ASC21

AIChE Annual Student Conference

HYBRID

November 5-8 | Boston, MA
November 13-14 | Virtual

Make your dreams of the future into a reality.

Expand your horizons, personally and professionally.

At Evonik, we don't believe in starting out small. No matter if you dream of discovering a scientific breakthrough, or one day commanding the board room, Evonik has a variety of programs that are designed to build the foundation of your career. Explore our opportunities available for recent graduates to kick-start their career:

- **International Professional Rotational Enrichment Program (IPREP)** - This two-year long international program is comprised of three rotations that span business lines, sites, and job functions. Two rotations will be based in North America, and one rotation will be abroad. During the program, there are endless opportunities for recent graduates to further develop skills and build strong relationships within Evonik.
- **North America Rotational Engineering Program** - Evonik's domestic rotational engineering program is structured to give recent engineering graduates a variety of experiences at two different sites in North America over the span of two years. At these sites, the rotational engineers gain exposure to multiple aspects of engineering while providing value-added support.
- **Process Technology & Engineering Program** - Newly hired engineers in Evonik's Process Technology & Engineering Program will begin in a general development period to strengthen a variety of their engineering skills. After this initial development period, engineers will rotate through focused development opportunities across multiple departments within our Technology & Engineering group. These experiences help strengthen early career engineering development and better prepare engineers for their next roles at Evonik.

Discover our **#HumanChemistry** and apply today on **careers.evonik.com**

EVONIK
Leading Beyond Chemistry

2021 ASC CONTENTS

A Note on Sustainability at AIChE Meetings

AIChE constantly reviews the materials used at and produced for Meetings in terms of sustainability. Every attempt is made to use sustainable products within the economic framework of the meeting. Specific items may include the use of recycled or FSC certified papers, environmentally friendly inks and solvents, use of electronic (pdf) instead of printed materials, limiting the quantities produced and use of production facilities closer to the meeting site.

2021 ASC WELCOME

AIChE®, the Northeastern University and the Executive Student Committee would like to welcome you to Boston and to the 2021 Annual Student Conference!

BADGES AND ON-SITE REGISTRATION

Hynes Convention Center, Exhibit Hall D

Friday, November 5
3:00 PM - 7:00 PM

Saturday, November 6
7:00 AM - 5:00 PM

Sunday, November 7
8:00 AM - 5:00 PM

Be sure to wear your badge at all times — it is your ticket to all Student Conference events and the AIChE Annual Meeting.

SPECIAL THANKS

Annual Student Conference Hosts
Northeastern University
Executive Student Committee

Student Chapters Committee
Stephen Martin, *Chair*
Courtney Pfluger, *1st Vice Chair*
Ryan Snyder, *2nd Vice Chair*
Stephanie Loveland, *Past Chair*

Download the 2021 Annual Student Conference App to Navigate the Event like a Pro

Scan the QR code to quickly find.

Search for "AIChE Events" and download from the App Store or Google Play.

Download on the App Store

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MEETING POLICIES + NOTICES

Recording & Photography Policy

AIChE Meetings are one of the primary ways the Institute fulfills its mission to advance the development and exchange of relevant knowledge. The content presented at this event is the property of the presenters and the firms where they work. Recording of sessions or taking photos of slides is strictly prohibited.

General Photography Notice

Sessions and events at the meeting are being photographed by a professional photographer. These photos will be used to illustrate articles in CEP Chemical Engineering Progress® Magazine, on the AIChE website and in promotional materials for future Meetings. By registering for this conference, you consent to your likeness being used for such purposes without compensation and release AIChE from any liability on account of such usage.

Code of Conduct

All Annual Meeting attendees, volunteers, and staff are expected to abide by the AIChE Code of Conduct. Read the full **Code of Conduct**.

Code of Ethics

All Annual Meeting attendees, volunteers, and staff are expected to abide by the AIChE Code of Ethics. Read the full **Code of Ethics**.

