Meet your McGraw Hill Team at Booth #726:
• One-on-One Consultations
• Live Demonstrations
• Exciting Giveaways

Tuesday, June 28, 2022
8:00AM – 9:30AM | Room 101B
Panel Discussion: Shifting Expectations for Engineering Education in a Post-2020 World – Student and Faculty Perspectives

Breakfast will be served.
Space is limited.
Scan to RSVP today!

Join McGraw Hill and ASEE’s Student Division for an interactive panel discussion where faculty members and students discuss how their expectations have changed as a result of the pandemic.

It’s no secret that 2020 upended and challenged most of the practices we were accustomed to following. Now that we’re returning to some semblance of normalcy, how do we evolve to incorporate the ideal blend of older and newer approaches? This discussion will cover everything from mental health concerns to classroom management, as well as the tension between preserving the inclusion of empathy and humanity in Engineering education without unduly burdening faculty or encouraging students to take advantage of flexible policies. Get ready to tackle tough topics and to provide your own opinions and solutions!

Wednesday, June 29, 2022
8:00aAM – 9:30AM | Room 101B
Panel Discussion: What eResources would help your students learn mechanics?

Breakfast will be served.
Space is limited.
Scan to RSVP today!

Join McGraw Hill and Engineering Mechanics faculty for a discussion on how eResources can be used to help advance student learning. What does the engagement need to look like and how does that impact the cost-benefit analysis on an instructor’s time? How could automated tools be used to accomplish the following?

• Create more student engagement
• Make difficult topics accessible to students by providing practice opportunities
• Free-up some of the instructor’s time to spend helping students

Trusted engineering content with new site updates that optimize learning and teaching
Accessengineeringlibrary.com

Find out how to improve student results with adaptive-learning tools
mheducation.com/highered/engineering-computer-science

McGraw Hill has a long history with ASEE and is proud to continue sponsorship of two prominent awards: The James H McGraw Award, and the ASEE Mechanics Division Beer & Johnston New Educators Award recognizing outstanding service in Engineering Technology education. Congratulations to all past recipients! We look forward to honoring this year’s recipients in person.

For up-to-date information about what’s happening at ASEE, follow us on Twitter @mhengineering
A heartfelt welcome to our first in-person meeting in two years! I’ve attended a number of ASEE regional and council/institute meetings this spring and can tell you that the ASEE conference team “still have it.” Their careful planning and organization enabled us to hold safe and highly meaningful meetings. At recent in-person convenings, ASEE members have rekindled friendships, shared exciting ideas, and engaged in dynamic discussions about engineering education. This Annual Conference will no doubt do the same.

This year, we are gathering in a metropolis that brought into focus the nation’s undercurrents of racism and systems that frame our society. We watched the typical strategies play out (discredit the victim, point to special circumstances), but ultimately the truth prevailed, and the gossamer screen was lifted from many eyes. As engineers and engineering educators unified to advance innovation, excellence, and access at all levels of education for the engineering profession with the values of excellence, engagement, innovation, integrity, diversity, and inclusion, we can use this location and this unique time in history—emerging from a global pandemic and grappling with a societal reckoning—to intentionally acknowledge our systems and practices within engineering. Do these systems and practices equally benefit everyone? Do they fully promote excellence, engagement, innovation, integrity, diversity, and inclusion? If not, what can each of us do from our realm of influence to push the systems and practices forward for a better future?

This conference enables each of us to connect with a close affinity group and then step across the hallway to engage with another affinity group. This is the value of ASEE! Innovation and excellence increase when we explore diverse ideas, approaches, and systems of knowledge.

Here’s wishing everyone a wonderful conference, reconnecting with long-time colleagues and friends while engaging and learning from a wide array of new colleagues and experts in close and more distant fields of engineering. Enjoy Minneapolis and the 2022 Annual Conference! I hope you are able to take away knowledge, tools, and skills that will advance innovation, excellence, and access at all levels of education for the engineering profession.

Best Regards,

Adrienne Minerick
ASEE President 2021-2022
# 2022 ASEE Annual Conference and Exposition Program

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Schedule subject to change. Please go to [https://2022-asee.slayte.com/](https://2022-asee.slayte.com/) for up-to-date information.
Iowa State University College of Engineering offers 14 undergraduate majors and more than 45 doctoral and master’s degree programs. Every day, Iowa State engineering students, faculty and staff innovate and conduct research to make the world a better place to live. We prepare engineers to be change-makers, entrepreneurs, intrapreneurs and leaders in their communities – both locally and globally.

www.engineering.iastate.edu
2022 ASEE ANNUAL CONFERENCE
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Schedule subject to change. Please go to https://2022-asee.slayte.com/ for up-to-date information.
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Beth Holloway
Assistant Dean of Diversity and Engagement, Leah H. Jamieson Director of Women in Engineering, and Assistant Professor, Mechanical Engineering (by courtesy), College of Engineering
Purdue University

Chair, Professional Interest Council V
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Director of Cooperative Engineering, Swanson School of Engineering
University of Pittsburgh

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Ilya Grinberg
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Buffalo State College, The State University of New York

Chair, Council of Sections, Zone II
John Brocato
Lecturer, Technical Communication, School of Chemical, Materials, and Biomedical Engineering, College of Engineering
University of Georgia

Chair, Council of Sections, Zone III
Tariq Khraishi
Professor of Mechanical Engineering and Assistant Dean for Internships, School of Engineering
University of New Mexico

Chair, Council of Sections, Zone IV
Lily Gossage
Director, Maximizing Engineering Potential, College of Engineering
California State Polytechnic University, Pomona

Executive Director
Norman L. Fortenberry
American Society for Engineering Education
2022 ASEE ANNUAL CONFERENCE
CONFERENCE-AT-A-GLANCE

For detailed session information visit 2022-see.seeleye.com

**CENTRAL STANDARD TIME**

7:00 A.M.

**SATURDAY, JUNE 25**

9:00 A.M. – 12:00 P.M.

ASEE Finance Committee Meeting
9:00 A.M. – 12:00 P.M.

12:00 P.M. – 2:00 P.M.

Executive Committee Meeting and Lunch
12:00 P.M. – 2:00 P.M.

2:00 P.M. – 5:00 P.M.

ASEE Long-Range Planning
2:00 P.M. – 5:00 P.M.

3:00 P.M. – 4:30 P.M.

Technical Sessions
3:00 P.M. – 4:30 P.M.

4:00 P.M. – 5:30 P.M.

Various ASEE Committee Meetings
4:00 P.M. – 5:30 P.M.

SUNDAY, JUNE 26

9:00 A.M. – 7:00 P.M.

Registration Open
8:00 A.M. – 7:00 P.M.

Sunday Workshops
9:00 A.M. – Noon

ASEE Board of Directors Meeting
8:00 A.M. – 3:00 P.M.

FREE TIME
Noon – 1:15 P.M.

Technical Sessions
1:15 P.M. – 2:45 P.M.

Technical Sessions
3:00 P.M. – 4:30 P.M.

Greet the Stars! New Members and First-Time Attendees Orientation
3:00 P.M. – 4:30 P.M.

Division Mixer
4:45 P.M. – 6:15 P.M.

Taste of Minneapolis
6:15 P.M. – 8:30 P.M.

Schedule subject to change. Please go to https://2022-see.slaye.com/ for up-to-date information.
## 2022 ASEE Annual Conference
### Conference-at-a-Glance

