m. – 1:30 p.m. MBP Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Randy Morgenstein**

Speaker: **Alexandre Bisson**

Microbes are often seen as the product of biochemical activities determined by a combination of gene pathways in response to environmental changes. However, little attention is given to how mechanical forces from the same environment determined how cells respond as active-matter entity. This session will cover how archaea, prokaryotic microbes that are closer to eukaryotes than bacteria, have compromised mechanical stability of a rigid cell wall to develop morphological plasticity. Such responses to fast changes to readout their physical environment likely played a role in allowing not only to survive in a wide range of environments but played a role in the origins of eukaryotes.



## Microbial Diversity: Empowering Disabled Scientists in Microbiology

12:45 p.m. – 1:30 p.m. POM Track Hub, Georgia World Congress Center

CAREER TALK

Moderator: **John Buchner**

Speaker: **Madeline Shay**

This session will act as an introduction to common challenges faced by disabled scientists and trainees and will provide practical strategies and best practice on how to effectively support disabled scientists. Attendees at every level will be encouraged to critically examine current standard practices in academia, and how they can act as barriers to the entry and retention of disabled learners. Actionable items for learners at different career stages (student, technician, post-doc, professor) will be presented, followed by the opportunity for a discussion on questions/concerns the learners have about the best strategies to address ableism in academia. After the session, learners will have the skills and initial exposure to acknowledge and challenge barriers faced by disabled individuals in microbiology, take action to combat ableism around them, and to create a more inclusive research environment that nurtures the potential of all scientists.

## Microbial Physiology: Unity and Diversity Meet the Author: Ann Stevens

1:00 p.m. – 1:30 p.m. ASM Bookstore - Booth 209, Georgia World Congress Center

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Interaction of Cefiderocol with Beta-lactamases: Clinical and Biochemical Aspects

1:45 p.m. – 3:45 p.m.  A311, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Alejandro Vila**

Speakers: **Pablo Power, Jose Alexander**

Antimicrobial resistance, mainly to beta-lactam antibiotics, is a relevant threat to public health. New drugs, either new antibiotics or inhibitors of resistance mechanisms, are urgently required. Cefiderocol is a recently approved cephalosporin that has been reported as refractory to hydrolysis by most beta-lactamases. Cefiderocol is a siderophore-modified cephalosporin that has been designed to enter the periplasm of Gram-negative bacteria by exploiting a selective iron-transporter channel, resulting in higher concentrations of this antibiotic in the bacterial cell and consequently, excellent antibacterial activity. In addition, cefiderocol was reported to be refractory to the action of beta-lactamases, including the broad spectrum metallo-beta-lactamases such as NDM-1, IMP-1 and VIM-2. However, after its approval, an increasing number of resistance events to cefiderocol have been reported. Resistance has been related to mutations in the iron transporter in Enterobacterales and non-fermentors, but (more surprisingly) to the overexpression of beta-lactamases. The understanding of the interaction of different beta-lactamases is required to understand the occurring resistance phenomena and guide better therapies. This Symposium is aimed to link clinical and biochemical information, including different families of beta-lactamases, for a general audience.



## Drug Discovery and Resistance Against NTM

1:45 p.m. – 3:45 p.m.  A302, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Prabakaran Narayanasamy**

Speakers: **Robert Abramovitch, Prabakaran Narayanasamy**

The goal for the Session is to bring Scientist within the nation and other countries, to define the direction and identify critical knowledge gaps in inhibitors and resistance developed non-tuberculous mycobacterium. Our ultimate goal is to assemble a NTM research team with desirable expertise to design and optimize inhibitors targeting different pathways and study mechanisms of resistance in non-tuberculous mycobacteria.



## If We Build It, They Will Colonize: the Resident Microbiome of Food Processing-built Environments

1:45 p.m. – 3:45 p.m.  B401, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Aeriel Belk**

Speakers: **Jasna Kovac, Peipei Zhang**

Food processing environments are critical reservoirs of foodborne pathogens and spoilage microorganisms, yet the full scope of the microbes surviving in these locations has only recently begun to be investigated. This session will bring together researchers investigating a wide range of food processing environments, from fruit and produce to animal products. Researchers will present key findings in the core microbiomes of these locations, impacts of microbial controls on the microbial communities, and the impacts these microbes have on the final product; these will include investigations of the free-living microorganisms as well as those in biofilms, and the relationship between these two survival methods. The ultimate goal of this session is to provide a holistic picture of our current understanding of the microbial communities of these critical environments and to achieve a working consensus on the best methodologies for investigating them. This consensus will also generate recommendations for industrial and commercial food operations to improve food plant design and sanitation protocols to improve overall public health



## Going the Last Mile: Implementing Bacterial WGS for Clinical Reporting

1:45 p.m. – 3:45 p.m.  A412, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Jennifer Guthrie**

Speakers: **Heather Blankenship, Thao Truong, J. Caldera**

The increasing utilization of next generation sequencing for infectious disease applications has resulted in the need to understand pathways to perform validations of genomic data that meet regulatory requirements for clinical reporting. Diversity in technology, new workflows, and nuances within the analyses pose some of the largest challenges that laboratories face when approaching the implementation of bacterial WGS for clinical use. This session will aim to provide attendees with examples of challenges and approaches to implementation of Bacterial WGS by the speakers.



# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## The Secret Life of Anaerobes

1:45 p.m. – 3:45 p.m.  B402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Nicole Buan**

Speaker: **Kylie Allen, Nicole Buan**

Globally, most microbes are strict or facultative anaerobes, with unique metabolism that requires specialized techniques to study them. This session will feature speakers studying anaerobic processes in diverse microbes across the tree of life. Recent advances in culturing, in situ metabolism, genome engineering and computational modeling are allowing researchers to make exciting discoveries of how anaerobic microbes contribute to nutrient cycles, climate, and how they interact with agricultural and human hosts. Attendees will have the opportunity to learn about the state-of-the-art interdisciplinary techniques researchers are using to uncover the hidden yet essential biology of anaerobic microbes.



## Keeping Our Kids Safe: Prevention, Diagnosis, and Treatment of Childhood Infections

1:45 p.m. – 3:45 p.m.  A315, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Karen Acker**

Speakers: **Karen Acker, Mark Gonzalez, Paul Spearman**

Susceptibility to infections in children is often distinct from adults, with increased susceptibility to certain infections and almost full tolerance to others. Age-based differences in infectious agents and severity are seen throughout pediatric age groups and require a nuanced understanding to address appropriate prevention, diagnosis, and treatment. Therefore, the practice of infectious diseases and clinical microbiology in pediatrics is different from that in adults, and it is important providers and laboratorians are aware of the unique features and needs of children to provide comprehensive infectious diseases care. Through illustrative cases and vignettes, and guided by evidence-based medicine, subject matter experts will describe the practice of clinical microbiology, infectious diseases, and vaccination in children so attendees can apply this information to their own practice.



## Moving into the Future: New Tools for Detection and Resistance Testing of Mycobacteria

1:45 p.m. – 3:45 p.m.  A411, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Allison Eberly**

Speakers: **Reeti Khare, Salika Shakir**

Tuberculosis and non-tuberculosis mycobacterial infections are difficult to treat and require multidrug regimens for several months. Due to the slow growth of mycobacteria, culture and phenotypic susceptibility testing of mycobacteria requires extended time compared to other microbes, which ultimately delays proper patient care and treatment. Therefore, new, rapid technologies with high throughput and low cost are needed for mycobacterial identification and susceptibility testing. In this session, emerging technologies and strategies for identification and genotypic antibiotic susceptibilities of mycobacteria will be discussed.



## Endemic Mycoses: A Tale of Two Continents

1:45 p.m. – 3:45 p.m.  A402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Sanchita Das**

Speakers: **Thuy Le, Fariba Donovan**

The epidemiology, diagnosis and management of coccidioidomycosis has changed over the last decade. Similarly, our understanding of the pathogenesis and immunity to this endemic disease. Also enigmatic is the infection Talaromycosis while mostly seen in Southeast Asia there are reported cases throughout the world either related to travel or acquired by unique means. This session will describe the two fungi that are confined to their niches on two different continents yet are able to cause disseminated and serious infections in some hosts.

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Microscale Microbial Ecology

1:45 p.m. – 3:45 p.m.  B305, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Julia Schwartzman**

Speakers: **Carey Nadell, Glen D'Souza**

This session focuses on the microscale ecology of microbial populations and communities, and how the physical, chemical, and biological features of local environments shape the properties of collectives. Microbes modulate the biological activity of other life forms, ranging from recycling nutrients through ecosystems to the modulation of plant and animal health and development. The mode and tempo of microbial activities is shaped by the micro-scale interactions of individual cells. How do we link the collective behaviors of microbial populations and communities to their underlying interactions? Attend this session to learn how spatial and temporal interactions at the scale of a microbial neighborhood shape the collective functions of microbial communities and populations.



## Microbial Experimental Evolution

1:45 p.m. – 3:45 p.m.  B304, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **William Ratcliff**

Speakers: **Michael Baym, Alita Burmeister**

Microbial experimental evolution is a powerful approach for understanding the fundamental evolutionary processes that shape all life on Earth. This session will showcase the latest advancements in experimental microbial evolution to understand adaptation, antibiotic resistance, and evolution in natural populations. Leading researchers will present cutting-edge studies manipulating model microbial systems in the lab to elucidate the genetic and molecular mechanisms underlying evolution. Talks will cover experimental evolution of viruses, bacteria, and yeast under diverse selective pressures including growth in novel carbon sources, temperature stress, antibiotic exposure, and viral infection. Attendees will learn how microbial experimental evolution provides novel insight into evolutionary dynamics including parallelism, contingency, epistasis, pleiotropy, and genetic drift. Speakers will also discuss integrating experimental evolution with whole genome sequencing, proteomics, and RNA-sequencing to connect genotype with phenotype.

This session is ideal for microbiologists, evolutionary biologists, geneticists, and infectious disease researchers interested in using experimental evolution as a tool. Attendees will gain an up-to-date understanding of the field of microbial experimental evolution, experimental design, and cutting-edge techniques. Talks will highlight innovative new selections, assays, and microbial model systems pushing the boundaries of experimental evolution. The speakers will also share empirical data and theoretical models generated using experimental evolution and describe how these insights can be extended to diverse topics including the evolution of new traits and functions, arms race dynamics, development of antibiotic resistance, experimental testing of evolutionary theory, and evolution in natural populations. Attendees will have the opportunity to connect directly with leaders in microbial experimental evolution, share ideas, and brainstorm new collaborations. We encourage all researchers interested in fundamental evolutionary processes and exploring the power of microbial experimental evolution to understand the forces shaping life on Earth to attend this exciting session.



## Survival of the Stealthiest: Unraveling Bacterial Pathogen Within-Host Adaptation

1:45 p.m. – 3:45 p.m.  B308, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Ashlee Earl**

Speakers: **Ashlee Earl, Daria Van Tyne**

Many bacterial pathogens can form persistent infections, providing an infectious reservoir which allows for recrudescence and infection of new hosts. The molecular mechanisms and evolutionary dynamics driving persistence are still not well-understood yet hold key information for designing more effective clinical strategies. High-throughput sequencing methods have enabled the study of within-host evolution of persistent bacterial pathogens, revealing i) how bacterial species adapt to persist within a host and ii) testable hypotheses for the role this evolution plays in the host-pathogen relationship. This session will focus on emerging insights on this topic, including from analysis of data from human-cohort and experimental studies of persistent infections.

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Molecular Assembly on the Bacterial Cell Envelope and Host-pathogen Interactions

1:45 p.m. – 3:45 p.m. B312, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Vincent Lee**

Speaker: **Dominique Missiakas**

A variety of bacterial cell surface components are assembled on the cell envelope by intricate molecular machines. Often vital for orchestrating pathogenesis, surface proteins and carbohydrate and protein polymers mediate adherence to and modulate host cells. This symposium aims to provide a much-needed platform to discuss major recent advances and remaining challenges, and wherever possible, integrate the common and novel themes of surface assembly and host-pathogen interactions mediated by these surface determinants in both single- and double-membrane bacteria.



## Molecular Mechanisms of Interactions Between Biofilm Bacteria and Their Hosts

1:45 p.m. – 3:45 p.m. B303, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Kyle Floyd**

Speakers: **Dominique Limoli, Will DePas**

Microbes can live and thrive within multicellular communities, known as biofilms. Many of the pathways underlying biofilm formation have been well established, however the mechanisms that drive biofilm-associated interactions with host organisms is an emerging area. This symposium will feature some of the latest research examining the molecular underpinnings of biofilm-host interactions; dissecting the biomolecular machineries and pathways that determine how microbial multicellular lifestyles effect host interactions ranging from symbiotic to pathogenic.