AIChE Equity, Diversity, and Inclusion Statement

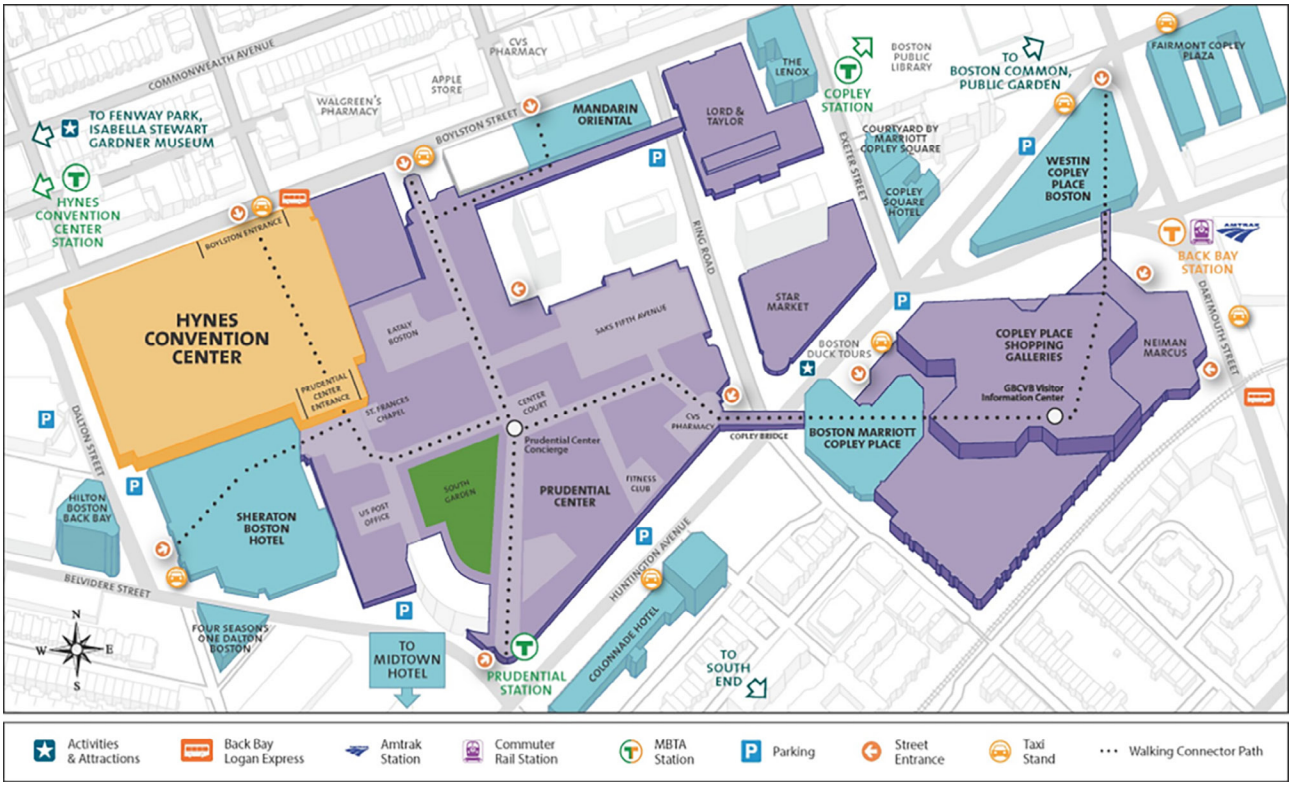
AIChE is committed to promoting a fair, just, and equitable profession and society. **Read the full statement**.