### Monday, June 27
- **Registration Open** - 7:00 A.M. - 5:00 P.M.
- **Exhibit Hall Open** - 5:00 P.M. - 6:30 P.M.

**Monday Plenary**
- 8:00 A.M. - 9:30 A.M.

**Technical Sessions & Business Meetings**
- 9:45 A.M. - 11:15 A.M.

**FREE TIME**
- 1:00 P.M. - 1:45 P.M.

**Technical Sessions & Business Meetings**
- 1:45 P.M. - 3:15 P.M.

**Interdivisional Town Hall**
- 3:30 P.M. - 5:00 P.M.

**Focus on Exhibits Welcome Reception & Best Paper Nominee Poster Session**
- 5:00 P.M. - 6:30 P.M.

**Division Social Events (Optional)**

### Tuesday, June 28
- **Registration Open** - 7:00 A.M. - 8:00 A.M.
- **Exhibit Hall Open** - 9:45 A.M. - 6:00 P.M.

**Technical Sessions & Business Meetings**
- 8:00 A.M. - 9:30 A.M.

**ASEE Fellows Breakfast**
- 8:00 A.M. - 9:30 A.M.

**CMC Industry Day Breakfast**
- 8:00 A.M. - 9:30 A.M.

**FREE TIME**
- 1:00 P.M. - 1:45 P.M.

**Technical Sessions & Business Meetings**
- 1:45 P.M. - 3:15 P.M.

**Technical Sessions & Business Meetings**
- 3:30 P.M. - 5:00 P.M.

**CMC Industry Day Session**
- 1:45 P.M. - 3:15 P.M.

**Distinguished Lecture Series**
- 1:45 P.M. - 3:15 P.M.

**Focus on Exhibits Summer Time Social**
- 5:15 P.M. - 6:15 P.M.

**Division Social Events (Optional)**

**Institutional Council Reception**
(by invitation only)
- 7:00 P.M. to 8:30 P.M.

### Wednesday, June 29
- **Registration Open** - 7:00 A.M. - 8:00 A.M.
- **Exhibit Hall Open** - 8:00 A.M. - 11:15 A.M.

**Technical Sessions & Business Meetings Only** (Optional)
- 7:00 A.M. - 8:00 A.M.

**Technical Sessions & Business Meetings**
- 8:00 A.M. - 9:30 A.M.

**2022/2023 ASEE Board of Directors Meeting**
- 7:00 A.M. - 9:30 A.M.

**FREE TIME**
- 1:00 P.M. - 1:45 P.M.

**Technical Sessions & Business Meetings**
- 1:45 P.M. - 3:15 P.M.

**Technical Sessions & Business Meetings**
- 3:30 P.M. - 5:00 P.M.

**CMC Industry Day Session**
- 1:45 P.M. - 3:15 P.M.

**CMC Industry Day Session**
- 3:30 P.M. - 5:00 P.M.

**Focus on Exhibits Networking Break & NSF Grantees Poster Session**
- 9:45 A.M. - 11:15 A.M.

**FREE TIME**
- 1:00 P.M. - 1:45 P.M.

**Technical Sessions & Business Meetings**
- 1:45 P.M. - 3:15 P.M.

**Technical Sessions & Business Meetings**
- 3:30 P.M. - 5:00 P.M.

**Distinguished Lecture Series**
- 1:45 P.M. - 3:15 P.M.

**CMC Industry Day Session**
- 3:30 P.M. - 5:00 P.M.

**Focus on Exhibits Networking Break & NSF Grantees Poster Session**
- 9:45 A.M. - 11:15 A.M.

### Registration & Exhibit Hall Hours
- **Registration Open** - 7:00 A.M. - 5:00 P.M.
- **Exhibit Hall Open** - 5:00 P.M. - 6:30 P.M.

- **Registration Open** - 8:00 A.M. - 4:00 P.M.
- **Exhibit Hall Open** - 8:00 A.M. - 11:15 A.M.
- **Registration Open** - 8:00 A.M. - 4:00 P.M.
- **Exhibit Hall Open** - 8:00 A.M. - 11:15 A.M.
- **Registration Open** - 8:00 A.M. - 4:00 P.M.
- **Exhibit Hall Open** - 8:00 A.M. - 11:15 A.M.

### Division Social Events (Optional)
- **Institutional Council Reception**
(by invitation only)
- 7:00 P.M. to 8:30 P.M.

- **President’s Farewell Reception**
- 6:00 P.M. - 7:30 P.M.
WE’RE EXCITED TO ANNOUNCE THE RETURN OF THE ASEE LIVING WALL!

Date: Sunday, June 26th - Wednesday, June 29th, 2022

Location: Exhibit Hall B&C Foyer Minneapolis Convention Center

Time: Available during registration hours

Each year at the Conference, attendees will contribute their thoughts to the wall.

The wall will be preserved and displayed from year to year, growing bigger and bigger, and serving as a historical document of our conference attendees’ insights, ruminations, and reflections.

We hope you’ll take a few moments to leave your legacy on the Living Wall. Located outside the Exhibit Hall near the Info Kiosk.

FIND US ON:  

@ASEEHQ  
@ASEE_DC

Hotel INFORMATION

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Any changes must be made directly with your hotel. Please visit [https://book.passkey.com/gt/218266674?gclid=EAIaIQobChMIjXh3izAXfAIVu7vZCh1EggA9EAIASAAEgJzKvD_BwE](https://book.passkey.com/gt/218266674?gclid=EAIaIQobChMIjXh3izAXfAIVu7vZCh1EggA9EAIASAAEgJzKvD_BwE) to view hotel phone numbers.


For questions or special requests during event dates, please contact ConferenceDirect at 888-947-2233 or email housing@minneapolis.org.

Please note: Hotels will not be taking reservations directly for the ASEE conference. All reservations will be made through the housing bureau.
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We are a nonprofit organization committed to furthering the full spectrum of education in engineering and engineering technology, including instruction, research, scholarship, practice, and service.

ASEE develops policies and programs that enhance professional opportunities for engineering faculty members, and promotes activities that support increased student enrollments in engineering and engineering technology colleges and universities.

Our network of institutions, corporations, and individuals is vital for developing a presence within U.S. engineering academia. Each year, hundreds of innovative corporate, government, non-profit, and educational organizations depend on ASEE to get their message out to the engineering education community.

• Founded in 1893
• The only society that spans all engineering and engineering technology disciplines
• 375 colleges (of 420 total) in US, 22 others around the globe
• About 10,000 total individual members
• 55 member interest areas
• 60 corporations, NGOs, governmental agencies
• Annual Conference

Learn More! Visit asee.org for more information on membership offerings

https://www.asee.org/membership-and-communities/membership
PLAN YOUR ANNUAL CONFERENCE WITH THE
INTERACTIVE CONFERENCE PLANNER

Get Upcoming Highlights & Hours

Find Sessions

WWW.ASEE.ORG/CONFERENCE-PLANNER
**2022 ASEE ANNUAL CONFERENCE**

**CONFERENCE HIGHLIGHTS**

**SUNDAY, JUNE 26**

- **Registration Hours:**
  8:00 a.m. to 7:00 p.m.
  Exhibit Hall B&C, Minneapolis Convention Center

- **Yoga**
  7:00 a.m. to 7:45 a.m.
  Exhibit Hall B&C Foyer, Minneapolis Convention Center
  Join your friends and colleagues as we jump-start our day with a renewing stretch and meditation class! Repeats Monday, Tuesday, and Wednesday.

- **Greet the Stars! New Members & First Timers Orientation**
  3:00 p.m. to 4:30 p.m.
  Ballroom B, Minneapolis Convention Center
  Come hear what ASEE membership and the Annual Conference are all about. New members as of January 1, 2022, and first time Annual Conference attendees are eligible to attend. Space is limited, so tickets are first-come, first-served.

  *Presented by Brian Self, ASEE Vice President of Membership*

- **Division Mixer**
  4:45 p.m. to 6:15 p.m.
  Ballroom A, Minneapolis Convention Center
  Mix and mingle with friends and colleagues as ASEE’s various divisions showcase what they do at one of the ASEE Annual Conference’s most popular events.

- **Taste of Minneapolis**
  6:15 p.m. to 8:30 p.m.
  Convention Center Plaza, Minneapolis Convention Center
  Join friends and colleagues as we savor the tastes and sounds of Minneapolis!

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**A S E E 2 0 2 2 A N N U A L C O N F E R E N C E**

**SUNRISE YOGA AT THE CONFERENCE**

Join your colleagues... for morning yoga!

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** Convention Center Plaza**

**Sunday, June 26**

6:00 pm – 8:30 pm

**Featuring:**
- Music provided by the Madison Sound DJ’s
- Caricature artists
- Henna tattoo artists
- Mobile memories interactive photobooth
- Lawn games

**Local Beer & Wine**
- Carlos Creek Winery
- Finnegan’s Brew Co.
- Grain Belt Premium
- Summit Brewery
- Surly Furious Brewing Co.

**Food Items**
- Asparagus-smoked turkey canapes
- Baked amablu tartlets
- Beer brat sliders
- Buffalo salami skewers
- Cheese curds
- Cinnamon-sugared lefse roll ups
- Four cheese filo tartlets
- Lemon-blueberry bundt cakes
- Lucy bites
- Midwest wontons
- Petite northern harvest salads
- Petite s’mores entremets
- Petite tater tot hotdishes
- Spicy Asian chicken sliders
- Strawberry-rhubarb shooters
- Swedish meatballs

Schedule subject to change. Please go to [https://2022-asee.slayte.com/](https://2022-asee.slayte.com/) for up-to-date information.
2022 ASEE ANNUAL CONFERENCE
CONFERENCE HIGHLIGHTS

MONDAY, JUNE 27

• Registration Hours
7:00 a.m. to 5:00 p.m.
Exhibit Hall B&C, Minneapolis Convention Center

• ASEE Bistro
10:30 a.m. to 5:00 p.m.
Exhibit Hall B&C, Minneapolis Convention Center
Sponsored by Mouser Electronics

• Yoga
7:00 a.m. to 7:45 a.m.
Exhibit Hall B&C Foyer, Minneapolis Convention Center
Jump-start your day with a renewing stretch and meditation class!

• Monday Plenary
8:00 a.m. to 9:30 a.m.
Ballroom A, Minneapolis Convention Center

Keynote Speaker: Jodi Benson
Chief Innovation, Technology, and Quality Officer, General Mills

As Chief Innovation, Technology, and Quality Officer at General Mills, Jodi Benson is responsible for the invention and commercialization of new food products and technologies that provide increasingly higher levels of well-being, ease, and joy to meet consumers’ evolving food values. Most recently, Benson served as leader for the integrated ITQ Centers of Excellence, focused on the broad set of capabilities most critical for General Mills’ ongoing success, such as food safety, nutrition, scientific and regulatory affairs, and product design and innovation. It is the mission of this team to turn possibilities into realities. Benson has held multiple positions within ITQ, including living in France and leading the International Growth Team’s Global Fresh Dairy innovation initiative for Yoplait and Häagen-Dazs. Benson, who joined General Mills in 1990 as an R&D scientist in the Pillsbury Division, received her bachelor’s degree in chemical engineering and polymer chemistry from the University of Minnesota. She has represented General Mills on the Häagen-Dazs Japan board of directors and the GMI Benefits Advisory Committee, and today serves on the General Mills Foundation board of trustees, the 301 INC advisory board, the Cereal Partners Worldwide board of directors, and the World Food Programme board.