## Decoding Bacterial Behavior and Physiology with Artificial Intelligence

1:45 p.m. – 3:45 p.m. B314, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Y Hoang**

Speakers: **Lingchong You, Paul Jensen**

This session provides an exploration at the intersection of microbiology and artificial intelligence (AI). Our speakers, Dr. Lingchong You and Dr. Paul Jensen, will showcase innovative AI applications to dissect the dynamics and metabolism of microbial communities. The insights acquired have substantial potential in the development of novel adaptive materials and the cultivation of under-studied bacteria. This session is a must-attend for those intrigued by the dynamic interplay of science and technology, specifically the transformative power of AI in deciphering bacterial behavior and physiology.

## Late-Breaker Presentations

2:00 p.m. – 3:00 p.m. Lounge & Learn 1, 2 and 3, Georgia World Congress Center

## The Path to Excellence - How to Strive in the Competitive Environment and Find Joy in your Scientific Pursuit

3:15 p.m. – 4:00 p.m. Lounge & Learn 1, Georgia World Congress Center

## The Role of Clinical Microbiology Laboratories in Promoting Lab Equity

3:15 p.m. – 4:00 p.m. Lounge & Learn 2, Georgia World Congress Center

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Bench to Bedside: Challenging Clinical Cases - Part 2

3:15 p.m. – 4:15 p.m. A314, Georgia World Congress Center

PANEL DISCUSSION

Moderator: **Rachel Denyer**

Panelist: **Tristan Grams**

Following William Osler's advice to 'have no teaching without a patient for a text', this cross track symposium allows attendees to learn from a diverse array of challenging clinical cases. The diagnosis and management of four highly interesting and unusual patient cases will be presented by CPEP (or infectious diseases) fellows, with Q and A discussion facilitated by 2-3 experts in the field of public health, clinical microbiology and infectious diseases. This would be a cross-track symposium between CIV and CPHM, with cases and presenters identified via outreach to trainees and faculty. The session will offer trainees a chance to present their best cases but we anticipate broad appeal of the session to an audience ranging from novice to expert.



## Implications of the FDA Laboratory Developed Tests (LDT) Rule for Clinical and Public Health Microbiology Laboratories

4:00 p.m. – 4:45 p.m. B312, Georgia World Congress Center

CAREER TALK

Moderator: **David Peaper**

Speakers: **Linoj Samuel, Allen Segal**

Laboratory developed tests (LDTs) tests are a crucial component to the lab's armament for testing for infectious agents, in particular when there are no FDA approved tests commercially available or if modification of an existing FDA approved test is required. A recently published FDA rule will increase FDA oversight and potentially place a significant burden on clinical and public health laboratories to obtain approval of certain LDTs or modification of FDA-approved assays. This could lead to extensive delays in test method validation, jeopardize patient care, and lead to extra costs to the testing lab, among other issues. During this session the speakers will 1) review the requirements of the FDA LDT rule; 2) discuss the challenges relating to implementation of the FDA LDT rule; and 3) elaborate on how ASM is addressing the FDA LDT rule.



## Embracing Active Learning & Artificial intelligence in Microbiology Education

4:00 p.m. – 4:45 p.m. Lounge & Learn 1, Georgia World Congress Center

CAREER TALK

Moderator: **John Buchner**

Speaker: **Kersten Schroeder**

Active Learning and Artificial intelligence (AI) in Microbiology Education can help to increase the students' understanding of Microbes. Embracing new teaching modalities and using AI can help to increase student engagement in the Microbiology courses we teach with the goal of helping the students retain more of the subject matter for use in their future careers. Active learning can include case-based learning, game-based learning, problem-based learning, and team-based learning. AI can help with generating different types of active learning exercises or even have students interact with a chatbot in trying to learn more information about different aspects of Microbiology. AI can also be used to generate summative and formative questions for students to use throughout their Microbiology courses.



## Microbial Mavericks: Unconventional Approaches to Combat Antimicrobial Resistance

4:00 p.m. – 4:45 p.m. AAR Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Annie Hinson**

Speakers: **Joseph Wambui, Kyle Leistikow, Fatima Khan**

The session will delve into out-of-the-box strategies and unconventional approaches in the fight against antimicrobial resistance (AMR), incorporating the innovative use of artificial intelligence (AI) and exploration of unconventional sources for antimicrobial compounds. From exploring unconventional sources such as spoilage bacteria, deep-sea microbes, or insect microbiomes to harnessing the power of AI to predict novel antimicrobial peptides and optimize antimicrobial stewardship for enhanced patient care, our aim is to inspire creativity and collaboration among researchers. This session is hosted by the ASM Young Leaders Circle.

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Cannabis and Hop Latent Viroid: Who Will Survive?

4:00 p.m. – 4:45 p.m. AES Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Patrick Videau**

Speaker: **Zamir Punja**

The hop latent viroid is destroying cannabis crops throughout North America. While previously found to cause disease in hops, it has moved on to another target, and it is a weed we may not want to kill. This session will present the host-pathogen interaction, spread, and current understanding of potential outcomes for growers.

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## Clinical Infections and Vaccines (CIV) Meet-up

4:00 p.m. – 4:45 p.m. CIV Track Hub, Georgia World Congress Center

TRACK HUB

Moderators: **Michael Lieberman, Sanchita Das**

Join the Clinical Infections and Vaccines (CIV) community for a meet-up! Connect with colleagues to discuss topics relevant to your scientific track community. This event is moderated by the ASM Council on Microbial Sciences (COMS) CIV Community Leader and the ASM Microbe CIV Track Leader.

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## Ecology, Evolution, and Biodiversity (EEB) Community Meet-Up

4:00 p.m. – 4:45 p.m. EEB Track Hub, Georgia World Congress Center

TRACK HUB

Moderators: **Britt Koskella, Peter Gurguis**

Join the Ecology, Evolution, and Biodiversity (EEB) community for a meet-up! Connect with colleagues to discuss topics relevant to your scientific track community. This event is moderated by the ASM Council on Microbial Sciences (COMS) EEB Community Leader and the ASM Microbe EEB Track Leader.

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## Host-Microbe Biology (HMB) Community Meet-Up

4:00 p.m. – 4:45 p.m. HMB Track Hub, Georgia World Congress Center

TRACK HUB

Moderators: **Monica Cartelle Gestal, Vincent Lee**

Join the Host-Microbe Biology (HMB) community for a meet-up! Connect with colleagues to discuss topics relevant to your scientific track community. This event is moderated by the ASM Council on Microbial Sciences (COMS) HMB Community Leader and the ASM Microbe HMB Track Leader.

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## How to Wrangle a Training Opportunity at NIAID

4:00 p.m. – 4:45 p.m. MBP Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Ashley Groshong**

Speaker: **Angela Harris**

An overview of all training opportunities within the NIAID, how to apply, and what the training environment looks like across different campuses.

# Saturday Schedule (Continued)

SATURDAY, JUNE 15



## Profession of Microbiology (POM) Community Meet-Up

4:00 p.m. – 4:45 p.m. POM Track Hub, Georgia World Congress Center

TRACK HUB

Moderators: **Jorge Cervantes, Tatiana Pinto**

Join the Profession of Microbiology (POM) community for a meet-up! Connect with colleagues to discuss topics relevant to your scientific track community. This event is moderated by the ASM Council on Microbial Sciences (COMS) POM Community Leader and the ASM Microbe POM Track Leader.

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## Poster Sessions

4:00 p.m. – 5:00 p.m. Exhibit and Poster Hall, Georgia World Congress Center

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## Happy Hour

4:00 p.m. – 5:00 p.m. Exhibit and Poster Hall, Georgia World Congress Center

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## President's Forum: The Power of Microbial Sciences to Change the World

5:15 p.m. – 6:30 p.m. Sidney J. Marcus Auditorium, Georgia World Congress Center

Speakers: **Virginia Miller, Timothy Donohue, Nat Moorman, Emiley Eloie-Fadrosch**

Join the Microbe 2024 ASM President's Forum for a captivating gathering of top minds. Join the Microbe 2024 ASM President's Forum for a captivating gathering of top minds in microbial sciences! On June 15 in Atlanta, immerse yourself in dynamic discussions led by ASM President Virginia Miller, Ph.D., along with former ASM President Timothy Donohue, Ph.D., antiviral drug strategist Nat Moorman, Ph.D., and metagenomics expert Emiley Eloie-Fadrosch, Ph.D. Together, they'll dive into the exciting realm of microbes as catalysts for a bio-revolution, the pivotal role of READDI in preparing for the next pandemic and the interconnected ecosystems of microbiome research. Don't miss this thrilling exploration of microbiology's power and be part of the conversation shaping the future—with the biggest names in the microbial sciences community!

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## IAI Editorial Board Meeting and Reception (invitation only)

6:45 p.m. – 7:45 p.m. International Ballroom D, Omni

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## Division Y Business Meeting

6:45 p.m. – 8:15 p.m. International Ballroom E, Omni

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## Board of Directors Reception (invitation only)

7:00 p.m. – 8:30 p.m. International Ballroom F, Omni

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## JCM Editors' Dinner (invitation only)

7:00 p.m. – 10:00 p.m. Offsite

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## MRA Senior Editors' Dinner (invitation only)

7:00 p.m. – 10:00 p.m. Offsite

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## ESP Editors' Dinner (invitation only)

7:00 p.m. – 10:00 p.m. Offsite

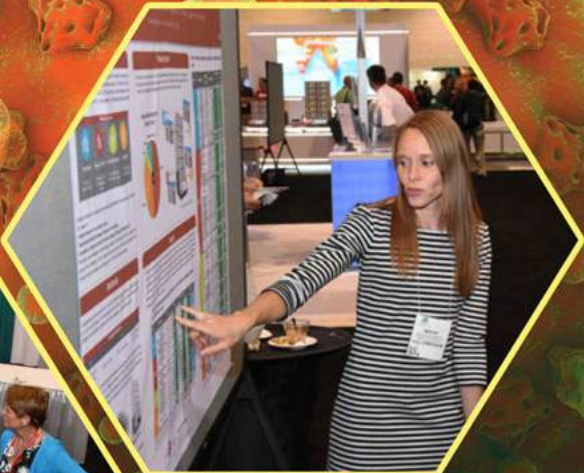


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# Sunday Schedule

SUNDAY, JUNE 16

 <b>AAR</b> Antimicrobial Agents and Resistance	 <b>AES</b> Applied and Environmental Science	 <b>CIV</b> Clinical Infections and Vaccines	 <b>CPHM</b> Clinical and Public Health Microbiology	 <b>EEB</b> Ecology, Evolution and Biodiversity	 <b>HMB</b> Host-Microbe Biology	 <b>MBP</b> Molecular Biology and Physiology	 <b>POM</b> Profession of Microbiology	 Additional Fee
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## Center for the History of Microbiology/ASM Archives (CHOMA) Subcommittee Meeting (invitation only)

6:45 a.m. – 8:15 a.m.  Juniper, Omni

## Policy Breakfast Forum

7:30 a.m. – 8:30 a.m.  Cottonwood AB, Omni



## Taking Aim at MDR Gram-negative Bacteria: Priority Pathogens, New Approaches, and New Drugs

8:15 a.m. – 10:15 a.m.  A302, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Georgina Cox**

Speaker: **Michael Koehler**

The expansion of multi-drug resistant (MDR) Gram-negative pathogens poses a serious threat to global health. This session will begin by highlighting priority Gram-negative pathogens and difficult-to-treat infections. We will then explore exciting advances and new approaches in the search for the next generation of efficacious agents targeting Gram-negative pathogens.



## Multidisciplinary Approach to Clinical Trials

8:15 a.m. – 10:15 a.m.  A311, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Man-Wah Tan**

Speakers: **Jessica Howard-Anderson, Rachel Bender Ignacio**

Clinical trials are an essential component in drug applicability and utilization. The completion of clinical trials requires support from multiple disciplines to ensure successful completion for each participant. The goal of this session will be to showcase the importance of these components in Antimicrobial Agent discovery.



## Genomic and Wastewater Epidemiology for Pathogen Surveillance

8:15 a.m. – 10:15 a.m.  B401, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Lauren Saunders**

Speakers: **Jeffrey Mercante, Smruthi Karthikeyan**

With the advent of Next Generation Sequencing, genomic epidemiology has become more accessible to track the spread of disease. The lessons from this field can be applied to wastewater-based epidemiology (WBE), a new field that has gained prominence with the advent of the SARS-CoV-2 pandemic. The predictive utility of WBE with covid outbreaks has increased interest in using WBE for detection and surveillance of additional human pathogens, antimicrobial resistance, and possibly even outbreaks of novel diseases. This session will discuss progress in sequencing applications for genomic and wastewater epidemiology and how this technology is developing.



# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## FYP: Hot Topics in Applied Environmental Science (AES)

8:15 a.m. – 10:15 a.m. B402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Moderator: **Patrick Videau**

This session will present talks from new and exciting submitted abstracts with a focus on early-career scientists. New methods, systems, and findings will be presented.