Health and Safety

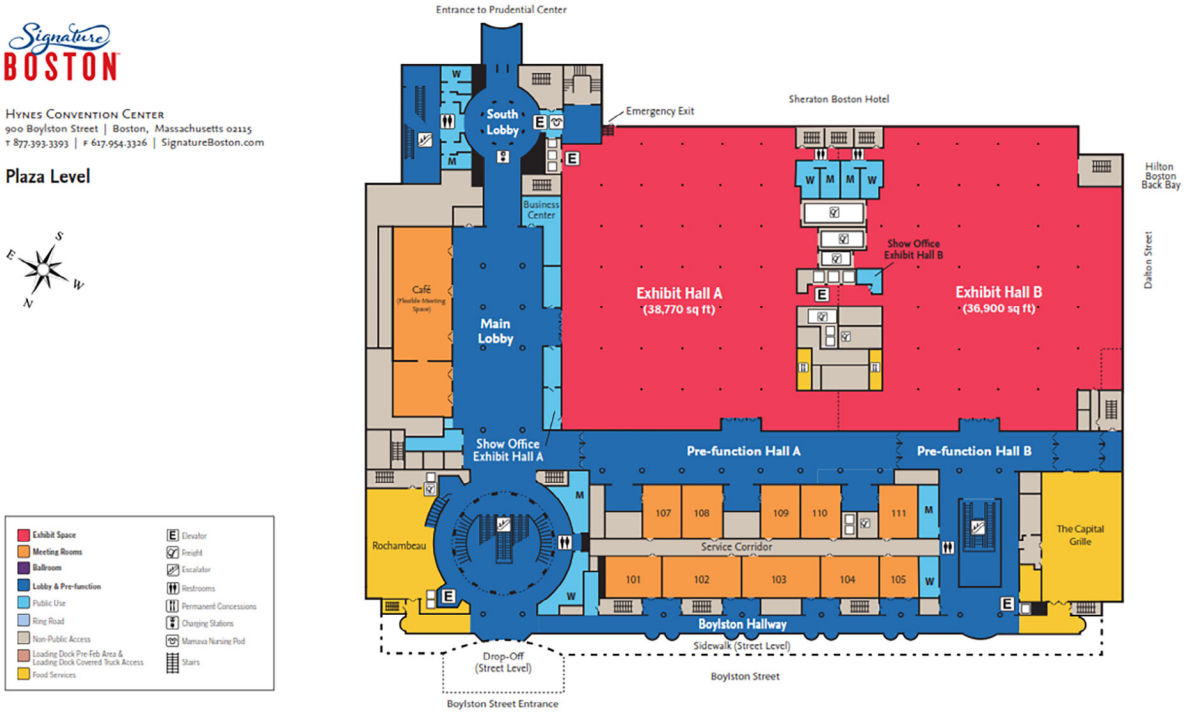
In accordance with guidelines and regulations outlined by the U.S. Center for Disease Control, the City of Boston, and the John B. Hynes Memorial Convention Center, the Annual Meeting has implemented a set of safety protocols to keep attendees safe. For more information on this, please consult the **Meeting FAQ**.

HYNES CONVENTION CENTER FLOOR PLANS

HYNES COMPLEX MAP



PLAZA LEVEL



HYNES CONVENTION CENTER FLOOR PLANS

SECOND LEVEL

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900 Boylston Street | Boston, Massachusetts 02115
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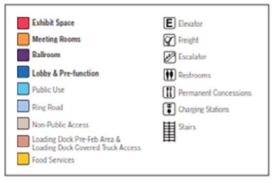
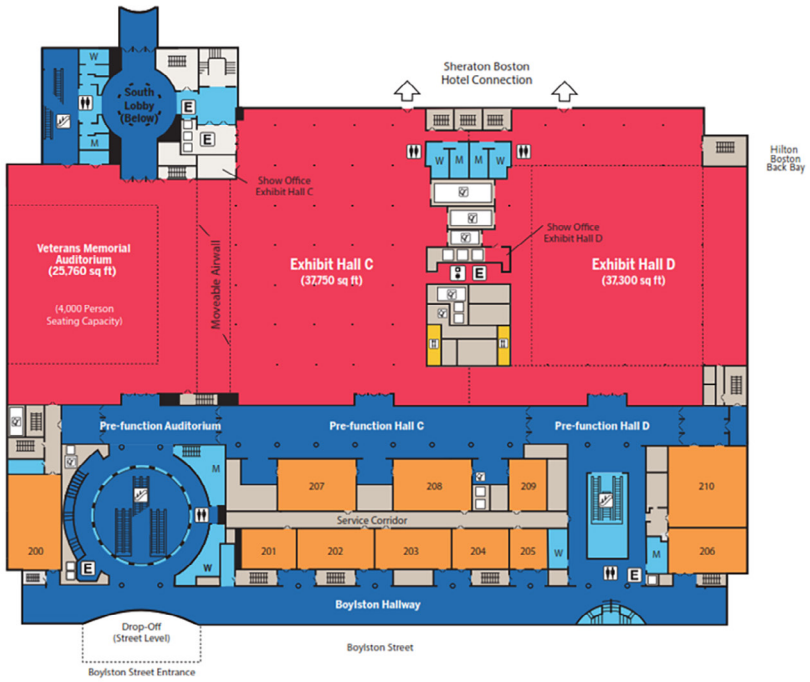
Second Level