• Interdivisional Town Hall Meeting: Preparing Engineers for the 2030s
3:30 p.m. to 5:00 p.m.
Ballroom B, Minneapolis Convention Center

• Focus on Exhibits: Welcome Reception
5:00 p.m. to 6:30 p.m.
Exhibit Hall B&C, Minneapolis Convention Center

Join your colleagues at the grand opening of the Exhibit Hall. Explore exciting new products, solutions, and technologies while enjoying refreshments, catching up with old friends, and making new ones.

Scan to view full PDF program
TUESDAY, JUNE 28

• **Registration Hours**
  8:00 a.m. to 5:00 p.m.
  Exhibit Hall B&C, Minneapolis Convention Center

• **Exhibit Hall Hours**
  9:45 a.m. to 6:00 p.m.

• **ASEE Bistro**
  8:45 a.m. to 5:00 p.m.
  Exhibit Hall B&C, Minneapolis Convention Center
  Sponsored by Mouser Electronics

• **Yoga**
  7:00 a.m. to 7:45 a.m.
  Exhibit Hall B&C Foyer, Minneapolis Convention Center
  Jump-start your day with a renewing stretch and meditation class!

• **ASEE Fellows Breakfast**
  8:00 a.m. to 9:30 a.m.
  Northstar A, Hyatt Regency Minneapolis
  Annual Academy of Fellows event is for ASEE Fellows only.

• **Focus on Exhibits Networking Break & ASEE Division Poster Session**
  9:45 a.m. to 11:15 a.m.
  Exhibit Hall B&C, Minneapolis Convention Center
  ASEE Division posters are available for perusing during lunch in the Exhibit Hall. Explore exhibit booths and see what posters the ASEE Divisions have to offer!

• **Tuesday Plenary**
  11:30 a.m. to 1:00 p.m.
  Ballroom A, Minneapolis Convention Center
  Join friends and colleagues at this special session moderated by ASEE President-Elect Jenna P. Carpenter featuring the Corporate Member Council’s keynote speaker, winners of the best overall PIC, Zone, and Diversity, Equity & Inclusion papers, and ASEE’s 2022 Outstanding Teaching Award recipient.

  **Keynote Speaker:**
  **Bina Venkataraman**

  Bina Venkataraman is an American journalist, author, and science and technology policy expert. She currently is an editor-at-large for the *Boston Globe*, where she served as editorial page editor from 2019 to 2022, and a fellow at New America. Since 2011, she has taught in the Program on Science, Technology, and Society at MIT. She formerly served as senior adviser for climate change innovation in the Obama White House, directed global policy initiatives at the Broad Institute of MIT and Harvard, and reported on the science desks of the *New York Times* and *Boston Globe*. Venkataraman is an alumna of Brown University and the Harvard Kennedy School.

  In her keynote speech, Venkataraman will address a pivotal question of our time: How can we secure our future and do right by future generations? She aims to parse the mistakes we make when imagining the future of our lives, businesses, and communities, revealing how we can reclaim our innate foresight. What emerges is a surprising case for hope—and a path to becoming the “good ancestors” we long to be.

**PAPERS PRESENTED**

**2021 Best PIC I and Best Overall Paper Winner**

“A New Way of Seeing”: Engagement with Women’s and Gender Studies Fosters Engineering Identity Formation

- Dr. Jenn Stroud Rossmann, Lafayette College
- Prof. Mary A. Armstrong, Lafayette College

**2021 Best Zone I and Best Overall Zone Paper Winner**
A Study of Available Time for Engineering Undergraduates’ Involvement in Co-curricular Activities

Sreeram Kashyap
Dr. Andrew Olewnik, University at Buffalo, the State University of New York

2021 Best Diversity, Equity, and Inclusion Paper Winner
The Politics of Citation Practices in Engineering Education: A Citation Network Analysis of Intersectionality

Dr. Kristen Moore, University at Buffalo, The State University of New York
Dr. Nathan R. Johnson
Rev. Walter R. Hargrove

WEDNESDAY, JUNE 29

• Registration Hours
8:00 a.m. to 4:00 p.m.
Exhibit Hall B&C, Minneapolis Convention Center

• Exhibit Hall Hours
8:00 a.m. to 11:15 a.m.

• Yoga
7:00 a.m. to 7:45 a.m.
Exhibit Hall B&C Foyer, Minneapolis Convention Center
Jump-start your day with a renewing stretch and meditation class!

• Focus on Exhibits Networking Break & NSF Grantees Poster Session
9:45 a.m. to 11:15 a.m.
Exhibit Hall B&C, Minneapolis Convention Center
ASEE’s exhibitors welcome you back for complimentary food and drinks to start the day. Whether it’s lab equipment, quality textbooks for your classes, or cutting-edge software, you’ll likely find something interesting in the hall.

• ASEE Awards Lunch
11:30 a.m. to 1:00 p.m.
Ballroom B, Minneapolis Convention Center
Sponsored by Minnesota State University, Mankato; NCEES; Boeing; and Dassault Systèmes
ASEE presents awards in a variety of areas, from best paper, teaching recognition, and professional and technical honors to a lifetime achievement award. This event showcases some of ASEE’s best and brightest, including our national award winners. The lunch is complimentary for award winners and their guests. Others may attend for $50 advance registration or $60 on-site.
• Student Project Showcase and Poster Session
Exhibit Hall A, Minneapolis Convention Center
1:00 p.m. to 4:00 p.m.

New this year! Students from high school through graduate school will share their research, creative engineering designs, and maker-space projects in this special Exhibit Hall event.

DISTINGUISHED LECTURES

All distinguished lectures take place from 1:45 P.M. TO 3:15 P.M.

• DISTINGUISHED LECTURE: The Future is Brown and Black: Reimagining Our Relationship with Research

Educational Research and Methods Division
Room 211, Minneapolis Convention Center

For too long, researchers have hidden behind false notions of objectivity and neutrality to avoid holding themselves accountable for the harms committed in the name of research. However, as the racially centered events of the past two years have demonstrated, the time for accountability is now. Rather than reflect on past wrongs, the Year of Impact on Racial Equity gives us the opportunity to look forward.

We must and should reimagine a path forward for educational research. We must rethink several fundamental aspects of the research process: our roles as researchers, our relationship to various concepts (e.g. neutrality, objectivity, bias), even what research can and cannot do.

The purpose of this distinguished lecture is to begin a conversation on what a paradigmatic shift in engineering education research looks like. What does the path forward look like today? What does it look like in 10 years? In 20 years? Institutional change always starts with individuals, and we have an opportunity to move the field of engineering education research forward in ways that empower everyone.

Moderated by
Dr. Stephanie Cutler

Speaker:
Stephanie Masta
Purdue University

Stephanie Masta is an associate professor of curriculum and instruction at Purdue University, with courtesy appointments in the School of Engineering Education and the Department of American Studies in the College of Liberal Arts.

A leading scholar in the field of Indigenous education, Masta’s research spotlights the centrality of Indigenous education within curriculum studies through the development and use of Indigenous methodologies to study Indigenous student experiences in educational contexts. She has extended her work on critical and Indigenous methodologies to engineering educational spaces, where she studies the experiences of Brown and Black students in engineering classrooms.

Masta’s work in Indigenous education and engineering education has led to invited talks at institutions such as the University of Arizona, Iowa State University, the University of Colorado Boulder, Drexel University, the University of Michigan, and Clemson University. She also has authored many peer-reviewed journal articles and given more than 35 international, national, and regional presentations at Indigenous education, curriculum studies, engineering education, and educational research conferences. Masta currently leads two research projects, Connecting Identity and Place: Understanding Indigenous Graduate Student Experiences in STEM, funded by the Spencer Foundation, and the NSF-funded Identifying Marginalization and Allying Tendencies in Engineering Teams, on which she is a co-PI. She served as principal investigator on the Experiences of Native Women in Higher Education, funded by the Purdue University Susan Bulkeley Butler Research Fellowship, and Colonial Discourses: Challenging Dominant Narratives in US History Curricula, funded by the Purdue Research Foundation. Masta has authored many peer-reviewed journal articles, including articles in the high-impact journals Anthropology & Education Quarterly, International Journal of Qualitative Studies in Education, Teaching in Higher Education, and Studies in Engineering Education. She has written one book chapter on how American Indian students make sense of school success and coedited the book Ideating Pedagogy in Troubled Times: Approaches to Identity, Theory, Teaching, and Research.

Collectively, her scholarship speaks to a wide range of educators, researchers, and community members interested in the use of critical and Indigenous methodologies to understand racism and marginalization in educational spaces.
2022 ASEE ANNUAL CONFERENCE
CONFERENCE HIGHLIGHTS

• DISTINGUISHED LECTURE: The Trouble with Passion: How Searching for Fulfillment at Work Fosters Inequality

Liberal Education/Engineering & Society Division
Auditorium 2, Minneapolis Convention Center

In this talk, cosponsored by Community Engagement, LEES, and Equity, Culture & Social Justice, Erin Cech will outline the main arguments from her recent book exploring the passion principle and encourage engineering students, educators, and professionals to think through how inequities in success and bouncing back from failure develop from passion-seekers’ differential access to springboards and safety nets. “Follow your passion” is a popular mantra for career decision-making in the United States. Cech argues that this ubiquitous cultural narrative has a dark side: it can reinforce socioeconomic disadvantages and entrench occupational gender and race segregation when entwined with social biases about who fits in what fields, helping to reproduce an exploited, overworked white-collar labor force.

