FINAL PROGRAM

ASM CONFERENCE FOR UNDERGRADUATE EDUCATORS
NOVEMBER 17-19, 2023 | PHOENIX, AZ
A big thank you to the 2023 ASMCUE Major Sponsors

NSF

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*Offer valid from November 8 through November 30, 2023

- **Thinking about Science: Good Science, Bad Science, and How to Make It Better**
  Ferric C Fang, Arturo Casadevall

- **Revenge of the Microbes: How Bacterial Resistance is Undermining the Antibiotic Miracle, 2nd Edition**
  Brenda A. Wilson, Brian T. Ho

- **Germ Theory**
  Robert P. Gaynes

- **To Catch a Virus, 2nd Edition**
  John Booss, Marie Louise Landry, Marilyn August (With)

- **The Invisible ABCs: Exploring the World of Microbes**
  Rodney P. Anderson
  Hardcover I ISBN: 978-1-555-81386-4 | September 2006 | 64 pages

- **Twelve Diseases that Changed Our World**
  Irwin W. Sherman

- **The Power of Plagues, 2nd Edition**
  Irwin W. Sherman

- **Computational Biology: A Hypertextbook**
  Scott T. Kelley, Dennis Didulo

- **Women in Microbiology**
  Rachel J. Whitaker (Editor), Hazel B. Barton (Editor)

A riveting exploration of the world of science, diving headfirst into its triumphs and tribulations

Reviews the ongoing arms race between science and bacteria's remarkable ability to adapt

Brings to life inspiring stories of medical pioneers whose work changed our understanding of how we think about and treat infectious diseases

Trace the evolution of diagnostic virology from yellow fever to COVID-19

A delight for readers of all ages featuring over 250 superb illustrations including algae, molds, bacteria, protozoa, and viruses

Covers the history of twelve important diseases and addresses public health responses and societal upheavals

Presents a rogues’ gallery of epidemic-causing microorganisms placed in the context of world history

A textbook for anyone who needs to learn the basics of bioinformatics—the use of computational methods to better understand biological systems

Meet women who, despite obstacles and tough odds, have become scientific leaders and revered mentors
Welcome Friends and Colleagues!

I am looking forward to seeing all of you at the 2023 ASM Conference for Undergraduate Educators (ASMCUE)! Whether you are a regular attendee or a newcomer, ASMCUE 2023 has everything you need to add a new spark to your teaching. As I reflect back on my first ASMCUE I am reminded how at home this community has made me feel. At that first ‘CUE experience I felt welcome and a valued member of the community. I recall brainstorming ideas for communicating challenging concepts with new colleagues, discussing curriculum guidelines with the whole group, and socializing in the evening with my new ASMCUE “family.” When I return each year I come away with a new idea (or ten) to bring back with me and I feel reenergized about my teaching.

This year we have the added excitement of celebrating 30 years of ASMCUE! As with everything in life, ASMCUE continues to evolve. While holding ASMCUE virtually for three years had its challenges, it also had the benefit of broadening access and bringing the ASMCUE community to the world. It is now time to get back to what makes ASMCUE special – the connections we make with each other. With this in mind, we decided against a theme for ASMCUE 2023 and went with a subtitle that reflects the importance of the connections we make. We are so glad you will be joining us as we explore our Gap Junctions: Reconnecting Our Community for Diffusion of Ideas.

Along with reconnecting our ASMCUE community, we are also excited to have the opportunity to establish new connections as ASMCUE co-locates for the first time with the amazing Annual Biomedical Research Conference For Minoritized Scientists (ABRCMS). What a great opportunity for our educator community to join in this annual celebration of diversity and inclusiveness.

As always, ASMCUE would not be possible without the ASM Education staff under the direction of Irene Hulede and the invaluable guidance of Rachel Horak. We are thankful for the outstanding volunteers who have helped make ASMCUE our conference. We are all indebted to the hard work of Past-Chairs Nancy Boury, John Buchner, and Jordan Moberg Parker who did an amazing job of maintaining a vibrant, virtual ASMCUE community these past three years. I’d like to thank the current planning committee of Vice-Chair Heather Townsend, Nancy Boury, Carlos Goller, Sean Coleman, Juila Massimelli-Sewall, Philip Mixter, Sandra Porter, Jerry Kavouras, Jamie Brooks, Ruvini U. Pathirana, and everyone who reviewed proposals for all their hard work.

Whether you are first time attendee or an ASMCUE regular, please don’t hesitate to reach out to me or to anyone on the Planning Committee. We welcome your questions and ideas to continue what makes our community special. I know you will enjoy ASMCUE as much as I have since my first ASMCUE. Welcome to the family!

Dave Westenberg
Chair, 2023 ASMCUE Planning Committee
Join a collaborative community of public health and clinical laboratory professionals and CDC.

OneLab Network connects laboratory professionals and CDC through live events and provides access to customized laboratory training resources.

OneLab Network is free to join.

Members can join monthly webinars, download job aids, and access customized laboratory training resources on OneLab REACH™.

Questions? Contact us at OneLab@cdc.gov.
General Meeting Information

All conference events will be held at the Sheraton Phoenix Downtown.

Registration

Attendee registration is located outside room Valley of the Sun D/E. Collect your name badge at the registration desk. If you have a one-day pass to ABRCMS, you will still pick up your name badge at the ASMCUE registration desk.

All ASMCUE attendees are required to wear conference badges onsite at all times, and they permit access to all events.

Registration desk hours:

Friday, Nov. 17
7:45 AM – 8:00 PM

Saturday, Nov. 18
7:30 AM – 5:00 PM

Sunday, Nov. 19
8:30 AM – 11:00 AM

Wi-Fi at ASMCUE

Network ID: ABRCMS
Password: 2023conference

Sched Mobile App

Get the latest conference program schedule, exhibitor information, connect with attendees, and much more with the Sched mobile app. It is also available through any web browser, https://asmcue2023.sched.com/.

Download the Sched app through your app store (look for astronaut icon). Then, search for “2023 ASM Conference for Undergraduate Educators” to add the program and schedule. If you make your profile public, you will receive a daily morning email with important updates and schedule reminders.

Receptions and meals

Registration includes access to a Friday night dessert reception with 1 drink ticket and cash bar and Saturday buffet-style lunch.

ASM Events Code of Conduct

The American Society for Microbiology (“ASM”) is the main forum for microbial sciences that considers and debates scientific issues in an orderly, respectful, and fair manner. The ASM is committed to providing an environment that encourages the free expression and exchange of scientific ideas and promotes equal opportunities and respectful treatment for all participants. All participants are expected to treat others with respect and consideration, follow venue rules, and alert ASM staff or security of any dangerous situations or anyone in distress. ASM prohibits and will not tolerate any form of harassment or bullying at its events. Read the full policy at https://asm.org/Articles/Meetings/ASM-Events-Code-of-Conduct.
Cell phone usage

Out of consideration for your ASMCUE colleagues, all cell phones must be silenced in session rooms. Please ask for permission from the speaker before taking screenshots, photos, or videos of their presentation.