THIRD LEVEL

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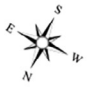
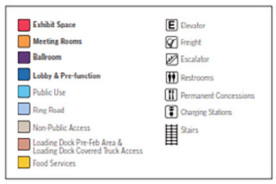
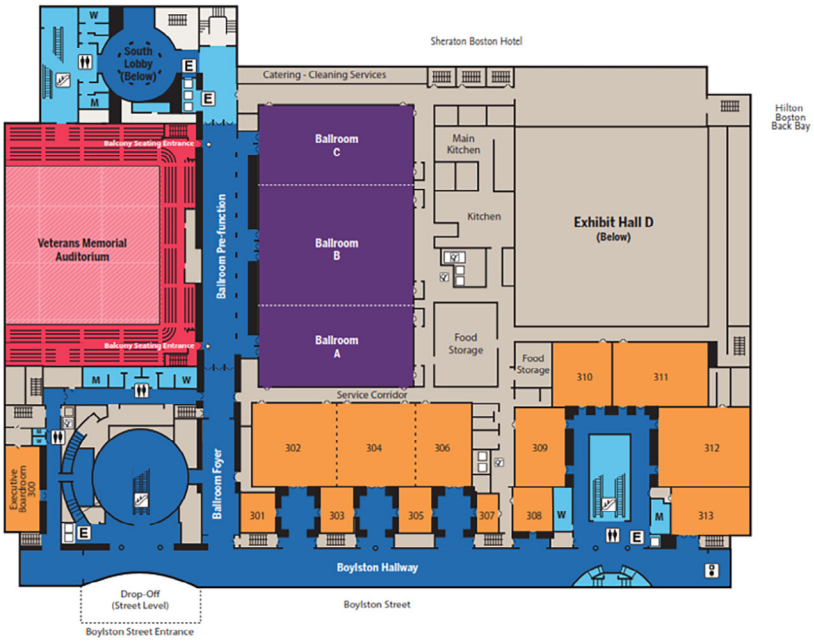
Third Level







FRIDAY, NOVEMBER 5

4:30 PM - 5:15 PM	**What does it take to host an AIChE conference?** **Hannah Boyce,** *Northeastern University* Hynes Convention Center, Room 302		
	ChemEs & Community	**Engaging your Chapter**	**Connecting ChemEs**
Room ▶	Hynes Convention Center, Room 302	Hynes Convention Center, Room 304	Hynes Convention Center, Room 306
5:20 PM - 6:05 PM	**ChemE Community On & Off Campus** **Chemical Engineers in the Community** Sean Fernandez and Will Brown, *University of Michigan* **Fostering a Chemical Engineering Community** Rachel Fetter, *University of Michigan*	**ChemE Outside the Classroom** **Diversifying Technical Projects: The Chemical Engineering Introductory Project** Jaslyn Brar and Paige Heimbach, *University of California, Los Angeles* **Lifetime Engineering Applications Project: LEAPing into a Lifetime of Learning** Kalea Fajardo and Katie Manner, *University of California, Los Angeles*	**Making the Most of your Network: How to Form Connections with Alumni and Start an Alumni Mentorship Program** Taryn Sparacino and Hannah Boyce, *Northeastern University*
6:10 PM - 6:55 PM	**Impact & Inspiration** **Remote Reach: Innovating K-12 Education in a Time of Social Distancing and Beyond** Nadia Owen, *Student Chapter - Purdue University* **The Importance of Philanthropy** Madison Alexander, *Purdue University*	**Expanding and Involving your Chapter** **Leveraging Existing Resources to Increase Involvement and Benefit Membership** Emily Spero and Alexis Voulgaropoulos, *UCLA* **Freshmen and Transfer Involvement: AIChE at UCLA's Inaugural Intern Board** Brandan Taing, Mark Keller, Mitchell Rogers and Diya Kapur, *UCLA*	**Peer Mentorship Programs** **Undergraduate Mentor-Mentee Program** Grace Williamson and Nina Laskowiecki, *University of Michigan* **Developing Your Mentorship Program** Lauren Molloy and Bryce Tyburski, *University of Michigan*