These findings have implications for cultural notions of “good work” popular in higher education and the US workforce and raise broader questions about what it means when becoming a dedicated labor force participant feels like an act of self-fulfillment.

Moderated by
Dr. Scott M. Ferguson

Speaker:

Dr. Erin A. Cech
University of Michigan

Erin Cech is an associate professor in the departments of sociology and mechanical engineering (by courtesy) at the University of Michigan. She was a postdoctoral fellow at the Clayman Institute for Gender Research at Stanford University and was on the faculty at Rice University.

Cech earned her PhD in sociology in 2011 from UC San Diego and undergraduate degrees in electrical engineering and sociology from Montana State University. Her research examining cultural mechanisms of inequality reproduction—especially through seemingly innocuous cultural beliefs and practices—has appeared in the Proceedings of the National Academy of Sciences, the American Journal of Sociology, and the American Sociological Review. Cech has been awarded best papers at ASEE conferences for work related to inequality, diversity, and exclusion in engineering and cultures of engineering. Her first book, The Trouble with Passion: How Searching for Fulfillment at Work Fosters Inequality (University of California Press), was released in fall 2021, and her coauthored book with Mary Blair-Loy, Misconceiving Merit: Paradoxes of Excellence and Devotion in Academic Science and Engineering (University of Chicago Press), is out in 2022.

Her research is funded by multiple grants from the National Science Foundation and has been covered by the New York Times, the Washington Post, CNN, Time, and the Harvard Business Review. In 2020, she was named one of Business Equality magazine’s 40 LGBTQ+ Leaders Under 40.

• DISTINGUISHED LECTURE: Queering STEM Culture in US Higher Education: Navigating Experiences of Exclusion in the Academy

Liberal Education/Engineering & Society Division
Auditorium 3, Minneapolis Convention Center

ASEE has taken on several diversity, equity, and inclusion (DEI) initiatives over the years. The current Year of Impact on Racial Equity is a case in point.

This distinguished lecture continues the conversation of justice and inclusion within higher education, particularly in the world of STEM.

The invited speakers are leading experts in the field of racial, ethnic, gender, LGBTQ+, and intersectional issues. They have held leadership positions in ASEE and in other institutions, where they have promoted engagement in application of their own research.

Kelly J. Cross, Stephanie Farrell, and Bryce Hughes will use their experience editing the book Queering STEM Culture in US Higher Education to bring powerful narratives of inclusion and exclusion from our own STEM postsecondary peers to the attention of ASEE. It is a bit unusual in that all three coeditors will be on stage, but we hope that the multiple standpoints will represent the values of diversity that ASEE members promote.

The speakers will reflect on existing challenges as well as offer guidance on becoming an ally.

Moderated by
Dr. Scott M. Ferguson
Speakers:

Dr. Kelly J. Cross  
*University of Nevada, Reno*  
Kelly J. Cross, assistant professor of chemical engineering at the University of Nevada Reno, is a culturally responsive practitioner, researcher, and educational leader. Her research interests include diversity and inclusion in STEM, identity construction, intersectionality, teamwork and communication skills, and educational assessment. Her teaching philosophy focuses on student-centered approaches such as problem-based learning and culturally relevant pedagogy. Cross’s complementary professional activities promote inclusive excellence through collaboration.

Dr. Stephanie Farrell  
*Professor and Chair of Experiential Engineering Education*  
*Rowan University*  
Stephanie Farrell is interim dean and professor and founding chair of the Experiential Engineering Education Department in the Henry M. Rowan College at Rowan University. She has contributed to engineering education through her work in inductive pedagogy, spatial skills, and inclusion and diversity. She has been honored by ASEE with several teaching awards, including the 2004 National Outstanding Teaching Medal and the 2005 Quinn Award for experiential learning. She was also a 2014–15 Fulbright Scholar in Engineering Education at Dublin Institute of Technology in Ireland.

Dr. Bryce E. Hughes  
*Montana State University–Bozeman*  
Bryce Hughes is an assistant professor of adult and higher education at Montana State University. In 2018, he published one of the first studies showing that LGBQ students are more likely to leave STEM fields than their heterosexual peers. Hughes holds a bachelor of science in general engineering from Gonzaga University, a master of arts in student development administration from Seattle University, and a PhD in education from UCLA. He has coauthored and/or facilitated Safe Zone-type trainings at two institutions in addition to ASEE and helped spearhead the establishment of an LGBT Resource Center at Gonzaga, one of the first located at a Catholic university. Before moving into a faculty role, Hughes oversaw a peer-mentoring program in diversity and multicultural affairs at Green River College and coordinated the LGBT Resource Center at Gonzaga.

**DISTINGUISHED LECTURE:** Meditations on the Words of a Black King: The Wicked Problem of Shallow Understanding  
*ASEE Committee on Diversity, Equity & Inclusion*  
*Room 101C, Minneapolis Convention Center*  
"Shallow understanding from people of good will is more frustrating than absolute misunderstanding from people of ill will."

These words were penned by the scholar, pastor, and activist Dr. Martin Luther King Jr. while sitting in a Birmingham city jail in 1963. His righteous indignation was on full display because he felt frustrated that the White people who expressed sympathy with his pursuit of justice were more of a hindrance to his efforts than the White people who were ardently against justice for Black people. King’s words still resonate with James Holly Jr. almost 60 years later, though the current circumstance is not entirely analogous. He finds his efforts, and those of many Black friends and colleagues, to actualize racial equity in engineering education are constrained greatly by “well-intentioned” and sympathetic colleagues of all races because anti-Black prejudice and internalized racism are not limited to White people.

In this address, Holly will discuss how shallow, superficial understanding of the contributing factors to racial inequity remains a grand challenge to racial equity in engineering education, and he will share his thoughts on the implications of this wicked problem for engineering teaching, research, and practice.

**Moderator:**  
Ms. Rachelle Reisberg

**Speaker:**  
Dr. James Holly Jr.  
*University of Michigan*  
Dr. James Holly Jr. is an assistant professor of mechanical engineering and core faculty member within the Engineering Education Research program at the University of Michigan. He earned a bachelor’s degree from Tuskegee University and a master’s degree from Michigan State University, both in mechanical engineering, and his doctorate in engineering education from Purdue University.

His research paradigm is shaped by his experiences growing up in a Black church within a Black city and later studying...
engineering at a Black institution, three spaces where Blackness is both normal and esteemed. As such, he sees his teaching, research, and service as promoting pro-Blackness, affirming the humanity and epistemic authority of Black people in engineering education.

Holly’s scholarship focuses on the ways disciplinary knowledge, such as mechanical engineering, reinforces racialized power; the role of culture and cognition in teaching and learning; and preparing pre-college engineering educators to identify and counteract racial inequity. He helped create the Equity, Culture, and Social Justice in Education Division within ASEE and serves on the editorial board for both the Journal of Engineering Education and the Journal of Pre-College Engineering Education Research.

**DISTINGUISHED LECTURE: 2021 Best PIC And Zone Papers**

**Room 208, Minneapolis Convention Center**

Please note: Best overall PIC and Zone papers are featured at the Tuesday Plenary.

**2021 BEST PIC AND ZONE PAPERS**

**Moderator:**
Dr. Christi L. Patton Luks

**PAPERS PRESENTED**

**2021 BEST PIC II PAPER WINNER:** Scaling Hands-On Learning Principles in Manufacturing through Augmented Reality Disassembly and Inspection of a Consumer Product

Ms. Emily Welsh, Massachusetts Institute of Technology
Ms. Dan Li, Massachusetts Institute of Technology
Prof. A. John Hart, Massachusetts Institute of Technology
Dr. John Liu, Massachusetts Institute of Technology

**2021 BEST PIC III PAPER WINNER:** Engage AI: Leveraging Video Analytics for Instructor-Class Awareness in Virtual Classroom Settings

Mr. Jeremy Stairs, University of Toronto
Mr. Raman Mangla
Mr. Manik Chaudhery
Mr. Janpreet Singh Chandhok
Dr. Hamid S. Timorabadi, University of Toronto

**2021 BEST PIC IV PAPER WINNER:** Exploring the Relationships between Acculturation Attitudes and Demographic Characteristics in Engineering Workplaces

Rohini Abhyankar, Arizona State University
Dr. Samantha Ruth Brunhaver, Arizona State University, Polytechnic campus

**2021 BEST PIC V PAPER WINNER:** Teaching in the Era of Covid 19—A Reinvented Course Project for an Ocean Engineering Course

Dr. Maija A. Benitz, Roger Williams University

**2021 BEST ZONE II PAPER WINNER:** Team Formation in the ECE Capstone Course and Studying Impact

Dr. Rachana Ashok Gupta, North Carolina State University at Raleigh
Greg A. Dunko

**2021 BEST ZONE III PAPER WINNER:** Correlation of Student Participation in Practice Exams and Actual Exam Performance

Dr. Antonette T. Cummings P.E., University of Wisconsin–Platteville

**2021 BEST ZONE IV PAPER WINNER:** Investigating Student Perceptions of Team-based Brainstorming During Conceptual Design: Challenges and Recommendations

Ahmed Osman, California Polytechnic State University, San Luis Obispo
Eric Cuellar, California Polytechnic State University, San Luis Obispo
Aimee Tai Chiem, California Polytechnic State University, San Luis Obispo
Ms. Christianna Bethel
Dr. Benjamin David Lutz, California Polytechnic State University, San Luis Obispo
• Distinguished Lecture: Renewable Energy Education, Training, and Outreach in the Midwest

Energy Conversion and Conservation Division
Auditorium 1, Minneapolis Convention Center

Moderator:
Dr. Matt Aldeman

Speaker:
Nick Hylla

Nick Hylla is the executive director of the Midwest Renewable Energy Association, where he works in partnership with organizations throughout the Midwest to advance renewable energy education and market development initiatives.