Photo policy

By registering for ASMCUE, you agree to allow ASM/ASMCUE to use any photos taken of you during the conference in news media, website, publications, articles, marketing pieces, etc. To opt out, contact the ASMCUE registration desk.

Social Media

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 environment.

ASMCUE Bonus Features

First-timer’s orientation, Friday Nov. 17

If you are a first-time in person ASMCUE attendee, the first-timer’s orientation is not to be missed! Come to engage in activities and discussions with the ASMCUE Planning Committee and “seasoned veteran” attendees to learn more about the ASMCUE experience, find like-minded attendees, and have some fun!

Spirit Day, Saturday Nov. 18

Show us your school spirit! Represent your institution by sporting your institution’s paraphernalia (e.g., jacket, shirts, jewelry, ties, etc.)

Affinity Dinners, Saturday Nov. 18

Continue networking with ASMCUE attendees on varied topical areas beginning after the conclusion of the 5:30 PM Plenary Session (approximately 6:30 PM). Meet at the ASMCUE registration desk. Sign-up through the mobile app (see the schedule entry for this event).

JMBE Office Hours, Saturday Nov. 18

Bring a manuscript-in-progress or your best idea for education research to a JMBE editor for feedback! Or, talk with the Editor-in-Chief about the current call for papers for the Special Issue! Sign-up through the mobile app (see the schedule entry for this event).

NSF Office Hours, Saturday Nov. 18

Have a great idea for a new education research project and need to find the right funding program? Or, perhaps you are interested in finding our about opportunities to volunteer as a reviewer for NSF proposals? NSF program officers will be available for 1:1 discussions around these topics and more. Sign-up through the mobile app (see the schedule entry for this event).
“Diseased Science”

Polyauthoritis.
An emerging disease involving manuscripts in which the number of authors exceeds the number of data points.

Hypothesisis.
Characterized by an inability to recognize that not all research requires a hypothesis. See mechanismis.

Borderline Probability Disorder.
Afflicted individuals may dismiss the potential importance of results with P = 0.06 while unquestioningly accepting the important of results with P = 0.05.

Editorial Dysfunction (ED).
A condition experienced by authors in which prolonged periods of unresponsiveness to one's submitted manuscript are punctuated by brief intervals of false hope that finally terminate in rejection.

Gotchalism.
A disease of reviewers who think they have spotted a fatal flaw in experimental design.

Inflammatory Vowel Disease.
Characterized by the recurrent excretion of irate letters to the Editor.

Hyperacute Rejection.
A condition in which the rejection email arrives in your inbox before the confirmation of submission.

Slime Disease.
Individuals with this condition are observed to explain any biological phenomenon in terms of biofilms.

Experimentitis Infinitum.
A condition exhibited by reviewers who always demand more experiments irrespective of the amount of data already provided. Also known as status revisicus.

Dogmatitis.
1. Manifested by a courageous adherence to one's principles (benign). 2. Manifested by perversely clinging to disproven ideas (malignant).

Ahypothesemia.
Characterized by the absence of a hypothesis. Some scientists have hypothesized that this is a problem. See also hypothesisis.

**Shuttle Service to Phoenix Convention Center**
Complimentary service is provided between Phoenix Convention Center and the official hotels listed on this flyer.

If you have questions about the shuttle or if you need to make a reservation for a wheelchair-accessible vehicle, please see the shuttle supervisor at the convention center or call/text KUSHNER & ASSOCIATES at (818) 428-7607.

<table>
<thead>
<tr>
<th>Date</th>
<th>Shuttle Service from Hotels to PCC</th>
<th>NO SHUTTLE SERVICE</th>
<th>Shuttle Service from PCC to Hotels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wednesday, November 15</strong></td>
<td>12:00 p.m. - 4:00 p.m.</td>
<td>4:00 p.m. - 6:00 p.m.</td>
<td>6:00 p.m. - 10:00 p.m.</td>
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<tr>
<td><strong>Thursday, November 16</strong></td>
<td>6:45 a.m. - 10:30 a.m.</td>
<td>10:30 a.m. - 6:00 p.m.</td>
<td>6:00 p.m. - 10:00 p.m.</td>
</tr>
<tr>
<td><strong>Friday, November 17</strong></td>
<td>6:45 a.m. - 10:30 a.m.</td>
<td>10:30 a.m. - 6:00 p.m.</td>
<td>6:00 p.m. - 10:00 p.m.</td>
</tr>
<tr>
<td><strong>Saturday, November 18</strong></td>
<td>6:45 a.m. - 1:00 p.m.</td>
<td>1:00 p.m. - 4:30 p.m.</td>
<td>4:30 p.m. - 1:30 a.m.</td>
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</tbody>
</table>

**Route #1**
- Courtyard by Marriott Phoenix Airport
- Hilton Garden Inn Phoenix Airport
- Holiday Inn Express & Suites Phoenix Airport
- Hyatt Place Tempe/Phoenix Airport
- Wyndham Phoenix Airport/Tempe

**Route #2**
- Crowne Plaza Phoenix Airport
- Hampton Inn Phoenix
- Hilton Garden Inn Phoenix Airport North
- Holiday Inn & Suites Phoenix Airport North
- Marriott Phoenix Airport
- Radisson Hotel Phoenix Airport

**Route #3**
- Embassy Suites by Hilton Phoenix Downtown North
- Hampton Inn Phoenix-Midtown-Downtown Area
- Hilton Garden Inn Phoenix Midtown
- Sonesta Select Phoenix Camelback
- Staybridge Suites Phoenix-Biltmore Area

**Boarding Location**
- Front entrance
- At Holiday Inn Express
- Curbside on E University Dr
- Curbside on Rio Salado Pkwy
- Curbside one S 52nd St
- Curbside on Washington St
- Curbside on N 44th St
- Curbside on E Van Buren St
- At Marriott Phoenix Airport
- Front entrance
- At Hampton Inn Phoenix
- Curbside on Thomas Rd
- At Embassy Suites
- Curbside on W Clarendon Ave
- Front entrance
- Curbside on Greenfield Rd
Connect on a local level, join a branch or student chapter and network with peers and industry leaders in-person.

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

Get a jump start on your career with ASM’s Microbiology Careers Salary Survey - view comprehensive compensation and benefits data across the microbiology industry to help you plan your career path.

Stop by ASM Booth #800 to learn more.
Explore What’s Happening with Journal of Microbiology and Biology Education®

ASM’s Premier Open-Access Education Journal

JMBE 2023-24 Special Series Call for Papers

Calling all science educators! Be a part of JMBE’s special series on “Teaching Climate Change” in early 2024. Submit your impactful work showcasing climate change’s influence on learning and attitudes.

Submit by Jan. 31, 2024

JMBE 2023 Special Series: Scientific Literacy

Read JMBE’s 2023 “Scientific Literacy” series. Dive into papers exploring its importance in classrooms and beyond, and gain insights into learning, attitudes and essential skills.

Explore the Series

JMBE Live! Webinar Series

Grab your seat for the next JMBE Live! A free webinar series featuring JMBE authors and editors. Come meet other biologists who do discipline-based education research (DBER), become more familiar with study design and interpretation of data of DBER studies and learn how to improve your teaching in the process.