WORKSHOPS + FEATURED EVENTS

SATURDAY, NOVEMBER 6

8:00 AM – 8:45 AM	**Annual Student Conference Breakfast** Hynes Convention Center, Ballroom Pre-Function				
8:45 AM - 9:55 AM	**Annual Student Conference Welcome Ceremony & Keynote Address** **Presented by Paul Mensah,** *Vice President, Biotherapeutics Pharmaceutical Sciences, Pfizer, Inc.* Hynes Convention Center, Ballroom A/B/C				
10:05 AM - 10:50 AM	**Town Hall with AIChE Leadership – Building a Bridge between Industry & Academia** Hynes Convention Center, Room 302 **Moderator: Erin Kane,** *AIChE Board of Directors* **Panelists Include AIChE Board of Directors:** **Brian Davison, David Sholl, Ann Lee and Elsa Reichmanis**				
	Professional Development & Career Planning I	**Professional Development & Career Planning II**	**ChemE After College**	**Specialty Topics**	**Sponsored Track**
Room ▶	Hynes Convention Center, Room 302	Hynes Convention Center, Room 306	Hynes Convention Center, Room 304	Hynes Convention Center, Room 311	Hynes Convention Center, Room 312
10:50 AM - 11:35 AM	**Getting your PE License** **Joseph Cramer and William Parrish,** *Management Division. LPDC. Admissions Committee*		**Checklist for Life After Graduation** **Taylor Daniels and Greg Gavazzi,** *Young Professionals Committee (YPC)*	**World of Particle Technology** **Ben Freireich,** *Particle Technology Forum*	**Finding the Right Company through the Questions You Ask** **Ryan Morrison,** *Evonik*
11:45 AM - 12:30 PM	**The Importance of Teamwork and Collaboration** **Cristina Thomas,** *Management Divisions (MGMT)*	**Honeywell UOP: Make your Future Here** **Saadet Ulas Acikgoz and Joe Miyamura,** *Honeywell UOP*	**Non-Traditional ChemE Careers** **Taylor Daniels,** *Young Professionals Committee (YPC)*	**Custom-Built Thin Films – A Molecular Dynamics Perspective** **Patricia Taboada-Serrano, Obioma Uche and Poornima Padmanabhan,** *Nanoscale Science & Engineering, COMSEF, Separations Science Division, Catalysis & Reaction Engineering Division*	**Exploring Graduate Opportunities at WPI** **Susan Roberts,** *Worcester Polytechnic Institute*
12:30 PM - 1:30 PM	**Annual Student Conference Lunch** Hynes Convention Center - Ballroom Pre-Function				

SATURDAY, NOVEMBER 6 (CONTINUED)

1:30 PM - 2:30 PM	**Leadership Panel** Hynes Convention Center - Ballroom Pre-Function **Moderator: Michelle Bryner** **Panelists:** **Kelvin Lee,** *Professor of Engineering, University of Delaware; Director, NIIMBL* **Laura Matz,** *Vice President of Planarization, EMD Performance Materials* **Eric Reiner,** *Lecturer, University of California, Berkeley* **Shelby Mills,** *Staff Scientist, Glycosyn*				
	Professional Development & Career Planning I	**Professional Development & Career Planning II**	**ChemE After College**	**Specialty Topics**	**Sponsored Track**
Room ▶	Hynes Convention Center, Room 302	Hynes Convention Center, Room 306	Hynes Convention Center, Room 304	Hynes Convention Center, Room 311	Hynes Convention Center, Room 312
2:40 PM - 3:25 PM	**Career Planning and Job Searching for Entrepreneurial-Focused Science and Engineering Fundamentals** **Alaina G. Levine,** *Quantum Success Solutions*	**Navigating Dynamic Careers in Catalysis and Reaction Engineering** **Michael T. Timko,** *Division of Catalysis & Reaction Engineering*	**Applying to Graduate School and Research Fellowships** **Victoria G. Muir,** *Young Professionals Committee (YPC)*	**Mixing of Viscous, Non-Newtonian Fluids** **Richard K. Grenville,** *North American Mixing Forum*	**Graduating Student Bootcamp: How to Prepare for your Next Step** **Chris Cogswell Ph.D.,** *ElSevier*
3:35 PM – 4:20 PM	**How to Champion Yourself – in the Lab, at Work, in your Career** **Alaina G. Levine,** *Quantum Success Solutions*		**Everything You Always Wanted to know about Being a STEM Ambassador** **Elizabeth Ostadali, Lillian Vagedes, & Tori Ostrow,** *Ohio State University*	**Exploring the Wild World of Nanoscale Science and Engineering: From School to Industry** **Reginald Rogers Jr.,** *Nanoscale Science and Engineering Forum*	