## Hiding in Plain Sight: Pathogens in Our Environment

8:15 a.m. – 10:15 a.m. A315, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Marisa Nielsen**

Speakers: **Jonathan Sexton, Sunny Jiang, Phyu Thwe**

The air we breathe, the water we jump into on a warm summer's day, and the ground beneath us all contain pathogenic organisms. How do we determine which organisms are truly causing infection when recovered in the clinical microbiology lab? Which organisms should we be aware of and what are the risk factors associated with different environmental pathogens? What should we do to prepare for changes in endemicity of pathogens as our environment changes? In this session you will learn the answers to these questions and more as a multidisciplinary team of scientists comes together to discuss these important organisms.



## Keeping Control and Preventing Infections: Hospital Epidemiology and Microbiology Col-LAB-oration

8:15 a.m. – 10:15 a.m. Sidney J. Marcus Auditorium, Georgia World Congress Center

*CROSS-TRACK PLENARY*

Convener: **David Calfee**

Speakers: **Arjun Srinivasan, Tara Palmore, David Calfee**

Health care-associated infections (HAIs) can result in significant morbidity and mortality, and often place additional demands on already limited diagnostic and treatment resources. Furthermore, HAIs can incur financial penalties. Therefore, monitoring and preventing HAIs in the health care environment is essential for patient care and overall community health and is dependent on close interaction between clinical and public health microbiology laboratories and infection preventionists. Through real-world examples, subject matter experts will highlight how HAIs can be reduced and the benefits of collaboration between laboratories and infection preventionists to manage and prevent HAIs.



## Legends, Lore, and Evidence Directing Cut-offs for Workup of Urine and Respiratory Cultures

8:15 a.m. – 10:15 a.m. A411, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Melanie Yarbrough**

Speaker: **Sophonie Oyeniran, Monica Mahoney**

Many cultures encountered in the clinical microbiology laboratory are polymicrobial and can contain a mixture of resident microbiota and pathogenic microbes. For some of these frequently polymicrobial specimen types, such as urine and respiratory specimens, the microbial burden recovered in culture may direct the extent of culture workup and clinical reporting practices. Commonly, this burden is approximated by evaluating colony counts in quantitative cultures. Currently, there is tremendous variability in clinical practice for workup and reporting of urine and respiratory cultures. The purpose of this session is to examine best practices for the workup of urine and respiratory specimens, synthesize literature on the microbial burden in clinical specimens that is associated with disease, and provide guidance on best practices to optimize clinical outcomes while preventing microbial overuse. The session will also highlight references and resources for laboratories to help refine urine and respiratory culture practices.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## Malaria: A Disease We Can't Afford to Ignore

8:15 a.m. – 10:15 a.m. A402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Derrick Chen**

Speakers: **Dawd Siraj, Andrea Morrison**

Malaria is a mosquito-borne disease that was once widespread in the United States. However, thanks to effective public health measures, malaria was largely eradicated from the US by the mid-20th century. For the first time in two decades, there have been several recent cases of locally transmitted malaria in the US, raising concerns about the potential for the disease to re-emerge. This session will discuss the history of malaria eradication in the US and its current state globally. It will also detail CDC's investigation into the locally transmitted cases.



## Climate Change and Microbial Ecology

8:15 a.m. – 10:15 a.m. B305, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Lisa Stein**

Speakers: **Ahmed Shibl, Jennifer Glass, Paula Dalcin Martins**

Microbes and their viruses are key players in climate homeostasis: they control greenhouse gas emissions, maintain terrestrial and marine ecology and biogeochemistry, enable plant and animal adaptation and survival, and contribute to crop productivity, among many other roles. Rapid climate change is altering microbial communities and their functions from molecular to ecosystem level, changing rates and fluxes in biogeochemical cycles and interactions between microbes and within host systems. This symposium will feature research across multiple spatiotemporal scales to explore how microbes and their viruses are affected by and are affecting climate change, and the possibility of using microbial ecology to mitigate climate change effects.



## Hot Topics in Ecology, Evolution, and Biodiversity (EEB)

8:15 a.m. – 10:15 a.m. B304, Georgia World Congress Center

Moderator: **Britt Koskella**

*IN-DEPTH SYMPOSIUM*

Research within the Ecology, Evolution and Biodiversity Track embodies a wide array of topics within the microbiological sciences. This session will highlight groundbreaking work from trainee submitted abstracts within and beyond the areas emphasized in our in-depth symposia programming.



## Cutting Edge Research at the Host-Microbe Interface

8:15 a.m. – 10:15 a.m. B308, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Moderator: **Kelly Bachta**

Research within the Host-Microbe Biology Track embodies a wide array of topics within the microbiological sciences. This session will highlight groundbreaking work from trainee submitted abstracts within and beyond the areas emphasized in our in-depth symposia programming.



## Considerations for Microbiome-based Therapeutic Success: Colonization and Context (Plenary)

8:15 a.m. – 10:15 a.m. B312, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Michael Abt**

Speakers: **Anna Seekatz, Brendan Kelly, Ami Bhatt**

Microbiome-based therapies represent a new and emerging approach to treat a wide range of human diseases. Before such approaches can be broadly used in the clinics the parameters that define therapy success need to be defined. This session will shed light on the multiple factors (including transplant engraftment efficacy, host immune status, diet consideration, and commensal colonization resistance) that determine whether a microbiome-based therapy will be successful. This session will bring together speakers from the basic and clinical world to present findings on the latest advances in our understanding of how to successfully use microbiome-based therapeutics.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## How to Survive a Phage Apocalypse (Plenary)

8:15 a.m. – 10:15 a.m. B303, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Chris Waters**

Speakers: **Aaron Whiteley, Asma Hatoum, Micah Ferrell**

A primary driver of the evolution and ecology of bacteria is bacteriophage (phage) infection. The last few years have witnessed an explosion of our understanding in how bacteria defend themselves against phage. This session will explore the interaction of bacteria with their phage and how the diverse molecular mechanism by which bacteria defend against phage infection.

## Ukrainian Virtual Poster Session

9:00 a.m. – 10:00 a.m. Lounge & Learn 1, Georgia World Congress Center



## Human Leishmaniasis in the United States: Epidemiology, Diagnostic Strategies, and Treatment Updates

9:15 a.m. – 10:15 a.m. A314, Georgia World Congress Center

*PANEL DISCUSSION*

Moderator: **Joshua Lieberman**

Panelists: **Joshua Lieberman, Naomi Aronson, Sheila Peel, Yvonne Qvarnstrom**

The proposed session will include three speakers who will provide an overview of the epidemiology of human leishmaniasis in the United States, options for molecular and culture-based diagnostic testing, how precise taxonomic identification of the infecting parasite influences treatment decisions, and key challenges in the coming decade. Dr. Joshua Lieberman (University of Washington, convener) will introduce the audience to Leishmania epidemiology in the US based on published studies and 2.5 years of molecular testing data from a civilian molecular reference laboratory. He will highlight both advantages and taxonomic limitations of molecular diagnostic strategies. Dr. Sheila Peel (Walter Reed Army Institute of Research) will discuss how highly specific culture-based isoenzyme electrophoresis testing – the gold standard for species-rank identification – guides treatment decisions and the obstacles to obtaining/maintaining this testing in the United States. Dr. Naomi Aronson (Uniformed Services University of the Health Sciences) will close the session with an overview of near-future challenges for this disease in the US, including suboptimal treatment response rates and the need for new and/or combination therapies, disease threats to immunocompromised persons, and risks for increased autochthonous transmission in a changing climate.

## Exhibit & Poster Hall Open

10:00 a.m. – 5:00 p.m. Exhibit and Poster Hall, Georgia World Congress Center

## Poster Sessions

10:30 a.m. – 11:30 a.m. Exhibit and Poster Hall, Georgia World Congress Center



## Advancing Antibiotic Combination Strategies: Integrating PK/PD, Mechanistic Synergy, and Computational Models for Overcoming Resistance

10:45 a.m. – 11:30 a.m. AAR Track Hub, Georgia World Congress Center

*TRACK HUB*

Moderator: **Ashlan Kunz Coyne**

Speaker: **Cornelia Landersdorfer**

The purpose of the track hub is to educate the audience on the intricate interplay of antibiotic synergy, encompassing the integration of PK/PD profiles, mechanisms of synergy and resistance, and computation models, all vital for the development of optimized combinations therapy to combat antibiotic resistance.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## Antimicrobial Resistance and Stewardship in Carceral Settings

10:45 a.m. – 11:30 a.m. Lounge & Learn 3, Georgia World Congress Center

TRACK HUB

Moderator: **Jacinda Abdul-Mutakabbir**

Speaker: **Alysee Wurcel**

The session will provide perspectives on antimicrobial resistance within carceral settings and necessary stewardships interventions to optimize equitable outcomes.



## Algae for Bioproduction: Extreme Yields

10:45 a.m. – 11:30 a.m. AES Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Erika Espinosa-Ortiz**

Speaker: **Robin Gerlach**

This session will present new work on using extreme algae to produce biofuels, which highlights novel means of bioproduction/bioconversion.



## How to Initiate Industry Sponsored Studies in Your Clinical Laboratory

10:45 a.m. – 11:30 a.m. CPHM Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Lauren Cooper**

Speaker: **Bryan Schmitt**

Industry is in need of more clinical microbiology laboratories to be involved in registration studies (FDA clinical trials) to get new technologies in the hands of laboratorians for the advancement of patient care. Many clinical labs, however, lack the knowledge of how to get involved in studies and are unsure of the resources required to make this happen. They are also unaware of how participating in clinical trials can be beneficial for them. This discussion will give them insight on how and why to get involved in these trials.



## What's New in the Clinical Microbiology Procedures Handbook?

10:45 a.m. – 11:30 a.m. Lounge & Learn 1, Georgia World Congress Center

TRACK HUB

Moderator: **Carey-Ann Burnham**

Speaker: **Amy Leber**

This is an exciting time to be a clinical microbiologist! We are experiencing an explosion of new tools to support advances in microbiology testing, including phenotypic and genotypic assays. Laboratory methods are changing, and so are our patient populations. A new edition of the Clinical Microbiology Procedures Handbook has recently been published, with extensive revisions in all sections. This text is an SOP-based book to support clinical laboratories in providing evidence-based microbiology testing. The purpose of this session will be to highlight some of the major changes relevant to the practice of clinical microbiology, shared by Section Editors from the text.



## How Far are We Towards Global Hepatitis Elimination in The Post-COVID Era?

10:45 a.m. – 11:30 a.m. Lounge & Learn 2, Georgia World Congress Center

TRACK HUB

Moderator: **Benjamin Liu**

Speaker: **John Ward**

Viral hepatitis is a notorious disease with major global public health concerns, which is responsible for chronic infection in more than ~300 million people and more than 820,000 deaths per year worldwide. Acute viral hepatitis B and C may develop into chronic hepatitis, cirrhosis and liver cancer, which has ranked among the top 20 causes of death. Though there are safe and effective vaccines for prevention of hepatitis A and B, WHO estimates that there are more than 1.5 million new infections each year. Though there are oral antiviral agents for treatment of chronic hepatitis B and C, the currently available antivirals cannot eradicate the viruses from the chronically infected HBV individuals. Efforts to develop novel diagnostic markers and antiviral drugs are urgently needed. While a goal of global elimination of viral hepatitis by 2030 was set up by WHO in 2016, there are major gaps and challenges in research and practice, such as the lack of high-quality epidemiological

# Sunday Schedule (Continued)

SUNDAY, JUNE 16

data, and disparities in access to diagnostic testing with linkage to prevention and care and treatment services. This is especially true in the post-COVID era, in which the attention of the WHO and the world diverted by the pandemic is going back to the “old” and long-lasting public health problem, e.g., viral hepatitis. This session will review the impact of COVID-19 on diagnosis, treatment, and vaccination of viral hepatitis as well as the global hepatitis elimination plan. This session will also discuss new data and timely update which will be helpful for assessment of the status of different countries/regions towards global hepatitis elimination by 2030.



## Malaria Diagnostics: Choosing the Right Tool

10:45 a.m. – 11:30 a.m. CIV Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Sanchita Das**

Speaker: **Michael Aidoo**

Human malaria is caused by one of five plasmodium parasites, Plasmodium falciparum, Plasmodium vivax, Plasmodium malariae, Plasmodium ovale, and Plasmodium knowlesi. Diagnosis of the infections requires detection of the blood stages of the parasite in infected persons. Malaria diagnosis is commonly done by smear microscopy, antigen-based rapid diagnostic tests (RDTs) but increasingly, also by multiple different molecular methods. The use of each of these tests requires careful consideration of whether they are for primary patient diagnosis, surveillance, or research. Additionally, tests may have performance characteristics and limitations that make them more appropriate in different epidemiologic settings or use cases, requiring specific capacities for implementation.

This session will describe the various tests, best use cases, and considerations for use in specific settings.