Hylla holds an MS degree in natural resource management, has more than 10 years of experience in nonprofit leadership, and serves as the principal investigator on two US Department of Energy cooperative agreements as part of the SunShot Initiative. These efforts, focused on reducing cost and increasing market penetration for solar PV systems, have supported the development of the Midwest Grow Solar Partnership and the Solar University Network.

• ASEE President’s Farewell Reception

6:00 p.m. to 7:30 p.m.
Ballroom A, Minneapolis Convention Center
Sponsored by Dassault Systèmes

Join your friends and colleagues as we say farewell to President Adrienne Minerick, welcome incoming President Jenna Carpenter and new ASEE Board members, and look forward to Baltimore, Maryland, site of the 2023 Annual Conference & Exposition.

Speakers:

Dr. Adrienne R. Minerick
Dean, College of Computing
Professor, Chemical Engineering; 
Michigan Technological University

Dr. Jenna P. Carpenter
Founding Dean and Professor of Engineering
Campbell University
ON-SITE MEMBERSHIP RENEWAL

RENEW AND SAVE!

Renew your membership online or at the Info Kiosk during* the 2022 Annual Conference and Exposition and get 22% off your membership dues**

CURRENT ANNUAL MEMBERSHIP DUES

<table>
<thead>
<tr>
<th>Category</th>
<th>USA $100, Canada/Mexico $100, International $114</th>
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* Between and including June 26-29, 2022; use promo code ASEE2022

** The discount does not apply to division dues or publication subscriptions.
DIVERSITY, EQUITY, AND INCLUSION SESSIONS

2022 ASEE ANNUAL CONFERENCE

SAFE ZONE ALLY TRAINING
All sessions held at Lakeshore A, Hyatt Regency Minneapolis

Level 1
Sun, June 26 1:15 p.m. to 2:45 p.m.
Level 2
Mon, June 27 1:45 p.m. to 3:15 p.m.
Level 3
Wed, June 29 8:00 a.m. to 9:30 a.m.

• Queerness in STEM Book Panel
Sunday, June 26, 1:15 p.m. to 2:45 p.m.
Lakeshore B, Hyatt Regency Minneapolis

• Diversity, Equity, and Inclusion: 100
Sunday, June 26, 3:00 p.m. to 4:30 p.m.
Lakeshore A, Hyatt Regency Minneapolis

• Best DEI Paper Award Finalists
Monday, June 27, 9:45 a.m. to 11:15 a.m.
Lakeshore A, Hyatt Regency Minneapolis

• Positionality 101: Reflecting on Positionality in your Research and Practice to Equity and Impact
Monday, June 27, 9:45 a.m. to 11:15 a.m.
Lakeshore B, Hyatt Regency Minneapolis

• ASEE Commission on Diversity, Equity, and Inclusion Annual Meeting & Roundtable
Monday, June 27, 11:30 a.m. to 1:00 p.m.
Room M100A, Minneapolis Convention Center

• Engaging with Racialized Privilege in the STEM Classroom to Advance Equity
Monday, June 27, 1:45 p.m. to 3:15 p.m.
Lakeshore B, Hyatt Regency Minneapolis

• Diversity, Inclusion, and Equity Activities in Engineering and Computer Science Classrooms: You Can Do It, We Can Help
Tuesday, June 28, 8:00 a.m. to 9:30 a.m.
Lakeshore C, Hyatt Regency Minneapolis

• Celebration of the Year of Impact on Racial Equity
Tuesday, June 28, 3:30 p.m. to 5:00 p.m.
Lakeshore A, Hyatt Regency Minneapolis

• Diversity, Equity, and Inclusion: 200
Wednesday, June 29, 8:00 a.m. to 9:30 a.m.
Lakeshore B, Hyatt Regency Minneapolis

• How to Become an Inclusive Leader
Wednesday, June 29, 11:30 a.m. to 1:00 p.m.
Lakeshore A, Hyatt Regency Minneapolis

Schedule subject to change. Please go to https://2022-asee.slayte.com/ for up-to-date information.
**DISTINGUISHED LECTURE:**
Meditations on the Words of a Black King: The Wicked Problem of Shallow Understanding

*Wednesday, June 29, 1:45 p.m. to 3:15 p.m.*
Room 101C, Minneapolis Convention Center

Moderated by Dr. Jeremi London

Speaker: Dr. James Holly, Jr., Assistant Professor of Mechanical Engineering, University of Michigan

**Additional activities of note:**

*Monday, June 27, 5:00 p.m. to 6:30 p.m.*
Exhibit Hall, Minneapolis Convention Center

During the Focus on Exhibits, there will be a meet-up for everyone involved in the YIRE Taskforce, as well as the students involved in the competition. Photos will be taken and anyone wishing to go to dinner together (informal) can meet and decide where to go from here.

*Tuesday, June 28, 11:30 p.m. to 1:00 p.m.*
Ballroom A, Minneapolis Convention Center

**Tuesday Plenary**

The best DEI paper from 2021 will be included in the Tuesday Plenary, along with the best PIC and Zone papers. The 2021 Best Diversity, Equity, and Inclusion Paper Winner: The Politics of Citation Practices in Engineering Education: A Citation Network Analysis of Intersectionality by Kristen Moore (University at Buffalo, The State University of New York), Nathan Johnson, and Walter Hargrove.

*Tuesday, June 28, 5:15 p.m. to 6:15 p.m.*
Exhibit Hall, Minneapolis Convention Center

During the Focus on Exhibits, there will be a book reading of Queer in STEM.

**Authors: Kelly Cross, Stephanie Farrell, Bryce Hughes**
PLEASE HELP ASEE IMPROVE MEMBER SERVICES.

• ASEE Member Feedback on New Website, Business, and Paper Management Systems

  Monday, June 27, 2022, 9:45 a.m. to 11:15 a.m. and 11:30 a.m. to 1:00 p.m.
  Ballroom B, Minneapolis Convention Center
  Tuesday, June 28, 2022, 1:45 p.m. to 3:15 p.m.
  Ballroom A, Minneapolis Convention Center
  Tuesday, June 28, 2022, 3:30 p.m. to 5:00 p.m.
  Ballroom A, Minneapolis Convention Center
  Wednesday, June 29, 2022, 8:00 a.m. to 9:30 a.m. and 11:30 a.m. to 1:00 p.m.
  Ballroom A, Minneapolis Convention Center

• ASEE Officer Feedback Session on New BASS App

  Monday, June 27, 1:00 p.m. to 1:45 p.m.
  Tuesday, June 28, 1:00 p.m. to 1:45 p.m.
  Wednesday, June 29, 1:00 p.m. to 1:45 p.m.
  Ballroom A, Minneapolis Convention Center
  Open to ASEE Division, Council, Zone, Committee, and Commission officers
TEST YOUR KNOWLEDGE FOR A CHANCE TO WIN AN IPAD!
Are you a movie buff? Flex your pop culture muscles with our college-themed trivia!

To play and check the trivia leaderboard, stop by the Liaison EngineeringCAS booth #823

Prizes include:
1st place - iPad
2nd place - Beats Wireless Headphones
3rd place - Yeti Travel Mug

Visit us to learn how our enrollment solutions can help your campus
• **ABET SESSION - Becoming a Program Evaluator Might Be for You!**

**Sunday, June 26 3:00 p.m. to 4:30 p.m.**
Room 101C, Minneapolis Convention Center

Each year, more than 2,000 academic administrators and faculty, industry and government officials, and technical professionals serve as ABET program evaluators, making initial accreditation recommendations and working together to ensure quality in technical education worldwide. This session provides information for prospective ABET volunteers and covers:

- ABET’s need for new volunteers
- The nature of program evaluator work
- What’s in it for you?
- Threshold requirements for service and the program evaluator selection process
- Training requirements
- The program evaluator “life cycle”

**Speaker:** Jennifer Brock, Associate Dean for Academics and Professor of Mechanical Engineering, University of Alaska Anchorage College of Engineering

• **ABET SESSION: What’s Happening at ABET in 2022 – 2023 ... an Information Session**

**Monday, June 27 1:45 p.m. – 3:15 p.m.**
Room 101C, Minneapolis Convention Center

This ABET-sponsored program will share current activities and news with engineering educators. If you are new to ABET accreditation or have programs that are seeking ABET accreditation for the first time, this session is for you. Topics include what types of programs are accredited, what the accreditation criteria and procedures are, who writes them, who serves as evaluators and how they are assigned to your program, who makes final accreditation decisions and how, how assessment tools are used and misused in the ABET process, and who ABET matters to (and why). Come ready with your questions and feedback for senior ABET representatives.