Stay Tuned for 2024 Webinars

journals.asm.org/journal/jmbe
### Friday, November 17

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noon – 4:30 PM</td>
<td>Pre-conference workshops</td>
<td>Valley of the Sun A, B, D, E</td>
</tr>
<tr>
<td>4:45 – 5:30 PM</td>
<td>First-timers’ orientation</td>
<td>Valley of the Sun A and B</td>
</tr>
<tr>
<td>5:30 – 7:00 PM</td>
<td>Dinner on your own</td>
<td>Off-site</td>
</tr>
<tr>
<td>7:00 – 9:00 PM</td>
<td>Exhibit &amp; Poster Hall open</td>
<td>Valley of the Sun C</td>
</tr>
<tr>
<td>7:30 – 8:30 PM</td>
<td>Poster session (biology education research)</td>
<td>Valley of the Sun C</td>
</tr>
</tbody>
</table>

### Saturday, November 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 8:45 AM</td>
<td>Plenary session: Jackie Washington</td>
<td>Encanto A&amp;B</td>
</tr>
<tr>
<td>9:00 – 9:30 AM</td>
<td>Education sessions (5 to pick from)</td>
<td>Encanto A&amp;B; Valley of the Sun A, B, D, E</td>
</tr>
<tr>
<td>9:35 – 10:05 AM</td>
<td>Education sessions (5 to pick from)</td>
<td>Encanto A&amp;B; Valley of the Sun A, B, D, E</td>
</tr>
<tr>
<td>10:15 – 11:10 AM</td>
<td>Microbrew Oral Talks (15 minutes each; 5 to pick from)</td>
<td>Encanto A&amp;B; Valley of the Sun A, B, D, E</td>
</tr>
<tr>
<td>11:20 – 11:50 AM</td>
<td>Plenary session: Sara Brownell</td>
<td>Encanto A&amp;B</td>
</tr>
<tr>
<td>11:50 – 12:30 PM</td>
<td>Plenary session: NSF Lunch and Learn</td>
<td>Encanto A&amp;B</td>
</tr>
<tr>
<td>12:30 – 1:15 PM</td>
<td>Buffett served in the Valley Overlook</td>
<td>Valley Overlook</td>
</tr>
<tr>
<td>1:15 – 5:30 PM</td>
<td>Exhibit &amp; Poster Hall open</td>
<td>Valley of the Sun C</td>
</tr>
<tr>
<td>1:15 – 5:30 PM</td>
<td>Office hours for JMBE and NSF Program Officers (sign up through the app)</td>
<td>Valley of the Sun D/E</td>
</tr>
<tr>
<td>1:15 – 2:15 PM</td>
<td>Microbrews on posters – session A</td>
<td>Valley of the Sun C</td>
</tr>
<tr>
<td>1:30 – 2:00 PM</td>
<td>Pearson Product &amp; Author Corner</td>
<td>Valley of the Sun A</td>
</tr>
<tr>
<td>2:15 – 2:45 PM</td>
<td>McGraw Hill Product &amp; Author Corner</td>
<td>Valley of the Sun B</td>
</tr>
<tr>
<td>2:45 – 3:45 PM</td>
<td>Microbrews on posters – session B</td>
<td>Valley of the Sun C</td>
</tr>
<tr>
<td>3:45 – 4:15 PM</td>
<td>Gideon Product &amp; Author Corner</td>
<td>Valley of the Sun A</td>
</tr>
<tr>
<td>4:30 – 5:00 PM</td>
<td>Carolina Distance Learning Product &amp; Author Corner</td>
<td>Valley of the Sun B</td>
</tr>
<tr>
<td>5:30 – 6:30 PM</td>
<td>Plenary session: TWiM podcast team &amp; scavenger hunt winners announced</td>
<td>Encanto A&amp;B</td>
</tr>
<tr>
<td>6:30 PM</td>
<td>(Optional) Affinity dinners</td>
<td>Off-site</td>
</tr>
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### Sunday, November 19

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 – 9:45 AM</td>
<td>Plenary session: Heather Seitz</td>
<td>Encanto A&amp;B</td>
</tr>
<tr>
<td>9:55 – 10:25 AM</td>
<td>Education sessions (5 to pick from)</td>
<td>Encanto A&amp;B; Valley of the Sun A, B, D, E</td>
</tr>
<tr>
<td>10:30 – 11:00 AM</td>
<td>Education sessions (5 to pick from)</td>
<td>Encanto A&amp;B; Valley of the Sun A, B, D, E</td>
</tr>
<tr>
<td>11:10 – 12:05 PM</td>
<td>Microbrew Oral Talks (15 minutes each; 5 to pick from)</td>
<td>Encanto A&amp;B; Valley of the Sun A, B, D, E</td>
</tr>
</tbody>
</table>
Supporting Your Journey to Faculty Success
Are you an early-career scientist from a historically underrepresented group in microbiology and immunology? The American Society for Microbiology (ASM) Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) program is dedicated to propelling early-career scientists from historically underrepresented groups from postdoctoral positions to tenure-track faculty roles at esteemed research-intensive institutions.

Key Goals of MOSAIC:
- Promote Faculty Diversity
- Equip MOSAIC Scholars to Mentor Future Scientists
- Provide Mentorship Support
- Drive Diversity in the Microbial Sciences

Program Highlights:
- Career & Professional Development Tools: Gain foundational skills for faculty positions.
- Tenure-Track Success: Launch a successful academic career.
- Scientific Leadership: Accelerate your journey to leadership roles.

Funded by a grant from the National Institute of Allergy and Infectious Diseases (NIAID) under award number P01107.
ABRCMS schedule for ASMCUE cross-registrants

Friday, November 17

8:30 – 10:00 AM Concurrent sessions
10:15 – 11:00 AM Keynote address
11:15 – Noon Concurrent professional development sessions
Noon – 1:30 PM Lunch on your own (not eligible for networking lunch)
1:30 – 2:15 PM Keynote address
2:30 – 6:45 PM Exhibit & Poster Hall hours

Saturday, November 18

6:15 – 7:30 PM Closing Keynote address & ABRCMS alumni panel discussion
7:30 – 9:30 PM Awards ceremony and recognition

This is the first year that ASMCUE has been co-located with the Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS). 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. As ABRCMS has continued to grow and evolve, it has also become a space for graduate students, postdocs, faculty, program administrators and more. www.abrcms.org.
Conference Planning Team