## Breaking Boundaries in Microbiology: The Impact of Genomic Long Reads

10:45 a.m. – 11:30 a.m. EEB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Daniela Mendoza Millan**

Speaker: **Valerie De Anda**

Traditional sequencing methods rely on short reads, limiting the ability to accurately assemble and analyze complex microbial genomes. However, advancements in long-read sequencing technologies have revolutionized the field, enabling researchers to obtain complete genome sequences and delve deeper into the intricacies of microbial diversity, transcriptomics, evolution, and function. In this session, we will showcase cutting-edge studies that leverage genomic long reads to uncover new frontiers in microbiology research. Topics will include the analysis of complex microbial communities, transcriptomics, deciphering mobile genetic elements, understanding antimicrobial resistance mechanisms, and exploring the genomic basis of microbial interactions. We also discuss the current advancements in genomic long reads such as the reduction of sequencing-induced SNPs. Join us as we explore and discover the untapped potential of genomic long reads.



## Use of Spatial Transcriptomic Analysis and Machine Learning Approaches to Gain a Unified Map of Infection HMB Track Hub, Georgia World Congress Center

10:45 a.m. – 11:30 a.m.

TRACK HUB

Moderator: **Matthew Lawrenz**

Speaker: **Mihaela Gadjeva**

Genomic data from *P. aeruginosa* and *E. coli* clinical isolates were collected from the past 20 years and analyzed using comparative genomics to elucidate changes in the core genomes and frequencies of AMR acquisition. The analysis pointed to a staggering 100% increase in the appearance of AMR resistance traits in the clinical strains, tendencies that necessitate development of intervention strategies against ESKAPE pathogens. I will discuss comparative genomics and transcriptomics approaches to generate unified host-pathogen maps of infection which will lead to intervention opportunities. To gain insights into the pathogen behavior within the infected tissues, we developed spatial, pathogen-specific transcriptome profiling and found differential enrichment of pathogen-specific transcripts at distinct anatomical locations. By using machine learning approaches, we correlated pathogen transcriptional features to host responses and found interconnected circuits. Longitudinal spatial transcriptomic analysis uncovered temporal changes in pathogen behavior, consistent with the establishment of chronicity. Cumulatively, our data highlights coordinated spatial and temporal transcriptional interplay between the host and the pathogen that may pinpoint to druggable circuits.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## Using Microfluidics to Probe the Inner Life of Bacteria

10:45 a.m. – 11:30 a.m.  MBP Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Randy Morgenstein**

Speaker: **Matthew Cabeen**

Speakers will present about the types of microfluidic technology available to microbiologists and bacterial cell biologists and their applications. We will cover the types of questions that are particularly well suited to microfluidics and what questions can be more easily addressed with other approaches. We will honestly discuss the limitations and challenges of using microfluidics and how microfluidic technology can be made more accessible and user friendly. We will also present data gained using microfluidics and discuss data curation and presentation.



## Who's The Boss Here? How to Transition From Academia to Effective Leadership with (Some) Grace. POM Track Hub, Georgia World Congress Center

10:45 a.m. – 11:30 a.m.

TRACK HUB

Speaker: **Frances Valencia-Shelton**

The primary goal of academic training is to obtain a mastery of your skill and put it to work immediately following your achievement. This is typically demonstrated by obtaining that ideal position, securing funding or salary, and maybe even leading a team to accomplish key goals. However, one essential skill that tends to get missed in our training is the skill of leadership. Whether it wasn't taught, or it just wasn't applied to real life experience. Natural born leaders are naturally born to work on their leadership skills, anyone can become an effective leader with the right preparation for their individual needs. In this session you will hear how one PhD trainee went from medical microbiology fellowship trained to be a director to management and then into the role of director. You will hear of the different skill sets that would have been missed or taken many years more to learn had the management experience not been ascertained. You will learn how it is possible to prepare prior to management from someone who has learned following 5 years of management and now 3 years of directorship with a management team.

## ASM CPEP Program Information Session

11:00 a.m. – 12:00 p.m.  A304, Georgia World Congress Center

## After Chat: President's Forum

11:45 a.m. – 12:30 p.m.  POM Track Hub, Georgia World Congress Center

## Poster Spotlights

11:45 a.m. – 12:30 p.m.  Track Hubs, Georgia World Congress Center

## Perspectives on the Long-Term Horizon of Ecology, Evolution and Biodiversity from the Council on Microbial Sciences (COMS)

11:45 a.m. – 12:30 p.m.  Lounge & Learn 2, Georgia World Congress Center

## ASM Future Leaders Mentorship Fellowship Networking Power Hour (invitation only)

12:00 p.m. – 1:00 p.m.  B305, Georgia World Congress Center

## Learn about NSF Programs at Microbe, Part 2

12:00 p.m. – 12:45 p.m.  Lounge & Learn 3, Georgia World Congress Center

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## Training Under-represented Minorities to Become Super Scientists: Lessons From The HBCUs

12:45 p.m. – 1:30 p.m. Lounge & Learn 2, Georgia World Congress Center

*CAREER TALK*

Moderator: **Oscar Tirado**

Speaker: **Karl Thompson**

This session will allow for the audience to garner insights from the training of a critical mass of under-represented minority students at HBCUs. HBCUs are woefully under-resourced yet are very successful at preparing students for advanced training in the areas of medicine, law, and science. There is a hunger amongst HBCU STEM majors to pursue excellence in STEM areas. Yet, under-exposure to science in minority communities inhibits the development of a proper perspective and mindset for a research career. Additionally, issues pertaining to science literacy and technology aversion create additional barriers for proper preparation of underrepresented minorities to obtain a thriving STEM career.

We have discovered that creating a proper perspective on the role and value of science in society, as well as a systematic laboratory training plan can mitigate the abstraction associated with considering and preparing for a career in science. The learner should attend this session to see what it is that under-resourced HBCUs can do in training budding under-represented minority scientists that may be informative for efforts to broaden science participation in different institutions.



## Meet the ASM Microbe Co-Chairs: How to propose a session for ASM Microbe 2025

12:45 p.m. – 1:30 p.m. CPHM Track Hub, Georgia World Congress Center

*TRACK HUB*

Moderator: **Pamela Brown**

Speakers: **Karla Satchell, Robert Tibbetts**

The ASM Microbe Program Committee is a vibrant community of scientists across all eight ASM tracks that works each year to program the scientific sessions for ASM Microbe. Join the meeting chairs on Sunday in the CPHM track to learn more about the committee and the process of organizing the meeting content. Hear directly from the meeting chairs how to propose a session for the 2025 in Los Angeles and tips on putting together a successful session proposal. Also learn more about the committee and when and how to apply to join this great team.



## #Social-Media-and-You: Crowd-sourced Tips on How to Engage Better

12:45 p.m. – 1:30 p.m. MBP Track Hub, Georgia World Congress Center

*TRACK HUB*

Moderator: **Blake Ushijima**

Panelists: **Mariana Byndloss, Callan Bleick, Olalekan Akinsulie, Sagar Aryal**

Social media is a powerful tool that can be used to promote your research, engage microbiologists with your same interests, and be more visible to your scientific community. In this session, we will present the best tips crowd-sourced using social media in the weeks just before ASM Microbe 2024. If you are an expert on social media or instead find it really confusing, come by the track hub and snag a few tips to improve engagement by live tweeting or posting to Instagram or other favorite social media site. #ASMmicrobe #seeyouthere



## Antimicrobial Peptides Against Gram-negative Bacteria

12:45 p.m. – 1:30 p.m. AAR Track Hub, Georgia World Congress Center

*TRACK HUB*

Moderator: **Ashlan Kunz Coyne**

Speaker: **Berthony Deslouches**

Antimicrobial peptides (AMPs) are small peptides that have antibacterial and/or anti-biofilm activity against bacteria. AMPs are part of the innate immune system and can also be synthetically designed. AMPs represent a potentially new type of antimicrobial agent against bacteria. In this session, we will focus on AMPs with activity against gram-negative bacteria, and especially against multi-drug resistant and biofilm forming bacteria.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## Creutzfeldt-Jakob Disease and Other Prion Diseases

12:45 p.m. – 1:30 p.m. Lounge & Learn 1, Georgia World Congress Center

TRACK HUB

Moderator: **Jennifer Guthrie**

Speaker: **Brian Appleby**

The role and value of neurodegenerative markers and real-time quaking induced conversion testing will be discussed.



## One Thousand Genomes for Syphilis

12:45 p.m. – 1:30 p.m. CIV Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Lisa Stempak**

Speaker: **Alex Greninger**

This session will give an overview of insights gleaned from the first 1000 genomes of *T. pallidum*, and how sequencing is informing our understanding of evolution, public health response, and functional aspects of this mercurial pathogen.



## Evolutionary Limits of Microbial Populations

12:45 p.m. – 1:30 p.m. EEB Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Will Harcombe**

Speaker: **Luis Zaman**

This track hub will focus on how interactions and the type of selection impact rates of evolution and the evolution of complexity.



## Bacterial Lipids- Advances in Structural Analysis and Function using Mass Spectrometry

12:45 p.m. – 1:30 p.m. HMB Track Hub, Georgia World Congress Center

TRACK HUB

Convener: **Matthew Lawrenz**

Speaker: **Robert Ernst**

Microbes contain a number of characteristic lipids and lipoproteins. These molecules are crucial not only for membrane integrity but also for signaling, responding to environmental stresses, propagation, antibiotic resistance, and pathogenesis. The characteristics, structure, and specific mechanisms leading to bacterial lipid synthesis and regulation represent long-standing questions requiring the latest technologies that improve the resolution of microbial lipidomics. Mass spectrometry has become a method of choice for meeting many of these challenges, thanks to advances in instrumentation, methodology, and the ability to directly analyze without the need for *ex vivo* growth.



## Support for International Post-Graduate Trainees in Healthcare Settings

12:45 p.m. – 1:30 p.m. POM Track Hub, Georgia World Congress Center

TRACK HUB

Moderator: **Rachel Denyer**

Speaker: **Tomislav Mestrovic**

International medical graduates (IMGs) are vital to the US Healthcare system comprising about a quarter of the physician workforce and contributing to the diversity of the medical workforce in the United States, including in Microbiology, Public Health and Infectious Diseases. This session will review the challenges faced by IMGs and other international graduates participating in post-graduate training in US settings. The session will discuss actions that faculty, mentors and peers can take to better support international trainees in US healthcare and medical settings.

## Happy Hour

1:30 p.m. – 2:30 p.m. Exhibit and Poster Hall, Georgia World Congress Center



# Sunday Schedule (Continued)

SUNDAY, JUNE 16

## Beyond Border: How Microbial Sciences Research are Conducted in Nigeria - Conversation with the 2024 ASM Moselio Schaechter Award in Recognition of a Developing-Country Microbiologist

1:45 p.m. – 2:30 p.m.  POM Track Hub, Georgia World Congress Center



## Top Ten Papers in Beta-lactamases

1:45 p.m. – 3:45 p.m.  A302, Georgia World Congress Center

*PANEL DISCUSSION*

Moderator: **Robert Bonomo**

Panelists: **Timothy Palzkill, Robert Bonomo, Alessandra Carattoli**

This is an all-encompassing legacy session on the most prevalent enzymatic resistance mechanism present in Gram-negative bacteria: beta-lactamases. The top 10 papers published from July 2023-June 2024 in the field of beta-lactamases will be reviewed. This includes epidemiology of current and novel beta-lactamases, the clinical relevance of these beta-lactamases on treatment, including novel therapies, as well as studies on the biochemistry of beta-lactamases with beta-lactams and inhibitors and other aspects that impact activity of these important enzymes.



## New Agents

1:45 p.m. – 3:45 p.m.  A311, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Alexei Savchenko**

Antimicrobial Resistance is a growing global public health threat. Thus, there is an urgent need to develop and utilize novel therapeutics that are able to evade typical mechanisms of resistance.



## Environmental Factors in Antimicrobial Resistance

1:45 p.m. – 3:45 p.m.  B402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Erin Lipp**

Speakers: **Elizabeth Ottesen, Latania Logan**

Infection control efforts have made progress in reducing healthcare-associated infections with antimicrobial resistant (AR) pathogens. However, environmental and community transmission of AR pathogens and antimicrobial resistance genes has proven more difficult to combat. This session seeks to present recent progress in understanding environmental sources and sinks of AR genes and AR pathogens, including the role of wastewater conveyance and treatment infrastructure in mediating human-environment exchange of AR genes and AR bacteria. In addition, we are exploring the role of the human commensal microbiome as a potential mediator of bacterial and gene exchange between humans and the environment. Together, these topics are key to understanding the emergence and persistence of AR genes and AR pathogens.