**Speakers:** Joseph L. Sussman, Ph.D., F.ASME, Chief Accreditation Officer, Chief Information Officer, ABET; Jane Emmet, Senior Director, Accreditation Operations, ABET

• **ABET SESSION: Foundations for Successful Program Assessment**

**Monday, June 27 3:30 p.m. to 5:00 p.m.**
Room 101C, Minneapolis Convention Center

This session provides an overview of the program assessment process, highlighting a few key elements of a successful and sustainable planning process. Learn components of, and how to organize, your assessment process to ensure efficient assessment and impactful results. Next, ask a question, listen, and learn alongside colleagues in an open discussion on best practices in program assessment.

**Speaker:** James Warnock, Professor and Founding Chair, School of Chemical, Materials, and Biomedical Engineering, University of Georgia, and Adjunct Director of Professional Offerings, ABET

• **ABET SESSION: How to Lead the Preparation for an Onsite Visit**

**Tuesday, June 28 3:30 p.m. to 5:00 p.m.**
Room 101C, Minneapolis Convention Center

Leading the institutional planning and execution for an onsite ABET visit involves creating an infrastructure of support from many groups of stakeholders. Best practices from the viewpoints of both Program Evaluators and institutional representatives will be of interest to institutional representatives and others preparing for onsite visits.

**Speaker:** ABET Engineering Accreditation Commission and Engineering Technology Accreditation Commission Leadership
• Engineering Culture Roundtables

Sun. June 26, 2022 1:15 p.m. to 2:45 p.m.
Ballroom B, Minneapolis Convention Center

Mon. June 27, 2022 1:45 p.m. to 3:15 p.m.
Ballroom B, Minneapolis Convention Center

Tue. June 28, 2022 1:45 p.m. to 3:15 p.m.
Ballroom B, Minneapolis Convention Center

Wed. June 29, 2022 8:00 a.m. to 9:30 a.m.
Ballroom B, Minneapolis Convention Center

In the broad field of engineering, do our attitudes and behavioral characteristics—our culture—best serve our core mission of solving problems for our world and for our society? Additionally, do the practices and skills we develop in our students place greater importance on some information than others? Given the changing forces influencing our world and society, should we revisit the practices and skills of valuing and using information? Should we revisit design and optimization processes so that our engineered solutions prove sustainable? Roundtables will be facilitated to explore the Strengths, Opportunities, Aspirations, and Results (SOAR) of our engineering culture. As Ray McDermott noted in 2006, “Culture is not a past cause to a current self. Culture is the current challenge to possible future selves.” Join these roundtable discussions to participate in defining our future selves.
With engineering, physical sciences, computer science, and mathematics all in one college, the University of Minnesota Twin Cities College of Science and Engineering is uniquely positioned to address some of the most important issues of our time.

cse.umn.edu
ASEE would like to thank Adrienne Minerick for her contributions as President 2021–2022
• Teaching with MATLAB and Simulink Using Your Learning Management System (LMS)

**Sunday, June 26, 1:15 p.m. to 2:45 p.m.**
Room 101A, Minneapolis Convention Center

Presented by MathWorks

**Speakers:** Jeffrey Alderson, Online Learning Product Marketing; Gen Sasaki, Customer Success Engineer; and Dr. Hoda Sharifi

In this session, attendees will get hands-on experience with tools for teaching with MATLAB and Simulink within a Learning Management System (LMS) from the perspective of both learners and instructors. This session is applicable to any instructor who is currently teaching, considering, or planning to teach an academic topic with MATLAB & Simulink at the secondary, undergraduate, or graduate academic level. Attendees will be invited to enroll in an LMS-based course that showcases MathWorks teaching offerings prior to the session. They will be able to try and explore self-paced training content and autograded MATLAB-based assignments as well as other MathWorks cloud-based tools for teaching and learning. In addition, all attendees will leave the session with access to resources, including a copy of the workshop course, courseware, examples, and online training, to help increase engagement of their students in courses.

Attendees will learn how to:

- Combine instructor-authored content with MATLAB teaching tools
- Assign off the shelf, self-paced learning content for teaching MATLAB skills
- Integrate labs, courseware, and textbooks authored by MATLAB power users
- Assess student learning with automated assessments using MATLAB Grader
- Report on learner progress in the LMS gradebook for MATLAB and Simulink tools

• Applications of the Analog Discovery Board to Upper-level Electrical Engineering Courses

**Sunday, June 26, 1:15 p.m. to 2:45 p.m.**
Room 101B, Minneapolis Convention Center

Presented by Digilent

**Speakers:** Dr. Cory J. Prust and Dr. Steven Holland, Department of Electrical Engineering and Computer Science, Milwaukee School of Engineering

This workshop explores creative ways to utilize the Analog Discovery to provide students with hands-on experimentation with more advanced concepts typical of upper-division electrical engineering courses. Unique approaches utilize the broad suite of measurement tools on the Analog Discovery platform. Demonstrations include applications in transmission lines, signals and systems, analog electronics, and communication system theory.

• Engineering a Better Engineering Education

**Sunday, June 26, 3:00 p.m. to 4:30 p.m.**
Room 101B, Minneapolis Convention Center

Presented by Texas A&M Engineering

**Speakers:** Prof. Harry A. Hogan, Senior Associate Dean and Professor of Mechanical Engineering; Prof. Tracy Anne Hammond, Director, Institute for Engineering Education and Innovation, and Professor of Computer Science and Engineering

Texas A&M University has a reputation for providing students with an innovative learning environment and engineering education. The Institute for Engineering Education & Innovation (IEEI) supports the advancement of scholarly work and the pedagogy of engineering education. This session will highlight the collaborations, initiatives, programs, and research that drive engineering education at all levels, creating a transformative and inclusive environment for students, educators, and researchers.
• Bringing Engineering Learning to Life

**Monday, June 27, 9:45 a.m. to 11:15 a.m.**  
**Room 101A, Minneapolis Convention Center**  
Presented by Wiley

_Speakers: Ryan Barlow, Lead Content Author—Mechanical Engineering; Adrian Rodriguez, Lecturer, University of Texas at Austin; Yasaman Adibi_

In this session, we showcase how we bring engineering content to life with animations, learning questions, and auto-graded assessments on the innovative and engaging zyBooks platform and share opportunities for research collaborations. Experience how interactivity has been added to trusted and well-known engineering textbooks in the form of animations, learning questions, and auto-graded assessments on the innovative and engaging zyBooks platform. See how we can help your students succeed and support your education research.

• Transitioning to Fusion

**Monday, June 27, 9:45 a.m. to 11:15 a.m.**  
**Room 101B, Minneapolis Convention Center**  
Presented by Autodesk

_Speakers: Dan Banach, Senior Technical Program Manager, and Fabiola Fiuza Clayton, Education Program Manager_

Autodesk’s Fusion 360 is the world’s first cloud-based 3D CAD, CAM, and CAE integrated platform. In this session we will explore how to leverage Fusion 360 to introduce your students to connected workflows and integrated manufacturing. From cloud-based design management to AR, you will learn how to use tools and techniques to teach for the future of design and manufacturing.

• Using the FE Exam for Effective Outcomes Assessment

**Monday, June 27, 11:30 a.m. to 1:00 p.m.**  
**Room 101A, Minneapolis Convention Center**  
Presented by NCEES

_Speakers: Bobby Crawford, Professor of Mechanical Engineering, Quinnipiac University; John W. Steadman, Dean Emeritus, University of South Alabama_

This session highlights best practices in outcomes assessment using the NCEES Subject Matter Reports to provide participants with information about the strengths and weaknesses of students in a program. The presentation will specifically focus on using the FE results as one tool in assessing the ABET student outcomes. Attend and learn more about how the FE exam can be an effective tool for your program.

• Engineering for US All: A National Pilot Program for High School Engineering

**Monday, June 27, 11:30 a.m. to 1:00 p.m.**  
**Room 101B, Minneapolis Convention Center**  
Presented by the University of Maryland

_Speakers: Darryll J. Pines, President, University of Maryland College Park; Stacy S. Klein-Gardner, Adjunct Professor, Vanderbilt University; Kevin Calabro, Director, University of Maryland College Park; Adam Carberry, Associate Professor, Arizona State University; and Katey Shirey, eduKatey STEAM Education_

The panelists will provide an overview of the NSF-funded Engineering for US All (e4usa) program and update the community on the progress and status of this effort. The session will conclude with roundtable discussions in which the speakers will talk about partnership opportunities and seek guidance from attendees. Come ready to learn and participate!

• Edge Machine Learning in the Classroom

**Monday, June 27, 1:45 p.m. to 3:15 p.m.**  
**Room 101B, Minneapolis Convention Center**  
Presented by Edge Impulse

_Speaker: Shawn Hymel, Senior DevRel Engineer, Edge Impulse_

Machine learning is a fast-growing field, and recent advances in hardware and software make it possible to run many deep learning algorithms on embedded systems. As a result, machine learning is expanding beyond just advanced computer science curricula and into physical devices to help solve unique problems in medicine, agriculture, industrial maintenance, and consumer electronics. This session will provide a hands-on demonstration of Edge Impulse, the leading-edge machine learning studio that helps you collect
and analyze data, train machine learning algorithms, and deploy them to a variety of embedded systems. We will also discuss how edge machine learning can be integrated into curriculum and ask attendees for feedback on how Edge Impulse can be improved as a teaching tool.