ASMCUE Planning Committee

Shelley Payne
_Education Committee Chair_

Amy Siegesmund
_Past Chair, ASM Subcommittee on Undergraduate Education_

Nancy Boury
_Interim Chair, ASM Subcommittee on Undergraduate Education_

Jordan Moberg-Parker
_Past Chair, ASMCUE Planning Committee_

David Westenberg
_Chair, ASMCUE Planning Committee_

Heather Townsend
_Vice Chair, ASMCUE Planning Committee_

Carlos Goller
_ASMCUE Poster Abstract Review Chair_

Sean Coleman
_ASMCUE Microbrew Review Chair_

Sandra Porter
_ASMCUE Strategic Partner_

Julia Massimelli Sewall
_ASMCUE Strategic Partner_

Philip Mixter
_ASMCUE Veteran representative_

Jerry Kavouras
_ASMCUE Veteran representative_

Ruvini Pathirana
_ASMCUE Newbie representative_

Jamie Brooks
_ASMCUE Newbie representative_

_Poster Reviewers_

Mary Allen
_Hartwick College_

John Buchner
_University of Maryland, College Park_

Elizabeth Danka
_St. Norbert College_

Dawn Foster-Hartnett
_University of Minnesota_

Claire Gordy
_North Carolina State University_

Eileen Hotze
_The University of Kansas_

Caitlin Light
_SUNY-Binghamton University_

Miriam Markum
_University of California-Davis_

Laura Ott
_University of North Carolina, Chapel Hill_

Chris Parker
_Texas Wesleyan University_

Becky Sparks-Thissen
_University of Southern Indiana_

Dave Wessner
_Davidson College_
**Microbrew Reviewers**

Andrea Beyer  
*Virginia State University*

Nancy Boury  
*Iowa State University*

Pete Chandrangsu  
*Scripps College*

Adronisha Frazier  
*Northshore Technical Community College*

Jerry Kavouras  
*Lewis University*

Archana Lal  
*Labette Community College*

Jonathon Lecureux  
*Saginaw Valley State*

Kathy Lionetti  
*Monmouth University*

Bhaswati Manish  
*Nebraska Methodist College*

Nydia Alejandro Castillo Martinez  
*Universidad Autonoma de Baja California*

Mel Melendrez  
*Anoka-Ramsey Community College*

Kara Mosovsky  
*Monrvavian University*

Theodore Muth  
*CUNY Brooklyn College*

Monika Oli  
*University of Florida*

Craig Phelps  
*Rutgers University*

Rebecca Sanchez  
*University of the Incarnate Word*

Davida Smyth  
*Texas A&M San Antonio*

Heather Townsend  
*Community College of Rhode Island*

Chadene Tremaglio  
*University of Saint Joseph*

Thiru Vanniasinkam  
*Charles Sturt University*

**ASM Education Staff**

Irene Hulede  
*Director, Education Department*

Rachel Horak  
*ASMCUE Program Lead*

Jan Kang  
*ASMCUE Mobile App*

ASM Marketing and Meetings Department

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A big thank you to all the ASM volunteers who helped to make 2023 ASMCUE happen!

Interested in helping with 2024 ASMCUE? Volunteer yourself!
Plenary Speakers

Saturday, 8:15 – 8:45 AM, Jacqueline Washington, Ph.D., Alliance University

Title: Closing the gaps in life science education: Challenges and Opportunities

Bio: Jackie Washington, Ph.D., has served as an educator in higher education for 18 years as a professor and Chair of the Department of Biology and Chemistry at Alliance University, N.Y. (formerly Nyack College). She earned a B.S. in mathematics with a minor in chemistry and a Ph.D. in microbiology and molecular genetics from the University of Medicine and Dentistry of N.J. (now Rutgers University).

Early in Washington’s academic career, she recognized that students learned differently than how she was taught and sought professional development to learn how to teach this new generation. Her participation in the yearlong ASM Biology Scholars Program, an evidence-based faculty development program to promote undergraduate education reform and the scholarship of teaching and learning, was instrumental to her journey as an educator. This was the turning point in her career which led to her institutional and national efforts to transform science education.

Washington guided her department in the adoption of evidence-based strategies for all courses in the biology department curriculum and revamped all the lab courses to include authentic research experiences, including the CURES Tiny Earth and SEA-PHAGES. She is the 2012 past Chair of ASMCUE and is active in several professional societies including SABER, NABT and ASM. Washington is passionate about transforming science education to be more inclusive and equitable and serves as a PULSE fellow and HHMI BioInteractive ambassador.

Saturday, 11:20 – 11:50 AM, Sara Brownell, Ph.D., Arizona State University

Title: Disclosure decisions: Exploring the concealable stigmatized identities of science instructors

Bio: Sara Brownell, Ph.D., is a professor in the School of Life Sciences and the Research for Inclusive STEM Education Center Director at Arizona State University. As a discipline-based education researcher, she explores how to make undergraduate biology learning environments more inclusive, specifically for women, LGBTQ+ students, students with disabilities, community college transfer students and religious students. She has over 100 peer-reviewed publications in biology education and has been nationally recognized as an AAAS Fellow and the 2020 LGBTQ+ Educator of the Year.
Saturday, 11:50 – 12:30 PM, Sally O’Connor and Amanda Simcox, Ph.D., National Science Foundation

Title: NSF Lunch and Learn

Saturday, 5:40 – 6:30 PM, TWiM team

Title: The power of podcasts to educate and engage

**Michele Swanson, Ph.D., University of Michigan**

Michele Swanson is a Professor in the Department of Microbiology & Immunology at the University of Michigan Medical School. In addition to exploiting the pathogen *Legionella pneumophila* as a genetic probe of macrophage function, her lab has investigated how metabolic cues govern the microbe's resilience in the environment and virulence in phagocytes. She also contributed to an interdisciplinary team that investigated the impact of changes in the chemistry of the municipal water supply in Flint, Michigan on their 2014-2015 outbreaks of Legionnaires’ disease and was a member of the *National Academies of Science, Engineering, and Medicine* committee on Management of *Legionella* in Water Systems.

Dr. Swanson has taught infectious diseases to medical students, bacterial pathogenesis to graduate students, and current topics in microbiology to first-year undergraduates. She is co-author of ASM Press textbook *Microbe* 3rd edition, co-host of the podcast *This Week in Microbiology*, former President of the American Society for Microbiology, and Director of the Office of Postdoctoral Studies at the University of Michigan Medical School.

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**Petra Levin, Ph.D., Washington University in St. Louis**

Petra Levin is the George William and Irene Koechig Freiberg Professor of Biology at Washington University in St. Louis. She received her Ph.D. from Harvard University and completed her postdoctoral training at MIT. Focusing on the intersection of the environment and microbial physiology, research in the Levin lab probes the mechanisms governing bacterial growth, cell cycle progression, and antibiotic sensitivity.

A proponent of broadening access to research at all levels, Dr. Levin served as co-director of Washington University’s Plant and Microbial Biosciences graduate program until 2020. In 2021, she developed EnTER, a university wide initiative designed to increase participation of low-income, first-generation undergraduate students in research. Passionate about microbiology and science communication, Dr. Levin currently teaches an upper-level undergraduate seminar on infectious disease that helps students hone their ability to read the primary literature and to write for both expert and lay audiences.
Michael Schmidt, Ph.D., Medical University of South Carolina

Michael G. Schmidt earned his Ph.D. from Indiana University, Bloomington, and rose through the ranks of The Medical University of South Carolina (MUSC), where he is presently professor of microbiology and immunology. He was elected to fellowship in the American Academy of Microbiology and the American College of Dentists. In 2017, he was selected as the South Carolina Governor’s Awardee for Excellence in Science and Scientific Awareness and, in 2019, he was elected as chair of the ASM Council on Microbial Sciences.