## Plant Microbiomes for Sustainable Agriculture

1:45 p.m. – 3:45 p.m.  B401, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Ivelisse Irizarry**

Speakers: **Adam Rivers, Robin Choudhury**

Plants are hosts to a vast diversity of microbes that comprise plant microbiomes. Plant microbiomes influence host gene expression, metabolism, and health. This in-depth symposium will highlight research in plant microbiology, plant microbiomes, and plant-microbe interactions in relation to sustainable agriculture. Attendees will learn about the functions of plant microbiomes while networking with other researchers to foster and strengthen collaborations between diverse research groups across sectors. Having an in-depth symposium on plant microbiology and its relation to sustainable agriculture will increase participation from researchers in this area.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## Direct Detection of Sepsis Pathogens from Blood: What Are We Waiting for?

1:45 p.m. – 3:45 p.m.  A411, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Linoj Samuel**

Speakers: **Rajesh Krishnamurthy, Valeria Fabre**

This session would discuss the challenges facing development of direct from blood sepsis diagnostics. Despite the fact that there is a pressing need for better methods to detect bloodstream pathogens, there is only one FDA approved assay for this purpose and none that are widely used. This session would include lab directors and industry scientists to discuss the challenges both in sepsis diagnosis and in the development of better tools to directly detect pathogens in blood during sepsis. Speakers would address the clinical needs, practical laboratory challenges, technical challenges, clinical/cost justification and hurdles that currently hold back development/adoption. The session could conclude with a short panel discussion to address audience questions.



## Microbiological Perspectives on Gender-Affirming Care, STIs, and Health Disparities

1:45 p.m. – 3:45 p.m.  A315, Georgia World Congress Center *IN-DEPTH SYMPOSIUM*

Convener: **Sarah Wondmeh**

Speakers: **Sarah Wondmeh, Adam Burgener, Jessica Prodger**

For many transgender and gender-diverse people, the onset of genital symptoms marks the start of numerous clinic appointments, inconclusive culture results and treatment based on research conducted in people with different anatomies, gender identities and hormone levels (i.e., cisgender people). This is because health research—including microbiology research—has historically and systemically excluded transgender and gender-diverse people. Microbiology research that is inclusive of transgender populations is essential to address this health disparity. This session will explore the need for such research and inclusive clinical practices and research.



## Hot off the Bench: Research from Trainees in Clinical Microbiology

1:45 p.m. – 3:45 p.m.  A412, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Carey-Ann Burnham**

One of the primary reasons to attend ASM Microbe is to gain knowledge on state-of-the-art diagnostic methods for the clinical laboratory. Trainees in clinical microbiology, such as CPEP fellows, are frequently the individuals conducting this state-of-the-art research. This research may be focused on a number of topics, such as laboratory process improvement, evaluation of new diagnostic methods, or investigation of the epidemiology or virulence of pathogenic microbes that infect humans. This is a fast-paced session where outstanding abstracts from trainees, representing high quality work relevant to clinical microbiology will be presented. This session will provide trainees with a wonderful opportunity to network and celebrate their work, and it benefits ASM Membership to hear about the advances in the field being developed by these trainees.



## Little Things Cause Big Trouble in Developing Brains: Emerging and Re-emerging Viral CNS Infections in Children

1:45 p.m. – 3:45 p.m.  A402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Benjamin Liu**

Speakers: **Benjamin Liu, Rangaraj Selvarangan**

Recent decades have witnessed the emergence and re-emergence of numerous medically important viral pathogens that can cause CNS infections in children, including Zika virus, West Nile virus, enteroviruses and human parechoviruses. Viral invasion into CNS, especially in neonates, can cause meningitis, encephalitis, and long-term neurodevelopmental sequelae. Rapid and accurate detection of these viruses from CSF is essential for diagnosis of CNS diseases and for preventing inappropriate and costly treatments. Conventional microbiology/virology methods play an important role in routine diagnosis of CNS infections. Multiplex meningitis/encephalitis panels and metagenomic next-generation sequencing assays for pan-pathogen detection have been demonstrated as useful additions to a suite of molecular assays for detection of viral pathogens in CSF. However, there are still a variety of challenges in implementation, utilization and interpretation of these assays in clinical settings. In this session, we will discuss the advances and challenges in the laboratory diagnosis of pediatric viral CNS infections due to emerging and/or re-emerging neurotropic viruses. We will also analyze unmet needs in this field and discuss future directions towards optimization of the laboratory diagnosis of pediatric CNS infections due to these viruses.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## Cyanobacteria in Marine and Terrestrial Systems: From Genomes to Biocrusts to Blooms

1:45 p.m. – 3:45 p.m.  B305, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Conveners: **Daniel Phillips, Mary Ann Bruns**

Speakers: **Estelle Couradeau, Anders Kiledal**

Cyanobacterial biocrusts fix carbon and nitrogen and stabilize surfaces of drylands, which account for more than 40% of Earth's continental area. Biocrusts make dryland systems more resilient to global change, but every minute, up to 23 hectares of vegetated land are subject to desertification. Biocrust coverage is predicted to decline by 25-40% within 60 years, and efforts of biocrust restoration by cyanobacterial inoculation of newly desertified lands are underway. Characterization of biocrusts leads to discovery of new cyanobacterial species and functions to expand our understanding for biocrust restoration.

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## Drivers, Constraints and Consequences of Microbial Recombination

1:45 p.m. – 3:45 p.m.  B304, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Cheryl Andam**

Speakers: **Cheryl Andam, Louis-Marie Bobay**

Genetic recombination allows a microbial cell to acquire novel traits through incorporation of DNA fragments from other organisms into its own genome. The consequences of recombination within and between species are vast. This session will highlight current work and new insights on how various mechanisms of microbial recombination influence standing diversity, niche expansion, emergence and spread of unique phenotypes, rapid adaptive changes, and the nature of speciation and species boundaries. Emphasis will also be placed on the ecological, mechanistic, and adaptive barriers to recombination and how these are overcome.

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## Integrating in Silico Models in Host-Microbe Biology

1:45 p.m. – 3:45 p.m.  B312, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Alison Criss**

Speakers: **Aimee Potter, Ophelia Venturelli**

Systems biology approaches are becoming widely used to better understand microbes in their environments. Genome-scale modeling of microbial physiology and metabolism is one such approach, but to date its application to host-microbe interaction studies has been limited. This in-depth symposium will bring together systems biologists and host-microbe biology experts to showcase how in silico models can reveal new biology about microbes in their host environments. In doing so, this symposium will enable learners from all areas of microbiology and systems biology to gain perspective on this interdisciplinary area of research.

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## Single Cell Contributions to Host-associated Microbial Community Dynamics

1:45 p.m. – 3:45 p.m.  B308, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Ryan Hunter**

Speakers: **Connie Chang, Shumin Tan**

Traditional approaches towards the study of host-pathogen interactions are, by necessity, targeted at the "bulk-level" microbial population. As a result, contributions of individual community members (i.e., single cells) to pathogenesis and how they respond to antimicrobial therapy can be masked by the emergent properties of our complex microbiota. This symposium will highlight novel, high-throughput, and much-needed approaches towards the study of the structural and functional heterogeneity of our microbiota at the level of individual cell, and how a deeper understanding of microbial states in vivo can be exploited therapeutically.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## A Coordinated Effort: The Dynamic Inner Lives of Bacterial Cells

1:45 p.m. – 3:45 p.m. B303, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Gregory Harrison**

Speakers: **Hualiang Pi, Emily Armbruster**

The bacterial cell was once considered to be a bag of enzymes devoid of order or organization. Decades of work have challenged this notion, revealing that subcellular organization governs a myriad of fundamental processes in bacteria, including cell division, metabolism, and stress responses. With our speakers we will examine how bacteria coordinate multiple subcellular machines to divide, to sporulate, and to respond to their environment. This session will continue to unravel the "bag of enzymes" hypothesis, featuring exciting new discoveries in bacterial cell shape and organization.



## Regulatory RNAs in Bacteria: Prevalent and Relevant

1:45 p.m. – 3:45 p.m. B314, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Philip Adams**

Speakers: **Gisela Storz, Michael Gebhardt**

RNA-mediated regulation allows bacteria to quickly adapt to environmental stress conditions, finetune the expression of many different genes, and are critical for pathogenesis. Regulatory RNAs are diverse, both in modes of their biogenesis and action. Broadly, these regulators have been classified into cis- or trans-acting. Cis-acting RNAs are encoded in the 5' untranslated regions (UTRs) of mRNAs and regulate downstream gene expression by altering RNA secondary structure, often by binding metabolic byproducts (riboswitches) or temperature changes (RNA thermometers). Trans-acting RNAs are typically small (less than 300 nt) and base pair with target RNAs to elicit a regulatory effect. This in-depth symposium will highlight new discoveries in bacterial regulatory RNAs and their intricate regulatory mechanisms.

## Late-Breaker Rapid Fire Presentations

2:00 p.m. – 3:00 p.m. Lounge & Learn 1, 2 and 3, Georgia World Congress Center

## Poster Sessions

3:00 p.m. – 4:00 p.m. Exhibit and Poster Hall, Georgia World Congress Center



## Shifting Industries: Alternative Careers for Clinical Microbiologists

3:15 p.m. – 4:15 p.m. A314, Georgia World Congress Center

*PANEL DISCUSSION*

Moderator: **Andrea Prinzi**

Panelists: **Priyanka Uprety, Allison McMullen, Pushker Raj**

This session will explore the role of clinical and public health expertise within the in vitro diagnostics industry and the importance of scientific collaboration between the clinical, public health, and industry sectors. Experts from clinical microbiology, public health, and industry will discuss considerations and unexpected obstacles of career choices outside the laboratory and the value of microbiology expertise within these roles. Additionally, this session will highlight the role of medical and scientific affairs and how clinical microbiologists in industry can help drive innovation. Finally, public health and in-vitro diagnostic industry collaboration opportunities will be discussed.



## Rapid and Cost-effective NGS Solution for Mycobacteria Isolates Identification

4:15 p.m. – 5:15 p.m. A302, Georgia World Congress Center

*MEET-THE-EXPERT*

Speaker: **Jose Alexander**

This presentation is intended to explain the process of evaluating, designing and validation a rapid and cost-effective NGS solution for mycobacteria in a rapid pace microbiology lab. The attendees will be able to understand the basic principles of NGS, different NGS techniques, and to evaluate approaches for a rapid turnaround time. The presentation will summarize the technical and clinical aspects of the implementation and will offer a process to follow for bringing an in-house rapid NGS solution for expanding identification direct bacterial isolates.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16



## Challenges in MIC Testing of New Drugs: Stories from a Public Health Laboratory

4:15 p.m. – 5:15 p.m. A402, Georgia World Congress Center

MEET-THE-EXPERT

Speaker: **David Lonsway**

This session will take a case-based approach on understanding the limitations of testing new antimicrobial agents for bacterial isolates. It will provide guidance on validation and verification used for establishing methods for MIC testing on newly approved antibiotics that most clinical laboratories do not routinely test for.



## Interdisciplinary Research, Why it Matters.

4:15 p.m. – 5:15 p.m. B401, Georgia World Congress Center

MEET-THE-EXPERT

Moderator: **Patrick Videau**

Speaker: **Gemma Reguera**

Attendees will hear updates on new initiatives from ASM publishing and have the chance to interact with ASM journal editors.



## The Exciting World of Toxin-Antitoxin Systems

4:15 p.m. – 5:15 p.m. B312, Georgia World Congress Center

MEET-THE-EXPERT

Moderator: **Seema Mattoo**

Speaker: **Michael Laub**

Toxin-Antitoxin (TA) systems are ubiquitous genetic modules found in bacteria and archaea, consisting of a toxin that inhibits cell growth and an antitoxin that neutralizes its effects. These systems play crucial roles in stress response, plasmid stabilization, and persistence mechanisms. More recently, roles for TA systems have been identified in promoting bacterial pathogenesis and in phage defense. Combined with the discovery of novel TA systems in previously "dark"/unknown portions of bacterial and archaeal genomes, understanding the precise biological functions of TA systems and their regulatory mechanisms remains a significant challenge.



## Swimming in the Time of Cholera: Flagellar Synthesis in *Vibrio cholerae*

4:15 p.m. – 5:15 p.m. B314, Georgia World Congress Center

MEET-THE-EXPERT

Moderator: **Pamela Brown**

Speaker: **Karl Klose**

Many bacteria produce flagella that allow them to swim, and motility is typically intimately associated with their lifestyle. *Vibrio cholerae*, the bacteria that cause the life-threatening disease cholera, produce a single flagellum that allows them to swim. *V. cholerae* motility is associated with their ability to cause disease, as well as their ability to form biofilms in the marine environment. How *V. cholerae* (and other *Vibrios*) build a flagellum and how this appendage relates to their ability to cause disease and persist in the environment will be discussed.

## Science and Society Lecture with Dr. Peter Hotez

5:30 p.m. – 6:45 p.m. Sidney J. Marcus Auditorium, Georgia World Congress Center

Moderator: **Jonathan Capehart**

Speaker: **Dr. Peter Hotez**

The ASM Microbe "Science and Society" keynote lecture is a series that highlights the importance of new scientific discoveries and their impact on our community. Through this series, featuring world-renowned speakers and in-depth discussions on cutting-edge topics, ASM will showcase how microbes are essential in our lives and, through innovative technologies, can solve the world's most pressing public health concerns.