• **Impact Driven Entrepreneurship**

**Monday, June 27, 3:30 p.m. to 5:00 p.m.**

**Room 101B, Minneapolis Convention Center**

Presented by Texas A&M Engineering

**Speakers:** Magdalini Z. Lagoudas, Executive Director, Industry & Nonprofit Partnerships, Engineering Academic and Student Affairs; Rodney Boehm, Director of Engineering Entrepreneurship

Today, engineering students are required to receive an education that has real impact on their future careers, lives, and society. It must do more than just provide skills and knowledge acquired in a classroom setting. The ideal education involves practice and application as well as university-level support to unify curricular, co-curricular, and research experiences. This experience develops a creative, yet strategic, mind-set which translates to tangible, societal value—whether in an established company, government agency, or the implementation of a start-up. This session will describe the continuum of courses, programs, and research-inspired entrepreneurship being implemented at Texas A&M University that is driving engineering students at all levels to create impact in their entrepreneurial education.

• **SPONSOR TECH SESSION:**

**Monday, June 27, 3:30 p.m. to 5:00 p.m.**

**Room 101A, Minneapolis Convention Center**

Presented by Gradescope by Turnitin

• **A New Hands-On Student Control System Kit with Complete Course**

**Tuesday, June 28, 8:00 a.m. to 9:30 a.m.**

**Room 101A, Minneapolis Convention Center**

Presented by STMicroelectronics

**Speakers:** William J. Kaiser, Professor of Electrical Engineering, University of California Los Angeles; Marco De Fazio, STMicroelectronics, Geneva, Switzerland

Control systems instruction has never been more urgent or rewarding due to the wide range of new product development challenges from autonomous surface and air vehicles to medical robotics. While control-systems education is central to the engineering curriculum, unlike other disciplines, it has not supported individual student hands-on design as a result of the lack of physical electromechanical systems. A fundamental advance has been made introducing the Rotary Inverted Pendulum, the Edukit system, integrating precise digital motor actuator and digital sensor systems. The control system is a complete kit integrating a real-time, open-source solution operating on an STMicroelectronics STM32 processor. Straightforward MATLAB and Octave tools are provided for students to visualize and configure the real-time control system. The low cost Edukit is now commercially available worldwide and can be purchased and applied by individual students or used to equip instructional laboratories. Edukit also includes a fundamental breakthrough in digital actuator design that has solved a long-standing problem associated with rate-limited actuators in control systems. This provides precise linear and also programmable actuator transfer function performance. A critical capability of the Edukit system includes a Real Time Control System Workbench. This provides real-time display of system response to stimuli that may be selected as well as control system configuration. Control system characterization includes direct measurement of the critical sensitivity functions. This presentation will describe the Edukit system and a new undergraduate curriculum based on an open-source and complete set of instructional tutorials and systems. This has been successful in course offerings for students from entry level, with a first introduction to control systems, to upper division students with advanced control-system course experience. With the new Edukit, a complete course spanning introduction to control systems with a design sequence from stable to unstable plants and with Output Feedback and Full State Feedback. This presentation will demonstrate the Edukit system, describe its complete set of online tutorials providing a full range of student guidance and development examples, and describe the exceptionally successful results of remote and in-person courses in 2021 and 2022 with formal student evaluation results and the open-source guidance resources available for instructors and students.
• Shifting Expectations for Engineering Education in a Post-2020 World: Student and Faculty Perspectives

Tuesday, June 28, 8:00 a.m. to 9:30 a.m.
Room 101B, Minneapolis Convention Center
Presented by McGraw Hill

Speakers: Carlotta Berry, Chair and Professor of Electrical and Computer Engineering, Rose-Hulman Institute of Technology; Conrad Zapanta, Teaching Professor of Biomedical Engineering, Carnegie Mellon University; Joan Wawire, University of Houston

Join McGraw Hill and ASEE’s Student Division for an interactive panel discussion where faculty members and students discuss how their expectations have changed as a result of the pandemic. It’s no secret that 2020 upended and challenged most of the practices we were accustomed to following. Now that we’re returning to some semblance of normalcy, how do we evolve to incorporate the ideal blend of older and newer approaches? This discussion will cover everything from mental health concerns to classroom management as well as the tension between preserving the inclusion of empathy and humanity in engineering education without unduly burdening faculty or encouraging students to take advantage of flexible policies. Get ready to tackle tough topics and to provide your own opinions and solutions!

• What eResources Would Help Your Students Learn Mechanics?

Wednesday, June 29, 8:00 a.m. to 9:30 a.m.
Room 101B, Minneapolis Convention Center
Presented by McGraw Hill

Join McGraw Hill and engineering mechanics faculty for a breakfast discussion on how eResources can be used to help advance student learning and engagement. What does the engagement need to look like and how does that impact the cost-benefit analysis on an instructor’s time? How could automated tools be used to accomplish the following:
• Create more student engagement
• Make difficult topics accessible to students by providing practice opportunities
• Free-up some of the instructor’s time to spend helping students

Breakfast will be served. Space is limited. Please RSVP: https://info.mheducation.com/McGraw_Hill_Breakfast_ASEE_RSVP.html

• Using the FE Exam for Effective Outcomes Assessment

Tuesday, June 28, 1:45 p.m. to 3:15 p.m.
Room 101A, Minneapolis Convention Center
Presented by NCEES

Speakers: Bobby Crawford, Professor of Mechanical Engineering, Quinnipiac University; John W. Steadman, Dean Emeritus, University of South Alabama

This session highlights best practices in outcomes assessment using the NCEES Subject Matter Reports to provide participants with information about the strengths and weaknesses of students in a program. The presentation will specifically focus on using the FE results as one tool in assessing the ABET student outcomes. Attend and learn more about how the FE exam can be an effective tool for your program.
### ASEE Merchandise

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- Sizes: S, M, L, XL, 2XL

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**125 Caps**
- $5

**125 Visors**
- $5

**125 Towel**
- $20

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- $10

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- $5

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- $10

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- $5

**Umbrella**
- $10

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- $10

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- $5

**Wall Charger w/ 2 Ports**
- $5

**ASEE ED**
- $10

### At the ASEE Store

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**Schedule subject to change. Please go to**
https://2022-asee.slayte.com/
for up-to-date information.

**GRAB YOUR GEAR!**
JOIN ASEE PRESIDENT, **ADRIENNE MINERICK**, DEAN, COLLEGE OF COMPUTING PROFESSOR, DEPARTMENT OF CHEMICAL ENGINEERING MICHIGAN TECHNOLOGICAL UNIVERSITY

**DR. LAURA YIN**, ACTING ASSOCIATE DEAN COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY MINNESOTA STATE UNIVERSITY, MANKATO

**W. SAMUEL EASTERLING**, JAMES L. AND KATHERINE S. MELSA DEAN OF ENGINEERING IOWA STATE UNIVERSITY COLLEGE OF ENGINEERING

**AT THE RIBBON CUTTING CEREMONY**

Monday, June 27th, 5PM Exhibit Hall B&C, Minneapolis Convention Center
2022 ASEE ANNUAL CONFERENCE

INDUSTRY DAY SESSIONS

• INDUSTRY DAY

Tuesday, June 28, 2022

CMC Breakfast – 8:00 a.m. to 9:30 a.m.
Exhibits – 9:45 a.m. to 11:15 a.m.
Industry Day Plenary – 11:30 a.m. to 1:00 p.m.
CMC Session I – 1:45 p.m. to 3:15 p.m.
CMC Session II – 3:30 p.m. to 5:00 p.m.
Exhibit Social – 5:00 p.m. to 6:00 p.m.
Council Reception – 7:00 p.m. to 8:30 p.m.

• INDUSTRY DAY: Corporate Member Council Networking Breakfast

Tuesday, June 28, 8:00 a.m. to 9:30 a.m.
Lakeshore A, Hyatt Regency Minneapolis

• Tuesday Plenary

Tuesday, June 28, 11:30 a.m. to 1:00 p.m.
Ballroom A, Minneapolis Convention Center

Join friends and colleagues at this special session moderated by ASEE President-Elect Jenna P. Carpenter featuring the Corporate Member Council’s keynote speaker, winners of the best overall PIC, Zone, and Diversity, Equity, and Inclusion papers, and ASEE’s 2022 Outstanding Teaching Award recipient.

Keynote Speaker: Bina Venkataraman

• INDUSTRY DAY TECHNICAL SESSION I: Changing the Equation for Diversity, Equity, Inclusion, and Access Through Academia/Industry Collaboration

Tuesday, June 28, 1:45 p.m. to 3:15 p.m.
Room 101D, Minneapolis Convention Center

Moderator: P.J. Boardman, Global Education, MathWorks, Chair-Elect ASEE CMC
Panel: Stacy Klein-Gardner, e4usa Co-Director, YES Lead

Engineering and Director of Partnerships; Renatta Tull, Vice-Chancellor of Diversity, Equity, and Inclusion, UC Davis; Melinda Higgins, Director of STEM Programs, U.S. Dept. of Energy, Office of Nuclear Energy; Dr. Jenna Carpenter, Dean, Campbell University, President-Elect ASEE; Boz Bell, Public Sector Sales, HP

How do we change the equation to increase diversity, equity, inclusion, and access in engineering? Join this panel of thought leaders in academia and industry to explore real cases and success stories to show how academia/industry collaboration can open up access to encourage greater diversity, equity, and inclusion in engineering to prepare students for the jobs of tomorrow.