Currently, he is leading an inter-institutional-interdisciplinary team of professionals investigating the role that microbes in the built clinical environment serve in the acquisition of healthcare-associated infections (HAI). Building on the results of a successful multi-center clinical trial, where they established that by controlling the microbial burden in the built clinical environment, through the introduction of limited and targeted placement of copper alloys, a significant reduction (58%, p<0.0013) of HAI was achieved. The results from this study were the basis of a talk he provided to TEDxCharleston, and featured in articles in the Smithsonian Magazine and Vice.

Finally, he is a regular contributor to the internationally recognized podcast This Week In Microbiology (TWiM) and is the councilor to the South Carolina Branch of ASM.

Sunday, 9:15 – 9:45 AM, Heather Seitz, Ph.D., Johnson County Community College

For more than 15 years, Heather Seitz, Ph.D., has taught in the community college classroom. Seitz currently teaches microbiology, cell biology and biotechnology in both traditional and online environments. Her focus in educational research is on assessment practice and the development of CUREs in the community college context.

As a PULSE leadership fellow, Seitz has been involved in numerous projects to effect change in undergraduate life sciences education at the departmental level. She has worked within a regional network framework to form communities of practice across institution types to improve life science education. Seitz has participated in a number of national networks including: BCSI, MHSCI, CC-BIO INSITES, QB@CC, Tiny Earth Network, Design-to-Data and ASK BIO. As a first-generation college student, Seitz is always mindful of the impact educational interventions can have on student success.

At many past ASMCUE, the Carski Award winner for undergraduate education has presented a Plenary Talk. The 2023 Carski Awardee, Amy Siegesmund, delivered a talk in recognition of her award in May 2023 in a webinar. Check out the ASMCUE website for the recording!

Amy has since joined the Peace Corps and is unable to join us this year.
Interim Chair, Subcommittee for Undergraduate Education

Nancy Boury, Ph.D.

Iowa State University

Dr. Nancy Boury regularly teaches introductory courses in biology, genetics and microbiology at Iowa State University. She uses case studies to connect course content to current events and to communicate science in a wide variety of contexts. In the fall of 2019, she created and taught a new course: "Preparing for the Next Pandemic: Living in a One Health World." Six short months later, in March 2020, the world was disrupted by the COVID-19 pandemic. When students reported losing internships because of COVID-19 precautions in the summer of 2020, she created a digital internship focused on ASM’s scientific thinking competencies that is still being used to teach undergraduate students scientific literacy skills. Boury’s research program is focused on the continuous improvement cycle of student learning by refining learning objectives, assessments and student activities. This includes using game-based learning, developing concept inventories to reliably measure student learning and mentoring other instructors on active learning strategies.

Chair, ASMCUE Planning Committee

David Westenberg, Ph.D.

Missouri S&T University

Dr. Dave Westenberg, Vice Chair ASMCUE Planning Committee, is Professor of Biological Sciences at Missouri University of Science and Technology. His laboratory primarily focuses on the role of rhizosphere microorganisms on plant nutrition and bioremediation. His lab has additional projects studying the antimicrobial properties of bioactive glass and oil smoke vapors. He has been active in microbiology education and was awarded the 2020 American Society for Microbiology Carski Award for undergraduate education. He is an ASM Scholar-in-Residence (now called Biology Scholars) which provides training and guidance for faculty interested in the scholarship of teaching and learning. Dr. Westenberg chaired the ASM Committee on K-12 Education and Outreach for seven years.
In 2017 he was recognized with the Science Educator Award from the Academy of Sciences, Saint Louis for his work in public science outreach. He was named a Missouri S&T Dean's Teaching Scholar, National Academy of Science Education Fellow in Life Sciences and an HHMI Biointeractive Teaching Ambassador and has presented at local, regional and national education conferences.

Vice Chair, ASMCUE Planning Committee

Heather Townsend, Ph.D.
Community College of Rhode Island

Dr. Heather M. Townsend is a professor of biology at the Community College of Rhode Island where she teaches courses in microbiology, organismal biology, and human health. Her publications include articles, papers and chapters on virtual microscopy, biosafety in teaching laboratories, student perceived research failure, and incorporating course-based undergraduate research experiences (CUREs) into community college courses. Her interests lie in incorporating high-impact practices at the community college level to facilitate equity and inclusion in the classroom. Recently, she has focused her attention on adding research experiences for online courses, as well as enhancing a CURE by integrating ethical conduct of research to strengthen students' scientific literacy. Dr. Townsend is an active member and contributor in the science education field and has published articles in JMBE, presents annually at ASM Conference for Undergraduate Educators (ASMCUE), and was one of the contributors on the 2019 revision of the ASM Biosafety Guidelines. She additionally serves as the president of the New England Biology Association for Two-Year Colleges. Heather serves as the 2023 ASMCUE Vice Chair.
Participate in a Free Virtual Scientific Spring Symposium

Who?
• High School Students
• Community College Students
• Undergraduate First-Year Students
• And those who want to support them!

What?
• Submit an Abstract
• Showcase your Research
• Receive Feedback
• Compete for Awards
• Network
• Join the ABRCMS Community
• Hear scientific oral and e-poster presentations

Got Research?
• Biochemistry and Molecular Biology
• Cancer Biology
• Cell Biology
• Chemistry
• Computational and Systems Biology
• Developmental Biology and Genetics
• Engineering, Physics and Mathematics
• Immunology
• Microbiology
• Neuroscience
• Physiology and Pharmacology
• Social and Behavioral Sciences and Public Health

When?
Abstract Submission Deadline
March 20, 2024

ePoster Spring Symposium
April 25, 2024 | 4:00-8:00 p.m. ET

Questions?
abrcms@asmusa.org

For more information visit:

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AMERICAN SOCIETY FOR MICROBIOLOGY
NIH National Institute of General Medical Sciences
2023 Travel Awardees

For 2023 ASMCUE, we were able to offer financial support to 36 people to attend ASMCUE. This number is double the number of Travel Awards offered in past years!

Special thanks to NSF for a grant to ASM that helped to fund these scholarships!