At ASM Microbe 2024, MSNBC's Jonathan Capehart will take the stage to moderate the annual Science & Society Keynote with renowned scientist Dr. Peter Hotez.

# Sunday Schedule (Continued)

SUNDAY, JUNE 16

## Meet the Author: Book Signing with Peter Hotez

6:45 p.m. – 7:30 p.m.  Sidney J. Marcus Auditorium Foyer, Georgia World Congress Center

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## Division Y Public Health Mixer

6:45 p.m. – 8:15 p.m.  International Ballroom D, Omni

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## Corporate Council Convening 2 (CC2) (invitation only)

7:15 p.m. – 9:00 p.m.  International Ballroom E, Omni

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## Agar Art on Display

7:30 p.m. – 9:00 p.m.  International Ballroom AB, Omni

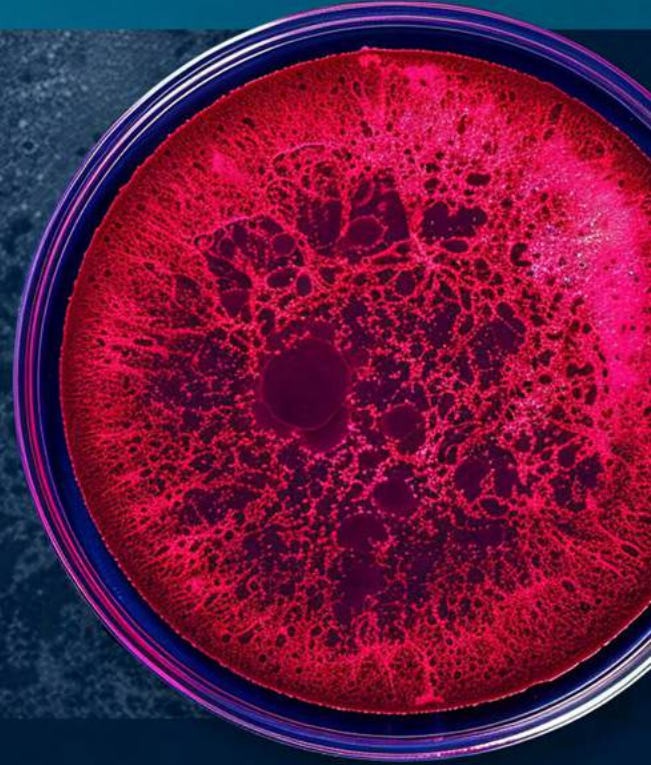
# Upcoming ASM Conferences



**ASM**

**CONFERENCE ON BIOFILMS**

NOVEMBER 9-13, 2025 | PORTLAND, OR



**2024 ASM Conference on Rapid Applied  
Microbial Next-Generation Sequencing  
and Bioinformatic Pipelines**










October 13-16, 2024 • Washington, D.C.

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**[asm.org/events](https://asm.org/events)**

# Monday Schedule

MONDAY, JUNE 17

 <b>AAR</b> Antimicrobial Agents and Resistance	 <b>AES</b> Applied and Environmental Science	 <b>CIV</b> Clinical Infections and Vaccines	 <b>CPHM</b> Clinical and Public Health Microbiology	 <b>EEB</b> Ecology, Evolution and Biodiversity	 <b>HMB</b> Host-Microbe Biology	 <b>MBP</b> Molecular Biology and Physiology	 <b>POM</b> Profession of Microbiology	 Additional Fee
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## ASM Distinguished Lecturer (ASMDL) Subcommittee (invitation only)

6:45 a.m. – 8:15 a.m.  Juniper, Omni



## Advancements in Antibody-based Therapies Against Multidrug Resistant Pathogens

8:15 a.m. – 10:15 a.m.  A311, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Jacinda Abdul-Mutakabbir**

Speaker: **James Crowe**

This session will be focused on the development and eventual utilization of vaccines against multidrug resistant pathogens, including non-fermenting organisms.



## New Insights into Molecular Mechanisms of AMR

8:15 a.m. – 10:15 a.m.  A302, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Peter Stogios**

Speaker: **Timothy Barnett**

Elucidation of the molecular mechanisms of antimicrobial resistance (AMR) is important for fundamental/basic understanding of this phenomenon, tracking and surveillance of resistance determinants, understanding of the liabilities of antimicrobials in terms of resistance, and discovery of new antimicrobials.

In recent years, important advances have been made in the elucidation of the action of multiple classes of AMR proteins, including the ribosome-acting ABC-F family and 16S methyltransferase family of proteins, and anti-folate resistance proteins.

In this symposium, speakers will discuss their work on discovery and characterization of mechanisms of AMR. The approaches and perspectives include biochemistry, structural biology, molecular biology, chemistry and genomics. The speakers were selected from their recent high-profile papers in this field which have provided fundamental insights into mechanisms of resistance to a diverse set of antibacterials.



## Harnessing Microbes for Sustainability in Mining

8:15 a.m. – 10:15 a.m.  B401, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Michaeline Albright**

Speakers: **Na Wei, N. Cecilia Martinez-Gomez**

The mining industry is facing unique challenges that require creative solutions. Renewed focus on mitigating global climate change is increasing pressure for “green” energy and driving market demand for the raw materials needed to provide products such as steel and batteries. Concurrently, societal, and regulatory pressures for providing these raw materials with less environmental impact than conventional methods are at an all-time high. As the rate of advance of chemical and physical technologies wanes, biology is emerging as the new frontier for solutions in the mining industry. In this session, we will explore the potential for microbiology to mitigate waste and create value in mining applications ranging from metal recovery to impurity removal to bioleaching to carbon dioxide sequestration.



# Monday Schedule (Continued)

MONDAY, JUNE 17



## Diagnostic Parasitology: Best Practices and Future Directions

8:15 a.m. – 10:15 a.m. A412, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Marc Couturier**

Speakers: **Anisha Misra, Blaine Mathison, Marc Couturier**

Diagnostic parasitology is a critically important part of the clinical microbiology laboratory. Many laboratories have conceded to relegating this testing menu to regional or national reference labs, especially after experiencing staffing losses post-COVID. An unfortunate result of these realities is collectively: decreasing visibility and expertise in parasitology, a drift toward decreased knowledge and errors, lack of understanding of best practices, and decreasing general awareness of parasitic diseases. This session will take a deep dive into notable parasitic diseases in the United States and beyond, with a focus on best practices, common mistakes made by non-experts, and future advancements and modifications that can help more labs to reengage with the fine art of parasite detection. Specific areas of focus will be gastrointestinal parasites, blood parasites, gross helminths and arthropods. New and underutilized technologies will be discussed such as multiplex NAAT testing, sequencing, histopathologic identification, and artificial intelligence/machine learning using image analysis.



## Immune Responses to Viral Vaccine Platforms: Comparison of Live, mRNA, and Protein Subunit Vaccines

8:15 a.m. – 10:15 a.m. A402, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Michael Lieberman**

Speakers: **Beth-Ann Collier, Norbert Pardi, Axel Lehrer**

Recent events have placed a spotlight on viral vaccines and the various platforms used. This session will provide an in-depth analysis of the humoral and cell-mediated immune responses, the durability of the immune responses, and the potential immune correlates of protection elicited by each vaccine platform. At the conclusion of the session the attendees should have knowledge of the advantages and limitations of each platform relative to the others.



## Microbial Nutrient Encryption

8:15 a.m. – 10:15 a.m. B305, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Will Ludington**

Speakers: **Darcy McRose, Zachary Hallberg**

Encryption makes information available only to those with the decoding key. Microbes, living in a chemical environment, encrypt nutrients, thereby making them available only to those with the decoding enzymes, such as their kin. Examples of encrypted nutrients include cobamides, which are expensive to make and valuable for microbial fitness. Hosts also encrypt nutrients to encourage desirable colonizers. For instance, plant root exudates and breast milk oligosaccharides encourage beneficial microbes. This session will explore different examples of nutrient encryption in microbial communities and host contexts.



## Our Microbial Organ: Impact of Microbiota Metabolites in Host Health

8:15 a.m. – 10:15 a.m. B312, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Mariana Byndloss**

Speakers: **Wenhan Zhu, Elizabeth Johnson**

Our microbial organ, the gut microbiota, plays a critical role in supporting host health. This session will shed light into how microbiota-derived metabolites affect host immune status, early-life development, and commensal colonization resistance against enteric pathogens. Additionally, the session will focus on factors that may determine whether a microbiome-based therapy will be successful.

# Monday Schedule (Continued)

MONDAY, JUNE 17



## Welcome to The Jungle: Microbial Interactions in Polymicrobial Communities

8:15 a.m. – 10:15 a.m. B303, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Sheyda Azimi**

Speakers: **Jessica Mark Welch, Rosana Ferreira**

Many bacteria live in dynamic polymicrobial communities. For example, chronic infections are often co-infected with multiple species of bacteria or several lineages that emerged from a single infecting strain. This session will explore how microbial population heterogeneity impacts bacterial physiology and community functions and describe novel approaches to study these communities.



## Stress Responses in Microbial Education: Adapting Education for Current and Future Challenges

9:30 a.m. – 2:00 p.m. A315, Georgia World Congress Center

*MINI-CONFERENCE*

Convener: **Roger Greenwell**

Speakers: **Adronisha Frazier, Miriam Segura-Totten, Roger Greenwell**

This mini-conference will serve as a sampling of the ASM Conference on Undergraduate Educators. We will cover curriculum guidelines, student assessment, the challenges posed with undergraduate student research experiences, and increasing STEM literacy. These areas will also be addressed with regard to the impact of artificial intelligence, climate change, and scientific disinformation.

## Beyond Academia: Fulfilling Microbiology Careers Outside the Tenure Track

10:30 a.m. – 12:00 p.m. B304, Georgia World Congress Center

## Funding Your Research in Microbiology: Navigating the Federal Grants Application Process

10:30 a.m. – 12:00 p.m. A314, Georgia World Congress Center



## Funding Your Research in Microbiology: Navigating the Federal Grants Application Process

10:30 a.m. – 12:00 p.m. A314, Georgia World Congress Center

*PANEL DISCUSSION*

Mooderator: **Rebecca Yee**

Panelists: **Rebecca Burgess, Trisia Shannon, Mamta Rawat**

One of the most difficult steps in developing a sustainable academic career as an investigator in microbiology is understanding the application process to get your lab funded. There are many pathways and grant opportunities from federal agencies that can support your research. This session will provide insights on how to navigate the complexities of the application process and the different pieces needed to obtain funding for your research. Scientific and Program officers will provide the do's and don'ts for a successful grant funding application from federal agencies (NIH and CDC).



## Beyond Academia: Fulfilling Microbiology Careers Outside the Tenure Track

10:30 a.m. – 12:00 p.m. B304, Georgia World Congress Center

*IN-DEPTH SYMPOSIUM*

Convener: **Joe James**

Speakers: **Ninecia Scott, Susanna Harris**

It's estimated that 10-30% of PhD recipients will get a permanent position in academia. Often described as "alternative tracks," sectors outside of the tenure track model are where the large majority of graduates make their careers. Despite this, many programs do not have sufficient knowledge or training for these jobs. Our panelists will discuss their paths to success outside academia, and the knowledge and skills they use that aren't always emphasized in academic training.

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Join us in Pittsburgh, PA, this November for a powerhouse of educational and career-building opportunities in the sciences. Whether you are a student, educator or professional, these back-to-back conferences are tailored just for you!



## ABRCMS 2024

November 13–16 | Pittsburgh, PA

**November 13–16, 2024**  
**Graduate Symposium, November 16–17**

For over 20 years, the Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS) – recipient of the 2019 AIMBE Excellence in STEM Education Award – has been the go-to conference for historically excluded community college, undergraduate and postbaccalaureate students in science, technology, engineering and mathematics. Join us in Pittsburg to be part of ABRCMS 2024!

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## ASM CONFERENCE FOR UNDERGRADUATE EDUCATORS

NOVEMBER 15 -17, 2024 | PITTSBURGH, PA

**November 15–17, 2024**

The ASM Conference for Undergraduate Educators (ASMCUE) is a premier meeting for educators to share classroom strategies, hear biology education research updates, enhance teaching methods and connect with academic leaders in biology education. Submit a proposal and/or register now to join us to re-energize your love of teaching!

Visit [ASM.org/ASMCUE](https://ASM.org/ASMCUE) to learn more!



# Industry and Science Events

## Thursday, June 13

### Direct cDNA Synthesis Using Template Switching RT for Highly Sensitive Gene Expression Analysis

Sponsored by Thermo Fisher - Booth 600

9:00 a.m. – 9:45 a.m.