• Climate Change Panel CMC Session 2: Tackling Climate Change Through Education, Research, and Industry Collaboration

Tuesday, June 28th 3:30 p.m. to 5:00 p.m.
Room 101D, Minneapolis Convention Center

Moderator: Stephanie Harrington
Panel: Mary Gilliam, Staff Researcher at GM R&D; Lisa Kempler, Research and Geoscience Strategist, MathWorks; Michael Milligan, CEO, ABET; Mark S. Smith, Program Manager, Technology Integration, Vehicle Technologies Office, U.S. Department of Energy

How do educators and industry approach climate change through education, research, and collaboration with industry? Join this session to hear specific case studies and examples of best practices and success stories in addressing the many issues around climate change.

• Institutional Council Reception (by invitation only)

Tuesday, June 28, 7:00 p.m. to 8:30 p.m.
Seasons, Minneapolis Convention Center

Social event for the Corporate Member Council, Engineering Research Council, Engineering Technology Council, and Engineering Deans Council

Schedule subject to change. Please go to https://2022-asee.slayte.com/ for up-to-date information.
ASEE would like to acknowledge the generous support of our premier corporate partners. ASEE is proud to work closely with these strategic partners in pursuit of a shared vision to ensure, advance, and promote excellence in all aspects of engineering and engineering technology education.

Join these innovative engineering and technology organizations in showcasing a commitment to furthering excellence in engineering education—become an ASEE annual conference sponsor today!

For more information, please visit [www.asee.org](http://www.asee.org) or contact Ashley Krawiec, Manager of Event Sales, at [202-649-3838](tel:2026493838) or [a.krawiec@asee.org](mailto:a.krawiec@asee.org)
ASEE would like to thank the following sponsors for their generous support of the 2022 ASEE Annual Conference. Thank you for your commitment to furthering excellence in engineering and engineering technology education.

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**MINNESOTA STATE UNIVERSITY, MANKATO**  
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COLLEGE OF Science & Engineering
UNIVERSITY OF MINNESOTA
2022 ASEE ANNUAL CONFERENCE
REGISTRATION INFORMATION AND FEES

Included in Your Registration:

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COVID-19 Requirements

Attendees must be vaccinated and have at least one booster shot and are reminded of their obligation under the Society’s Code of Ethics when asked to attest to this status. Unvaccinated persons may attend provided they wear a face mask throughout the conference except when actively eating or drinking. All individuals are welcome to wear a face mask per their health status and comfort level.

*K-12 Teachers

K-12 Teacher rate of $250 applies to the entire conference. Please email conferences@asee.org to complete your registration.

Note: School ID is required.

**Industry Day

The industry day rate is only available to members of industry who otherwise would not attend the ASEE Annual Conference and is valid for Tuesday, June 28, 2022 only. ASEE members/(co)-authors are not eligible.

Non-member Registration Rate

Please be advised that the non-member professional rate does not include ASEE membership.

Cancellation Policy

Registration and ticket cancellations must be made in writing and must be received by ASEE Annual Conference via E-mail: conferences@asee.org on or before Monday, June 13, 2022.

All cancellations made before June 13, 2022 will incur a $25 processing fee. There are no refunds after June 13, 2022.

Americans with Disabilities Act (ADA)

Registrants with special needs who participate in our conference will be accommodated to the fullest extent possible. If you need special arrangements, please advise us at the time you register at conferences@asee.org.
### 2022 ASEE ANNUAL CONFERENCE
### 2022 ASEE PROGRAM CHAIRS

ASEE would like to acknowledge and thank the 2022 ASEE Program Chairs for their tireless efforts and dedication to our organization.

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<tr>
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<td>Aerospace Division</td>
<td>Tracy L. Yother</td>
<td>Purdue University at West Lafayette</td>
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<tr>
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<td>Rachel Mosier</td>
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<td>Youngmi Kim</td>
<td>University of Wisconsin–River Falls</td>
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<tr>
<td>College Industry Partnerships Division</td>
<td>Charles E. Baukal Jr.</td>
<td>John Zink Hamworthy Combustion</td>
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<td>Community Engagement Division</td>
<td>Simon Thomas Ghanat</td>
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<td>Computers in Education Division</td>
<td>Steven F. Barrett</td>
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<td>Mudasser Fraz Wyne</td>
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<td>Nicholas Tymvios</td>
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<td>Kerri Poppler James</td>
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<tr>
<td>Design in Engineering Education Division</td>
<td>Corey T. Schimpf</td>
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<tr>
<td>Educational Research and Methods Division</td>
<td>Stephanie Cutler</td>
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<td>Amardeep Kaur</td>
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<td>Matt Aldeman</td>
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<td>Elizabeth Cady</td>
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<td>Engineering Design Graphics Division</td>
<td>Abayomi Joseph Ajayi-Majebi</td>
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<tr>
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<td>Katie Leanne Basinger</td>
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<td>Alison J. Kerr</td>
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<td>Engineering Leadership Development Division</td>
<td>Cindy Rottmann</td>
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<td>Engineering Physics and Physics Division</td>
<td>Robert A. Ross</td>
<td>University of Detroit Mercy</td>
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<td>Engineering Technology Division</td>
<td>Amitabha (Amit) Bandyopadhyay</td>
<td>State University of New York, College of Technology at Farmingdale</td>
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<tr>
<td>Entrepreneurship &amp; Engineering Innovation Division</td>
<td>Sandra Furnbach Clavijo PE</td>
<td>Stevens Institute of Technology</td>
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<td>Environmental Engineering Division</td>
<td>David V.P. Sanchez</td>
<td>University of Pittsburgh</td>
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### 2022 ASEE ANNUAL CONFERENCE
### 2022 ASEE PROGRAM CHAIRS

ASEE would like to acknowledge and thank the 2022 ASEE Program Chairs for their tireless efforts and dedication to our organization.

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<td>Stephanie Masta</td>
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<td>Robby Sanders</td>
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<td>Homero Murzi</td>
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<td>Lisa Bosman</td>
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<td>Herbert L. Hess</td>
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<td>Sylvia Jons</td>
<td>Institute of International Education</td>
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<td>Sean Ferguson</td>
<td>University of Virginia</td>
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<tr>
<td>Manufacturing Division</td>
<td>Aditya Akundi</td>
<td>University of Texas Rio Grande Valley</td>
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<td>Eliza Gallagher</td>
<td>Clemson University</td>
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<tr>
<td>Mechanical Engineering Division</td>
<td>Anna K.T. Howard</td>
<td>North Carolina State University at Raleigh</td>
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<tr>
<td>Mechanics Division</td>
<td>Phillip Cornwell</td>
<td>Rose-Hulman Institute of Technology</td>
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<td>Alyson Grace Eggleston</td>
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<td>Saint Joseph's University</td>
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<td>Lynn A. Albers</td>
<td>Hofstra University</td>
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<tr>
<td>New Engineering Educators Division</td>
<td>Ashish D. Borgaonkar</td>
<td>New Jersey Institute of Technology</td>
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<td>Robert Kidd</td>
<td>State University of New York Maritime College</td>
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<td>Pre-College Engineering Education Division</td>
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<td>Utah Valley University</td>
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<td>Student Division</td>
<td>Yashin Brijmohan</td>
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<td>Benjamin Kwasa</td>
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<td>Philip J. Regalbuto</td>
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<tr>
<td>Women in Engineering Division</td>
<td>Kristi J. Shryock</td>
<td>Texas A&amp;M University</td>
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Tips for Inclusive Networking During the COVID Pandemic

Decisions to gather for the ASEE annual conference comes with a blend of emotions and subsequent personal decisions. Concerns surrounding networking are a source of anxiety for many. In the spirit of inclusivity and empathy, we offer a few tips to keep in mind as we navigate this new normal.

KNOW YOUR BOUNDARIES
• Reflect on and determine your boundaries for in-person interactions.
• When you check-in, you’ll be able to choose a red circle, yellow square, or blue heart dot sticker for your nametag to reflect your social distancing preferences. (see sticker code below)

CHECK THE STICKER.
• Take note of the color and shape of the sticker on people’s name tags and honor people’s choice.
• Remember that a genuine smile is a universal gesture for expressing excitement in lieu of other forms of engagement (handshake, hug, etc.)

IT’S OKAY TO SAY, “I WISH I COULD.”
• Use this shared language if you struggle with determining how to respond to an uncomfortable request for a handshake, dinner invitation, etc.
• On the other hand, if someone uses this expression, there is no need to cajole them if their boundaries prevent them from further engagement.

RESIST THE URGE TO ASK
• If someone is wearing a mask or practicing social distancing, you don’t need to ask why.
• Some individuals may need to, or choose to, continue to wear a mask. They have the right to choose to wear masks in public even when state or local masking mandates are not active. Please respect their choice to wear masks to protect themselves, their family and communities.

PRACTICE RADICAL EMPATHY!
• One way to practice empathy is by using your words and actions to acknowledge that we all have different levels of comfort.

CONTACT STICKER CODE

- Blue Hearts = Contact Ok
- Yellow Square = Elbow Bumps Ok
- Red Circle = No contact
Schedule subject to change. Please go to https://2022-asee.slayte.com/ for up-to-date information.
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2022 ASEE ANNUAL CONFERENCE
FUTURE ASEE ANNUAL CONFERENCES

2023
June 25 – 28
BALTIMORE, MARYLAND

2024
June 23 – 26
PORTLAND, OREGON

2025
June 22 – 25
MONTREAL, QUEBEC, CANADA

2026
June 21 – 24
CHARLOTTE, NORTH CAROLINA
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- 6th in Graduate Program (Among Public Institutions) (U.S. News & World Report, 2023)

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