Molly Bindell  
*Thomas Jefferson University*

Nickie Cauthen  
*LaGrange College*

Jorge Cervantes  
*Nova Southeastern University*

Jessica Coates  
*Spelman College*

Jason Econome  
*Stuyvesant High School*

Sandra Fox-Moon  
*Anne Arundel Community College*

Adronisha Frazier  
*Northshore Technical Community College*

Amy Glover  
*College of the Desert*

Ivelisse Irizarry  
*Inter-American University of Puerto Rico*

Parisa Jazbi  
*California State University, Sacramento*

Amber Kimble  
*Howard University*

Dana Kirkwood-Watts  
*Yavapai College*

Renu Kumar  
*Minneapolis College*

Bhaswati Manish  
*Metropolitan Community College Nebraska*

Lisa McLellan  
*Purdue University Fort Wayne*

Linda McPheron  
*Diablo Valley College, Berkeley City College*

Jocelyn Moore  
*Jacksonville State University*

Shannon Moroney  
*Hillsborough Community College*

Tiara Perez Morales  
*Benedictine University*

Katriana Popichak  
*Colorado State University*

Jessica Pyle  
*University of Tennessee*

Ishrat Rahman  
*Montgomery College*

Derek Royer  
*East Texas Baptist University*

Sarah Shoemaker  
*North Country Community College*

Tamunobelema Solomon  
*Morgan State University*

Nicole Taylor  
*Snow College*
Whitney Tholen  
*University of Texas, Arlington*

John Wentz  
*University of North Texas, Dallas*

Amritha Wickramage  
*University of Arizona*

Angela Wilson  
*Old Dominion University*

These travel awards were made possible through an NSF grant to ASM – THANK YOU!

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**2023 ASMCUE Textbook Award Winner**

Molly Matty, Ph.D.  
*University of Portland*

From her recommendation letter: “Dr. Matty is on fire. She has taken lead with all first semester biology majors and I believe she is single-handedly responsible for the fact that recruitment and retention in biology has been at an all-time high…She is a vibrant, engaged, dedicated junior faculty. In sum, Molly brings such positivity and possibility to our department.”

This honor is awarded to an emerging leader in biology education and research. Funding for the Textbook Travel Award derives from a special endowment created in 2008 by several textbook authors committed to faculty development and ASMCUE. The authors sponsoring this endowment include Denise Anderson, University of Washington; Robert Bauman at Amarillo College; Bary Chess at Pasadena City College; Marjorie Cowan at Miami University, Ohio; Jeffrey Pommerville at Glendale Community College; Sarah Salm, Borough of Manhattan Community College; Kathleen Talaro at Pasadena City College; and Christopher Woolverton at Kent State University.
Please visit our exhibitors!

<table>
<thead>
<tr>
<th>Booth number</th>
<th>Exhibitor</th>
<th>Staff on-site</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EDVOTEK.</td>
<td>Brian Ell</td>
</tr>
<tr>
<td>2</td>
<td>miniOne</td>
<td>Richard Chan</td>
</tr>
<tr>
<td>3</td>
<td>McGraw Hill</td>
<td>Tamara Hodge, Lauren Vondra</td>
</tr>
<tr>
<td>4</td>
<td>Carolina Distance Learning</td>
<td>Sara Milillo, Kerry Balbirona, Sandye Adams</td>
</tr>
<tr>
<td>5</td>
<td>gideon</td>
<td>Armano Trosic</td>
</tr>
<tr>
<td>6</td>
<td>TOP HAT</td>
<td>Danielle Leboff, David Ferguson</td>
</tr>
<tr>
<td>7</td>
<td>DEC</td>
<td>Elie Maksoud, Shannon Behrman</td>
</tr>
<tr>
<td>8</td>
<td>NSF</td>
<td>Sally O’Connor, Amanda Simcox</td>
</tr>
<tr>
<td>9</td>
<td>Pearson</td>
<td>Frances Lai, Terry Austin</td>
</tr>
<tr>
<td>10</td>
<td>W. W. Norton &amp; Company</td>
<td>Erin Baumgartner, Gina Forsythe, Courtney Zanosky, Abby Kehoe</td>
</tr>
<tr>
<td>11</td>
<td>Labster</td>
<td>Tracy Tanner, Kyle Miller</td>
</tr>
<tr>
<td>12</td>
<td>REMNet</td>
<td>Theodore Muth, Davida Smyth</td>
</tr>
</tbody>
</table>
Research shows that mentors significantly influence their mentees’ academic, career and professional success. Whether you are an early or late-career scientist, ASM’s Future Leaders Mentorship Fellowship (FLMF) allows you to share your unique experiences and expertise with graduate students from historically excluded communities interested in leadership development and career exploration in the microbial sciences.

**ASM FLMF is for:**
- Early, Mid or Late-career Scientist
- Postdoctoral Scientist
- Research Scientist
- Faculty or Administrator

Don’t miss this opportunity to enhance your global mentoring portfolio and join the ranks of 254 mentors in the FLMF program.

**Application Deadline:**
Thursday, February 15, 11:59 p.m. ET
asm.org/futureleader

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**Plus, gain great benefits like:**

**Leadership and Mentoring Skill Enhancement**
Enhance your leadership skills and global mentoring profile.

**Portfolio Building and Networking Opportunities**
Participate in the ASM FLMF Symposium, networking and mentoring lunches and ASM Microbe 2024 events.

**Become a Voice in Your Field**
Serve as a facilitator or speaker at ASM events, sharing your knowledge and insights.
Shape the Science at ASM Microbe 2024

Abstract Submission and Travel Awards Open Nov. 15

Dec. 5 | Early Abstract Deadline
Jan. 23 | General Abstract Deadline

Submit Now!
Join the American Society for Microbiology (ASM) for a series of exciting programs and webinars designed to advance your knowledge and career in microbiology. Whether you’re a student, educator or aspiring microbiologist, our offerings have something for everyone.

**Microbiomes for All Webinar Series**
Discover the fascinating world of microbiomes and engage your students in scientific data analysis. No coding or advanced bioinformatics skills are needed!

**Career Pathways in Microbiology**
Explore diverse career opportunities in microbiology through virtual career panels. This year, you’ll learn from experts in industry biotechnology, climate change and non-academic postdocs.

**Microbiology Teaching and Learning Community**
Participate in a comprehensive seven-part webinar series dedicated to the assessment of biology courses and programs. Elevate your teaching prowess and foster a captivating learning environment.

**Leadership Development Training for Postdoctoral Women**
Take the first step toward a successful career in microbiology by enhancing and developing skills through our comprehensive training program for postdoctoral women.

**Career Development Grant for Postdoctoral Women**
Are you a postdoctoral woman aspiring to leadership or research excellence? Apply for our Career Development Grant, offering up to $2,000 to support your research or leadership development.

Don’t miss out on these incredible opportunities to advance your career and education in microbiology. Join us today and be a part of the future of microbiological science!

Questions? Email education@asmusa.org
ASMCUE registration desk will be located near Valley of the Sun, rooms D & E.

Saturday buffet lunch will be served at the Valley Overlook, on the 4th floor.

The ASMCUE quiet room is Ahwatukke B.