 B402

WORKSHOP

Speaker

**Renata Zakrienè**

### Navigating the Molecular Frontier: From Poo to Precision - A Journey in GI Test Implementation

Sponsored by Thermo Fisher - Booth 600

10:00 a.m. – 10:45 a.m.

 B402

WORKSHOP

Speaker

**Rachel Alexander M.S. MB(ASCP)**

### Addressing the Epidemic: Current Trends and Challenges in Sexually Transmitted Infections (STIs) and Vaginitis

Sponsored by Thermo Fisher - Booth 600

11:00 a.m. – 11:45 a.m.

 B402

WORKSHOP

Speaker

**Scott Pritchard**

### Differentiation of HSV and VZV Lesions Using Multiplex Molecular Testing

Sponsored by Quidelortho - Booth 1507

1:00 p.m. – 1:45 p.m.

 B402

WORKSHOP

Speakers

**Dr. Preeti Pancholi, Ph.D D(ABMM),**

**Dr. Tamara Ranalli, Ph.D.**

### The Impact of Rapid Diagnostics on Antimicrobial Stewardship Practices

Sponsored by bioMerieux, Inc. - Booth 1302

2:00 p.m. – 2:45 p.m.

 B402

WORKSHOP

Speaker


**Dr. April Bobenchik, PhD, D(ABMM)**

## Friday, June 14

### T2Candida's Role in the Early Detection of Candidemia for Improved Clinical Outcomes

Sponsored by T2 Biosystems - Booth 1014

11:00 a.m. – 11:45 a.m.

 Industry & Science Theater A

SHOWCASE

Speakers

**Kaylee Caniff, PharmD, BCIDP**

**Michael Veve, PharmD, MPH.**

### Broad Detection of Clinically Relevant Respiratory Pathogens by Targeted Next-generation Sequencing

Sponsored by Illumina - Booth 1015

11:00 a.m. – 11:45 a.m.

 Industry & Science Theater B

SHOWCASE

Speaker

**Sharon Kuss-Duerkop, Ph.D.**

### Diagnostic Stewardship and Customizable Syndromic Molecular Testing with LIAISON PLEX®

Sponsored by Diasorin - Booth 925

12:00 p.m. – 12:45 p.m.

 Industry & Science Theater A

SHOWCASE

Speakers

**James W. Snyder, PhD, D(ABMM), F(AAM)**

**Dr. Coreen Johnson**

### Updates on Laboratory Diagnostics for Fungal Bloodstream Infections

Sponsored by Roche Diagnostics Corporation - Booth 705

12:00 p.m. – 12:45 p.m.

 Industry & Science Theater B

SHOWCASE

Speaker

**Masako Mizusawa, M.D., Ph.D., M.S.**

### The AVITI System: Accurate, Accessible, Scalable Sequencing for any Application

Sponsored by Element Biosciences - Booth 1702

1:00 p.m. – 1:45 p.m.

 Industry & Science Theater A

SHOWCASE

Speaker

**Meredith Ashby, PhD.**

**Time is of the Essence: How Rapid BSI Diagnostics May Impact Patient Outcomes**

*Sponsored by bioMerieux - Booth 1302*

1:00 p.m. – 1:45 p.m.

 Industry & Science Theater B

SHOWCASE

*Speaker*

**Dr Daniel F. Feinstein, MD, FACP**

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**Cultivating Cells in Droplets for High-throughput Experiments**

*Sponsored by Millidrop - Booth: 1810*

5:15 p.m.

 Lounge & Learn 2 - GWCC

SPOTLIGHT

*Speaker*

**Alex Lheureux**

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**Single-Cell Microbiology: Rapid ID/AST Directly from Polymicrobial Specimens**

*Sponsored by Pattern Bioscience - Booth: 825*

5:15 p.m.

 Lounge & Learn 1 - GWCC

SPOTLIGHT

*Speaker*

**Dr. Carey-Ann Burnham**

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**Enhancing Patient Care from High Quality Bloodstream Infection Detection to Discharge: Hospital Onset Bacteremia & Fungemia**

*Sponsored by BD IDS - Booth 903*

6:30 p.m. – 8:30 p.m.

 International Ballroom D - Omni

SYMPOSIUM

*Speakers*

**Dr. Kalvin Yu**

**Kayla Kirby**

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**Celebrating a Decade of DNA Discoveries: 10 Years of the MinION in Microbiology**

*Sponsored by Oxford Nanopore Technologies - Booth 517*

6:30 p.m. – 8:30 p.m.

 International Ballroom A/B - Omni

SYMPOSIUM

*Speakers*

**Joshua Quick**

**Ryan Wick**

**Matthew Keller**

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**Saturday, June 15**

**Critical Antimicrobial Susceptibility Testing Results for Critical Patients: A 2024 Perspective**

*Sponsored by Thermo Fisher - Booth 600*

11:00 a.m. – 11:45 a.m.

 Industry & Science Theater A

SHOWCASE

*Speaker*

**James A. McKinnell, MD.**

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**Optimizing the Development and Accessibility of Biological Materials and Data Through Next-generation Technology**

*Sponsored by ATCC (American Type Culture Collection) - Booth 912*

11:00 a.m. – 11:45 a.m.

 Industry & Science Theater B

SHOWCASE

*Speakers*

**Kyle Young, MBA.**

**Nili Ostrov, PhD.**

**Nilay Chakraborty, PhD., MBA.**

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**Challenges, Pitfalls, and Advantages of Using MALDI-TOF MS for Routine Mold Identification in Clinical Laboratories**

*Sponsored by Bruker - Booth 713*

12:00 p.m. – 12:45 p.m.

 Industry & Science Theater A

SHOWCASE

*Speakers*

**Sean Zhang, MD PhD D(ABMM)**

**Warda Memon, MLS (ASCP)<sup>CM</sup>**

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**How Development of Technology to Break the 10-minute Sample to Answer Barrier for Molecular Point of Care Led to an Easy-to-use Molecular Sample Prep Methodology**

*Sponsored by Autonomous Medical Devices*

*Incorporated - Booth 1511*

12:00 p.m. – 12:45 p.m.

 Industry & Science Theater B

SHOWCASE

*Speakers*

**Regis Peytavi PhD.**

**Jacob Hambalek**

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**Urine Trouble? Opportunities to Improve Urine-based Diagnostics for Infectious Diseases**

*Sponsored by BD IDS - Booth 903*

1:00 p.m. – 1:45 p.m.

 Industry & Science Theater A

SHOWCASE

*Speaker*

**Dr. Melanie Yarbrough**

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Solutions for Sequencing-Based Pathogen and Antimicrobial Resistance (AMR) Identification and Profiling; Single-Pathogen, Multi-Pathogen, and Agnostic Approaches

Sponsored by Illumina - Booth 1015

1:00 p.m. - 1:45 p.m.

📍 Industry & Science Theater B

SHOWCASE

Speaker

**Robert Schlaberg, MD, Ph.D.**

Targeted Molecular Panels: Benefits for the Laboratory and Patients

Sponsored by BD IDS - Booth 903

6:30 p.m. - 8:30 p.m.

📍 Grand Ballroom E - Omni

SYMPOSIUM

Speakers

**Dr. Jose Alexander**

**Dr. Jesse Young**

**Dr. Christina Muzny**

Single Microbe Isolation as Alternative Approach to Meta -omics and Culturomics: Proofs of Concept with CellenONE Instrument

Sponsored by Cellenion SASU - Booth: 926

4:15 p.m.

📍 Lounge & Learn 2 - GWCC

SPOTLIGHT

Speaker

**Cécile Thion**

myBaits® Mission: Unveiling Pathogens and Antimicrobial Resistant Genes for Microbial Surveillance

Sponsored by Daicel Arbor Biosciences - Booth: 726

5:15 p.m.

📍 Lounge & Learn 3 - GWCC

SPOTLIGHT

Speakers

**Megan Beaudry, Ph.D.**

**Brian Brunelle, Ph.D.**

Rapid AST is Here to Stay: Multi-site Comparison of Performance and Time-to-results of Rapid and Legacy AST Systems with "Gold Standard" Methods

Sponsored by Selux Diagnostics - Booth 409

6:30 p.m. - 8:30 p.m.

📍 International Ballroom A/B - Omni

SYMPOSIUM

Speakers

**Dr. Patricia (Trish) Simner, PhD, D(ABMM)**

**Andrew Clark, PhD, D(ABMM)**

**John Fissel, Ph.D. D(ABMM), M(ASCP)<sup>CM</sup>**

Unraveling the Mysteries of Infectious Diseases: The Role of Metagenomic Sequencing in Your Laboratory

Sponsored by Karius - Booth 1018

6:30 p.m. - 8:30 p.m.

📍 Grand Ballroom A - Omni

SYMPOSIUM

Speakers

**TBD**

## Sunday, June 16

Transforming Microbial Understanding: Leveraging VITA Single-Cell Transcriptome to Analyze Microbial Functions with Single-Cell Precision

Sponsored by M20 Genomics - Booth 1537

11:00 a.m. - 11:45 a.m.

📍 Industry & Science Theater A

SHOWCASE

Speaker

**Qing Yan, Ph.D.**

A Time to Refocus on Antibiotic Resistance and HAIs

Sponsored by Cepheid - Booth 915

11:00 a.m. - 11:45 a.m.

📍 Industry & Science Theater B

SHOWCASE

Speaker

**Stephen M. Brecher, Ph.D.**

Increasing Precision, Reliability and Sensitivity: Using Digital PCR to Improve Microbial Detection and Surveillance in Health and the Environment.

Sponsored by QIAGEN - Booth 1401

12:00 p.m. - 12:45 p.m.

📍 Industry & Science Theater A

SHOWCASE

Speakers

**Ronny Kellner**

**Christopher A. Impellitteri**

**Anna M. Impellitteri**

**Rebecca Harrell**

# Continuing Education

## Target Audience

ASM Microbe 2024 is designed to meet the needs of professionals in the field of microbiology, across all disciplines, particularly clinical microbiologists, pathologists, researchers, pharmacists, physicians, and other health care professionals.

## Statement of Need

ASM Microbe 2024 showcases some of the best microbial science in the world, providing a one-of-a-kind forum to explore the complete spectrum of microbiology from basic science to translational, applied, and clinical research. The meeting will be of interest to basic and applied researchers, clinical microbiologists, and infectious diseases practitioners. Current trends will be covered regarding:

- Antimicrobial Agents and Resistance
- Applied and Environmental Science
- Climate Change and Microbes
- Clinical Infections and Vaccines
- Clinical and Public Health Microbiology
- Ecology, Evolution and Biodiversity
- Host-Microbe Biology
- Molecular Biology and Physiology
- Profession of Microbiology

## ASM Microbe Learning Objectives

Upon completion of ASM Microbe 2024, attendees should be able to:

- Discuss key updates in the areas of cellular, environmental, ecological, and evolutionary microbiology, microbial pathogenesis, and infectious diseases, applied and clinical microbiology, pharmacology, and microbiology education.
- Recognize and interpret new information regarding physiology, genetics, ecology, evolution, cell biology, and antimicrobial resistance of microbes.
- Synthesize new data on the roles of microbes in the environment, industrial and food science, health, and disease.
- Recognize new therapeutics and prevention strategies for infectious diseases and antimicrobial resistance.
- Use new technologies, practices, and developments to improve epidemiology, research studies, and clinical practice.
- Promote multi-disciplinary dialogue and collaboration among clinicians and investigators.

## Accredited Provider



This activity is jointly provided by The France Foundation (TFF) and the American Society for Microbiology (ASM).

## Accreditation Statement



JOINTLY ACCREDITED PROVIDER™  
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, this activity has been planned and implemented by The France Foundation and the American Society for Microbiology (ASM). The France Foundation is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE) and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

## Physician Credit Designation



The France Foundation designates this live activity for a maximum of 33.0 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## P.A.C.E.® Credit



Diplomats of the American Board of Medical Microbiology and the American Board of Medical Laboratory Immunology, and Registrants of the National Registry of Certified Microbiologists who are MDs and DOs may earn *AMA PRA Category 1 Credit(s)*™ toward recertification. All other Diplomats and Registrants may claim 32.5 credit hours of P.A.C.E.®, CA, or FL toward recertification. Professionals should claim credit commensurate with their level of participation in the activity.

The American Society for Microbiology is approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E.® Program. Professional

Acknowledgment for Continuing Education (P.A.C.E.®) is an administrative system established to stimulate and serve as the quality assurance mechanism for continuing education programs offered to clinical laboratory professionals by ASCLS constituent societies, laboratory industry, government agencies, hospitals and educational organizations.

## California Clinical Laboratory Personnel

The American Society for Microbiology is accredited by the California Department of Health to offer continuing education for California Clinical Laboratory Personnel. All sessions designated for CME or P.A.C.E.® credits will also qualify for California CE credits toward license renewal.