Restrooms are indicated on map with “M” or “W”
## 2023 ASM Conference for Undergraduate Educators

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am – 11:00am</td>
<td>JMBE Editors Meeting (by invitation only)</td>
<td>Valley of the Sun A</td>
</tr>
<tr>
<td>8:30am – 6:45pm</td>
<td>ABRCMS Passholders: ABRCMS program runs 8:30 AM - 6:45 PM</td>
<td>Phoenix Convention Center</td>
</tr>
<tr>
<td>11:00am – 11:45am</td>
<td>Top Hat focus group (sign up here by Nov 7!)</td>
<td>Valley of the Sun E</td>
</tr>
<tr>
<td>11:00am – 11:45am</td>
<td>PALM group huddle</td>
<td>Valley of the Sun D</td>
</tr>
<tr>
<td>12:00pm – 4:30pm</td>
<td>Workshop #1: Integrating Assessments Into Videos With HHMI's Interactive Video Builder</td>
<td>Valley of the Sun A</td>
</tr>
<tr>
<td>12:00pm – 4:30pm</td>
<td>Workshop #2: TWIM podcast annotation training to provide virtual science literacy internship opportunities for students</td>
<td>Valley of the Sun B</td>
</tr>
<tr>
<td>12:00pm – 4:30pm</td>
<td>Workshop #3: Charting a vision and making changes in the undergraduate biology classroom: Evidence-based teaching from Vision &amp; Change</td>
<td>Valley of the Sun D</td>
</tr>
<tr>
<td>12:00pm – 4:30pm</td>
<td>Workshop #4: Crawl, Walk, Run: Exploring the road to cultural competencies</td>
<td>Valley of the Sun E</td>
</tr>
<tr>
<td>4:30pm – 4:45pm</td>
<td>ASMCUE Buddy meet-up time</td>
<td>Valley of the Sun B</td>
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<tr>
<td>4:45pm – 5:30pm</td>
<td>First Timers Orientation</td>
<td>Valley of the Sun A</td>
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<tr>
<td>4:45pm – 5:30pm</td>
<td>PALM group huddle</td>
<td>Valley of the Sun D</td>
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<tr>
<td>4:45pm – 5:30pm</td>
<td>WW Norton focus group</td>
<td>Valley of the Sun E</td>
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<tr>
<td>5:30pm – 7:00pm</td>
<td>Dinner Break (on your own)</td>
<td>TBA</td>
</tr>
<tr>
<td>7:00pm – 9:00pm</td>
<td>* Exhibit &amp; Poster Hall Open</td>
<td>Valley of the Sun C</td>
</tr>
<tr>
<td>7:30pm – 8:30pm</td>
<td>* Biology Education Research Poster Session</td>
<td>Valley of the Sun C</td>
</tr>
<tr>
<td>7:30pm – 8:30pm</td>
<td>A jigsaw and role-play based open educational resource over COVID-19 tests increases student understanding of antigens, antibodies, and viral testing.</td>
<td>Valley of the Sun C</td>
</tr>
<tr>
<td>7:30pm – 8:30pm</td>
<td>Analysis of Student Perceptions of Learning Using the Same Teaching Pedagogy in Biology and Psychology Courses</td>
<td>Valley of the Sun C</td>
</tr>
<tr>
<td>7:30pm – 8:30pm</td>
<td>Assembling Metagenome Assembled Genomes (MAGs) through Annotation and KBase</td>
<td>Valley of the Sun C</td>
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<tr>
<td>Time</td>
<td>Session Type</td>
<td>Title</td>
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<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Choosing case studies, accounting for bias in reasoning</td>
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<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Christian student experiences during peer interactions in undergraduate biology courses</td>
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<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Educating the public: Using student-designed websites and podcasts to communicate about antimicrobial resistance (AMR)</td>
</tr>
<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Identifying Common Misconceptions in Undergraduate Microbiology Students Using the Microbiology Concept Inventory</td>
</tr>
<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Increasing participation in biotechnology programs through high school student and family engagement</td>
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<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Learning Science Through Art: Assessing the Benefits of Artworks on Knowledge Acquisition and Retention in College Courses</td>
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<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Lessons learned from playing in the dirt: More than just Microbiology skills</td>
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<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Measuring Science Majors' Beliefs on the Nature of Science</td>
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<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Providing collaborative workspaces and active learning experiences drastically increases TA study-session attendance for introductory biology course.</td>
</tr>
<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Short narrative science films increase student engagement and speaker knowledgeability compared to lecture and whiteboard films in a large enrollment genetics course</td>
</tr>
<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Student-Centered Project Based Learning Using an Aquaponic System in STEM Education</td>
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<tr>
<td>7:30pm – 8:30pm</td>
<td>P</td>
<td>Upper-level interdisciplinary microbiology CUREs increase student's self-efficacy and science identity and result in significant gains in student's self-assessed skills.</td>
</tr>
<tr>
<td>9:00pm – 10:30pm</td>
<td>A</td>
<td>Optional and informal get-together at ASMCUE hotel restaurant</td>
</tr>
</tbody>
</table>