## Florida Clinical Laboratory Personnel

The American Society for Microbiology is accredited by the Florida Department of Health to offer continuing education for Florida Clinical Laboratory Personnel. All sessions designated for CME or P.A.C.E.® credits will also qualify for Florida CE credits toward license renewal.

All other healthcare professionals completing this course will be issued a statement of participation.

## Credit Designation

Attendees of ASM Microbe 2024 will be able to claim up to 33.0 credit hours of the following continuing education credit types:

- *AMA PRA Category 1 Credit™* (CME) (33.0 hours maximum)
- Professional Acknowledgment for Continuing Education (P.A.C.E.®) (32.5 hours maximum)
- California Clinical Laboratory Personnel (CA-CE) (32.5 hours maximum)
- Florida Clinical Laboratory Personnel (FL-CE) (32.5 hours maximum)

The ASM Microbe 2024 Program Planner's **'My Credit Cart'** will be available to claim credits and download certificates beginning on Wednesday, June 19, 2024. CME credit hours will be available to claim via a separate emailed evaluation from The France Foundation (TFF) through ASM beginning Wednesday, June 19, 2024.

Available credit types have different claiming windows. Reference the dates below to ensure the appropriate steps to claim relevant credit hours are completed within the appropriate timeframe:

### Thursday, June 13, 2024 - Monday, June 17, 2024

- CA-CE & FL-CE (All credit hours will be allocated on-site at ASM Microbe 2024 - credit claiming will be unavailable after the meeting.)

### Wednesday, June 19, 2024 - Friday, July 19, 2024

- CME (*AMA PRA Category 1™*)

### Wednesday, June 19, 2024 - Tuesday, December 17, 2024

- P.A.C.E.®

Most sessions listed in the Antimicrobial Agents and Resistance

(AAR), Clinical Infections and Vaccine (CIV), Clinical and Public Health Microbiology (CPHM), and Profession of Microbiology (POM) tracks will offer various credit hour types and some general sessions. Sessions in the aforementioned tracks that take place in the Exhibit and Poster Hall will not offer CME credit hours, however, may offer P.A.C.E.®, CA-CE, and FL-CE. When reviewing sessions in the various meeting resources, look for the "CE Credit Available" to confirm if continuing education credit hours are being offered via the ASM Microbe 2024 Program Planner. Those sessions without this marking will not offer CE Credit.

If you are claiming Continuing Medical Education (*AMA PRA Category 1 Credit(s)™*) for ASM Microbe, an administrative fee of \$75 is required at the time of registration. This fee is only applicable to CME credits and no other forms of continuing education credits offered by ASM (e.g., P.A.C.E.®). If you have not paid this fee, please visit Registration to make the necessary payment.

Please note: To provide the best science to ASM Microbe 2024 attendees, if a conflict of interest is discovered during content validation, CME credit is not offered for that specific session. If a session has CME removed this reason, a notice will be added to the session page within the ASM Microbe 2024 Program Planner. For more information regarding ACCME compliance guidelines, visit their website.

## Method of Participation/How to Receive Credit

- You must attend the sessions on-site in Atlanta that you want to claim CME, P.A.C.E.®, CA-CE, and/or FL-CE credit hours for.
- CME credit hours will be available to claim via a separate emailed evaluation from The France Foundation (TFF) through ASM beginning Wednesday, June 19, 2024. All registrants who paid the \$75 fee to claim CME will receive an email notification containing the evaluation.
- P.A.C.E.® credit hours will be available for claiming via the My Credit Cart in the ASM Microbe 2024 Program Planner Portal. This portal will be accessible beginning Wednesday, June 19, 2024. Once available, complete the individual session evaluations for all sessions you want to claim P.A.C.E.® credit for. Then, download the corresponding certificate.
- If you are requesting CA-CE or FL-CE credit hours, you MUST sign in before each session you attend on-site to be awarded credit. Outside of each session room at ASM Microbe 2024, there will be a QR code available to scan. After scanning, you will be brought to a short form to fill out, including selecting the session name you are attending from the provided drop-down list, your full name, and your CA or FL license number. The form must be fully completed for each session attended. Credit hours will not be reported for incomplete or missing sessions.

## Credit Documentation/Reporting

- If you are requesting **CME** credit hours, then your certificate will be emailed to you by The France Foundation (TFF) upon



completing the emailed CME evaluation form. You can then self-report your credit hours to the American Medical Association (AMA) with your certificate.

- If you are requesting **P.A.C.E.**® credit hours, then upon completing all individual session evaluations and downloading your P.A.C.E.® certificate in 'My Credit Cart' in the ASM Microbe 2024 Program Planner, ASM will report your claimed credit hours to the ASCLS P.A.C.E. ® Program.
- If you are requesting **CA-CE** credit hours, ASM will report all properly claimed credit hours through the QR code sign-in forms to the California Department of Health (CDPH). To receive your CA-CE certificate, you will need to add all relevant sessions to your itinerary within the ASM Microbe 2024 Program Planner and complete all individual session evaluations in 'My Credit Cart.' Then, download your California Clinical Laboratory Personnel Certificate. Note: This certificate is for your records only. The hours reported to the CDPH are calculated from the QR code sign-in forms on-site and cannot be altered.
- If you are requesting **FL-CE** credit hours, ASM will report all properly claimed credit hours through the QR code sign-in forms to the Florida Department of Health (FDPH). To receive your FL-CE certificate, you will need to add all relevant sessions to your itinerary within the ASM Microbe 2024 Program Planner Portal and complete all individual session evaluations in 'My Credit Cart.' Then, download your Florida Clinical Laboratory Personnel Certificate. Note: This certificate is for your records only. The hours reported to the FDPH are calculated from the QR code sign-in forms on-site and cannot be altered.

## Disclosure

In accordance with the ACCME Standards for Commercial Support, The France Foundation (TFF) and the American Society for Microbiology (ASM) require that individuals in a position to control the content of an educational activity disclose all relevant financial relationships with any commercial interest. TFF and ASM resolve all conflicts of interest to ensure independence, objectivity, balance, and scientific rigor in all their educational programs. Furthermore, TFF and ASM seek to verify that all scientific research referred to, reported, or used in a CME/CE activity conforms to the generally accepted standards of experimental design, data collection, and analysis. TFF and ASM are committed to providing learners with high-quality CME/CE activities that promote improvements in health care and not those of a commercial interest.

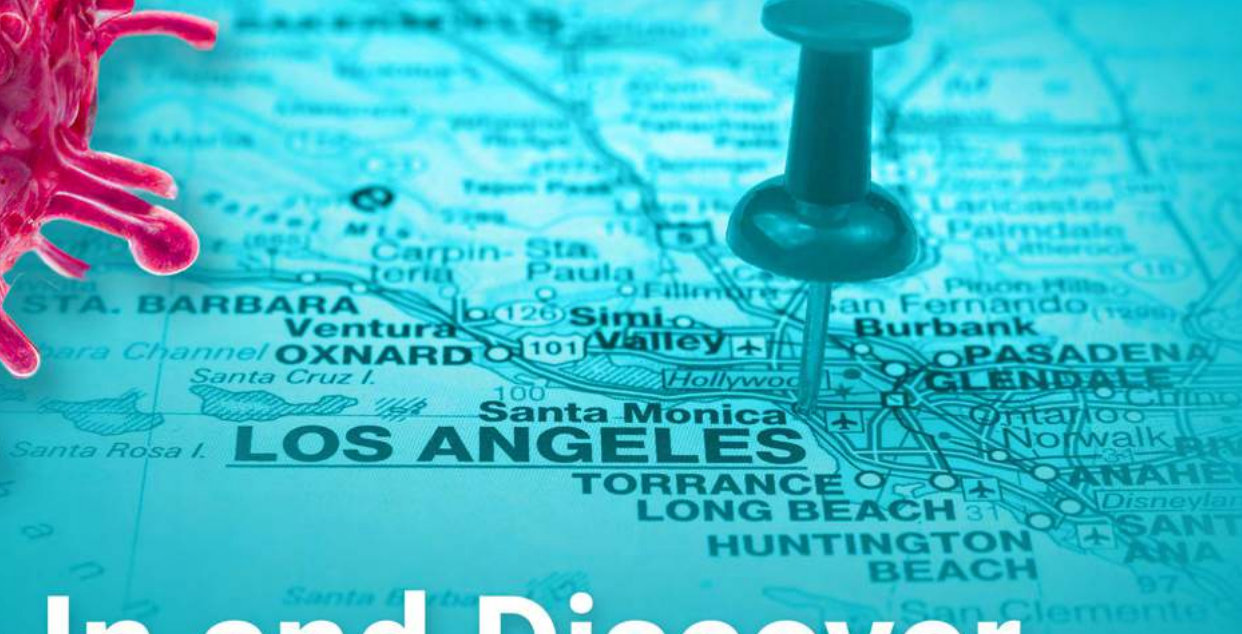
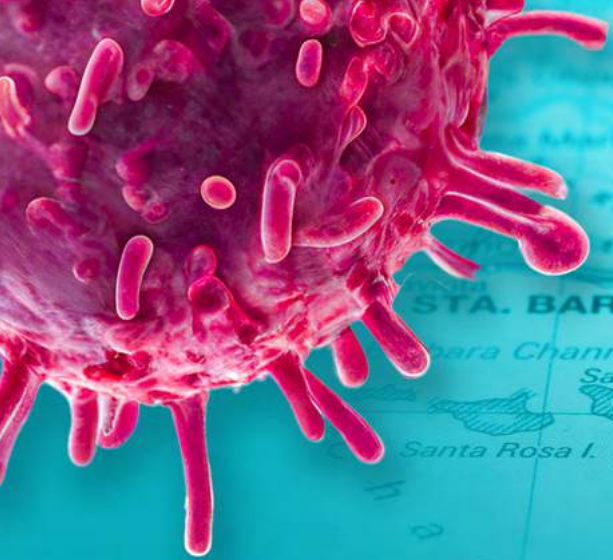
To access program committee members, faculty, and activity staff disclosures, please review them in the mobile app.

## Disclosure of Unlabeled Use

TFF and ASM require CME faculty (speakers) to disclose when products or procedures being discussed are off-label, unlabeled, experimental, and/or investigational, and any limitations on the information that is presented, such as data that are preliminary, or that represent ongoing research, interim analyses, and/or unsupported opinion. Faculty in this activity may discuss information about pharmaceutical agents that are outside of US Food and Drug Administration approved labeling. This information is intended solely for continuing medical education and is not intended to promote off-label use of these medications. TFF and ASM do not recommend the use of any agent outside of the labeled indications. If you have questions, contact the Medical Affairs Department of the manufacturer for the most recent prescribing information.

## ASM Microbe 2024 Disclaimer

TFF and ASM present this information for educational purposes only. Faculty have been selected because of their recognized expertise in their field. Participants have the professional responsibility to ensure that products are prescribed and used appropriately based on their own clinical judgment and accepted standards of care. TFF and ASM assume no liability for the information herein.

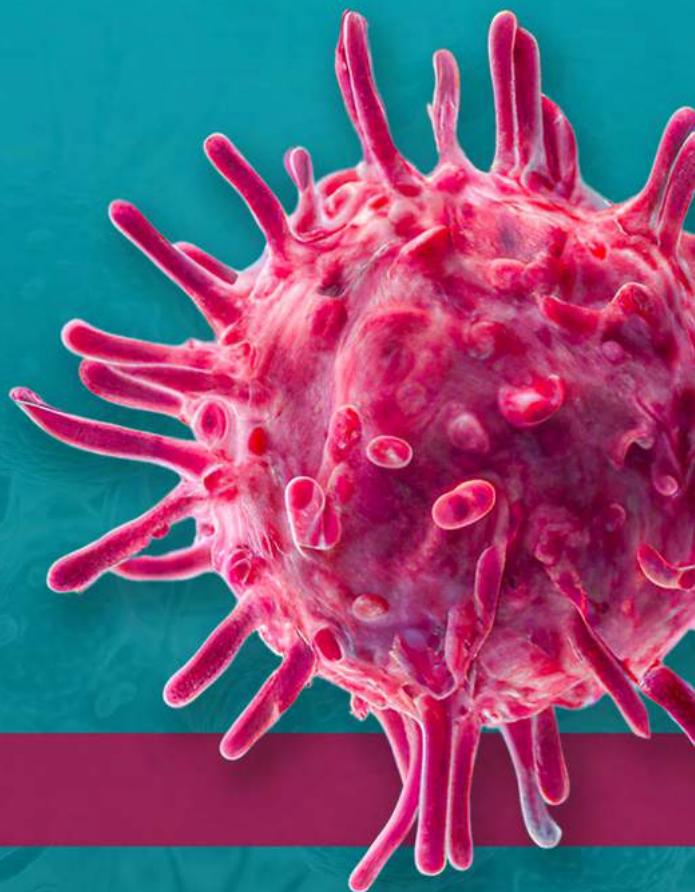


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