Marriott Phoenix Airport (1101 N 44th St, Phoenix, AZ 85008)
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>PINNED 8:00am – 8:45am</td>
<td>A</td>
<td>Closing the Gaps in Life Science Education: Challenges and Opportunities</td>
<td>Jackie Washington</td>
</tr>
<tr>
<td>9:00am – 9:30am</td>
<td>S</td>
<td>ASM Curriculum Guidelines 2.0: Levelling Up</td>
<td>Adronisha Frazier, Sarah Rosario, Rachel Horak, Nancy Boury, J. Jordan Steel, Davida Smyth, Amy Siegesmund, Dave Kushner</td>
</tr>
<tr>
<td>9:00am – 9:30am</td>
<td>S</td>
<td>Empowering Student Success: Designing Preliminary Online Courses for College-level Biology Education</td>
<td>Gemma Bartha, Joseph Kele, Mindi Fried</td>
</tr>
<tr>
<td>9:00am – 9:30am</td>
<td>S</td>
<td>Getting started in Biology Education Research, Part 1</td>
<td>Carlos Goller</td>
</tr>
<tr>
<td>9:00am – 9:30am</td>
<td>S</td>
<td>How and Why we Should Change the Way we Teach About Vaccines</td>
<td>Kara Mosovsky</td>
</tr>
<tr>
<td>9:00am – 9:30am</td>
<td>S</td>
<td>Weaving AJEDI content into course design</td>
<td>Sarah Miller, Joanna Klein</td>
</tr>
<tr>
<td>9:35am – 10:05am</td>
<td>S</td>
<td>Awareness and Intentional Engagement of Methods to Promote Inclusive Teaching</td>
<td>Samantha T. Parks, Adrienne King</td>
</tr>
<tr>
<td>9:35am – 10:05am</td>
<td>S</td>
<td>Balancing Microbial Risks and Benefits: Rethinking Microbiology Lab Guidelines</td>
<td>Monika Oli</td>
</tr>
<tr>
<td>9:35am – 10:05am</td>
<td>S</td>
<td>Getting started in Biology Education Research, Part 2</td>
<td>Carlos Goller</td>
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<tr>
<td>9:35am – 10:05am</td>
<td>S</td>
<td>Oral examination as an assessment strategy for achieving mastery learning in biology</td>
<td>Andrew St. James</td>
</tr>
<tr>
<td>9:35am – 10:05am</td>
<td>S</td>
<td>Preprint peer review enhances students’ sense of belonging in STEM: evidence from a new curriculum that can be embedded into your existing course</td>
<td>Rebeccah Lijek</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>M</td>
<td>Anti-racism: Concept and Practice in Microbiology</td>
<td>Aisling Dugan</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>M</td>
<td>Create your own quiz: Reinforcing learning and metacognition by involving students in the assessment process</td>
<td>Lisa D’Ambrosio</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>M</td>
<td>CRISPR gene technology in Escherichia coli bacteria and Vanessa cardui painted lady butterflies</td>
<td>Lynn Kee</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>M</td>
<td>Engaging Students in Biology Education Research to Promote Their Science Identity and Research Self-Efficacy</td>
<td>Laura Ott</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>M</td>
<td>Pedagogical Framework: Case Study and Science Sprint</td>
<td>Erica Harris</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td>Title</td>
<td>Speakers</td>
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<tr>
<td>10:35am –</td>
<td>M</td>
<td>A biologist walks into a gallery: Using art to initiate discussions about infectious diseases</td>
<td>David Wessner</td>
</tr>
<tr>
<td>10:35am –</td>
<td>M</td>
<td>Is Game-Based Learning and Case-Based Learning a Remedy for Stick-it-to-the-man-eosis?</td>
<td>Kersten T Schroeder</td>
</tr>
<tr>
<td>10:35am –</td>
<td>M</td>
<td>Mayday Mayday Cellular Dysfunction While Avoiding Group Work Dysfunction!</td>
<td>Aimee Hollander</td>
</tr>
<tr>
<td>10:35am –</td>
<td>M</td>
<td>Modifying Specifications-Based Grading for an Immunology/Microbiology Senior Thesis Course</td>
<td>Kelly Collins</td>
</tr>
<tr>
<td>10:35am –</td>
<td>M</td>
<td>Teaching scientific reasoning and critical thinking with intent by engaging students in the learning process</td>
<td>Yeidaliz Garcia</td>
</tr>
<tr>
<td>10:55am –</td>
<td>M</td>
<td>Making the Infection Connection: Incorporating Infectious Disease Topics into Introductory Microbiology Discussions</td>
<td>Andrea Rediske, Julie Oliver</td>
</tr>
<tr>
<td>10:55am –</td>
<td>M</td>
<td>Polymerase Chain Reaction: Action!</td>
<td>Zachary Saylor</td>
</tr>
<tr>
<td>10:55am –</td>
<td>M</td>
<td>Using Hypothes.is annotation software to engage diverse students in primary literature discussions</td>
<td>Nikolas Stasulli</td>
</tr>
<tr>
<td>10:55am –</td>
<td>M</td>
<td>Using Infographics to assess and enforce student learning while reducing educator burnout</td>
<td>Gemma Bartha</td>
</tr>
<tr>
<td>10:55am –</td>
<td>M</td>
<td>What is a Laboratory? That is the Question!</td>
<td>Mary Mawn</td>
</tr>
<tr>
<td>11:20am –</td>
<td>A</td>
<td>Disclosure decisions: Exploring the concealable stigmatized identities of science instructors</td>
<td>Sara Brownell</td>
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<td>11:50am –</td>
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<td>Networking Lunch and Learn with the National Science Foundation</td>
<td>Sally O'Connor, Amanda Simcox</td>
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<tr>
<td>1:15pm –</td>
<td>A</td>
<td>Exhibit &amp; Poster Hall Open</td>
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<td>1:15pm –</td>
<td>A</td>
<td>JMBE Office Hours (sign-up for an appointment)</td>
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<tr>
<td>1:15pm –</td>
<td>A</td>
<td>NSF Office Hours (sign-up for an appointment)</td>
<td>Sally O'Connor, Amanda Simcox</td>
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<tr>
<td>1:20pm –</td>
<td>P</td>
<td>Microbrews on Poster: Session A</td>
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<td>1:20pm –</td>
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<td>A CURE Embedded Within a Summer Undergraduate Research Experience Demonstrates Value-Add Benefits</td>
<td>Pamela Marshall, Jennifer Hackney Price, Ken Sweat</td>
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<tr>
<td>1:20pm –</td>
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<td>A Post COVID Review of Critical Microbiology Information for Prelicensure Education Programs for Nurses</td>
<td>Robert Wolff</td>
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<tr>
<td>Time</td>
<td>Session</td>
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<td>1:20pm – 2:15pm</td>
<td>P</td>
<td>Adapting course-based investigative strategies for public health outreach campaigns</td>
<td>Roger Greenwell</td>
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<td>1:20pm – 2:15pm</td>
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<td>Al Text Generators: Revolution or Threat? Redefining the Landscape of Science Assignments</td>
<td>Hikmet Nural Guven, Guna Moses</td>
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<td>Collaborative research and learning strategies for the undergraduate Microbiology course</td>
<td>Galyna Kufryk</td>
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<td>1:20pm – 2:15pm</td>
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<td>Daunting but Absolutely Worth It: Scaffolding paper discussions in an upper level microbiology course</td>
<td>Lauren Essler</td>
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<td>1:20pm – 2:15pm</td>
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<td>Discovery of genetic interactions governing developmental phenotypes in Agrobacterium tumefaciens: CURE-based training in scientific practice, presentation, and ethics</td>
<td>Jason Heindl</td>
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<td>1:20pm – 2:15pm</td>
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<td>Engaging biology majors NOT interested in health sciences with an environmental microbiology lab</td>
<td>Susan Bjerke</td>
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<td>1:20pm – 2:15pm</td>
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<td>Evolution in the microbiology classroom: Teaching endosymbiosis as a microbiological macroevolutionary process</td>
<td>Joshua Hoskinson</td>
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<td>Experiences using Clinical Correlates as an Active Learning Assessment Tool in an Undergraduate “Disease Detectives” Elective</td>
<td>Stefanie Iverson Cabral</td>
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<td>Fostering Student Learning and Understanding on the Effects of Osmosis on Microbes Using an Interactive Activity</td>
<td>Sandra Fox-Moon</td>
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<td>1:20pm – 2:15pm</td>
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<td>Helping Students to Learn (and Keep Using!) Effective Study Strategies with the Student Cognition Toolbox: Biology</td>
<td>Jennifer Calawa</td>
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<td>Impact of control-based lesson on student’s experimental design ability</td>
<td>Jonathan Kaletka</td>
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<td>1:20pm – 2:15pm</td>
<td>P</td>
<td>Learning activities to teach about gut health</td>
<td>Monika Oli</td>
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<td>P</td>
<td>Medical Experiences influence on Gender and PEERs</td>
<td>Porter Bischoff</td>
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<td>1:20pm – 2:15pm</td>
<td>P</td>
<td>MicroCUREs: a project - based learning methodology in Microbiology 101 course to increase research, laboratory and critical thinking skills in students.</td>
<td>Christa Contreras Ubedo</td>
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<td>P</td>
<td>My PET bacteria: A CURE to search for potential plastic degrading bacteria and focus on environmental justice in a Microbiology lab course.</td>
<td>Pete Chandrangsu</td>
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<td>P</td>
<td>Promotion of environmental awareness through Vertically Integrated Projects</td>
<td>Linda Mezule</td>
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</tbody>
</table>
See You In Pittsburgh!

ABRCMS 2024
November 13–16 | Pittsburgh, PA