SCHEDULE OF EVENTS + PRESENTATIONS

FRIDAY, NOVEMBER 5, 2021

What does it take to host an AIChE conference?

4:30 PM — 5:15 PM
Hynes Convention Center, 302

Hannah Boyce, *Northeastern University, AIChE Student Chapter*

Is your school hosting a regional conference this spring? Are you thinking about hosting a regional or national conference? Come to this session hosted by Northeastern University and learn from the conference chair of the 2021 AIChE Eckhardt Northeast Regional Conference, and Annual Student Conference Host School about what it takes to host a conference with AIChE. Between logistics, programing, and competitions there's a lot to manage, and we want to share what we learned with you! If this is your first AIChE conference, come learn about what to expect from conferences and how to get the most out of them at this Featured Student Chapter Workshop to welcome you to Boston.

ChemE Community On & Off Campus

5:20 PM — 6:05 PM
Hynes Convention Center, 302

5:20 PM
Chemical Engineers in the Community
Sean Fernandez, *University of Michigan*
Will Brown, *University of Michigan*

Engaging your community is a great way to encourage middle school and high school students to get excited about chemical engineering, STEM, and your institution! Stop by to see how the University of Michigan is creating connections with the local middle and high schools.

5:45 PM
Fostering a Chemical Engineering Community
Rachel Fetter, *University of Michigan*

Having a close knit ChE department is imperative to student success. Come check out how the University of Michigan fosters a community between students, professors and faculty. Topics will include, but are not limited to, professor/faculty luncheons, research lab tours, and integrated undergrad/grad events.

Making the Most of your Network

5:20 PM — 6:05 PM
Hynes Convention Center, 306

5:20 PM
Making the Most of your Network: How to Form Connections with Alumni and Start an Alumni Mentorship Program
Taryn Sparacino, *Northeastern University*
Hannah Boyce, *Northeastern University, AIChE Student Chapter*

As college students, we are often told that our years in school are essential to building our network. But how can you form these valuable connections and how far could your network extend? This workshop will go beyond connecting with your classmates and professors and delve into the world of alumni networking. Many schools maintain sums of alumni who are waiting to help their alma mater, but they are often an untapped resource for students. Northeastern University AIChE has created a unique alumni mentorship program that pairs students with an alumni mentor based on similar interests and career goals. We will teach you how to establish meaningful connections with alumni, solicit a potential alumni mentor, and start an AIChE chapter alumni mentorship program. We will also go further into how to maintain these connections and discuss all the benefits your university alumni have to offer. Please join us for this essential, interactive workshop in order to make the most of your network.

ChemE Outside the Classroom

5:20 PM — 6:05 PM
Hynes Convention Center, 304

5:20 PM
Diversifying Technical Projects: The Chemical Engineering Introductory Project
Jaslyn Brar, *University of California, Los Angeles*

The Chemical Engineering Introductory Project (ChIP) is a technical project that allows participants to learn about fundamental chemical engineering principles and apply them by designing small-scale continuous process systems in a team-oriented environment. In past years, our members have built coffee machines, self-sustaining boats, cooling towers, and soap batch reactors as their final project. ChIP is aimed toward incoming freshmen and transfer students, and since its introduction four years ago, AIChE at UCLA has seen an increase in student participation in technical projects and other areas of the club. The main challenge over the past year was adapting a traditionally in-person project to an online-only format while maintaining exposure to technical skills, a team oriented environment, and participation among new students. Topics covered in this workshop will include designing new projects, connecting small-scale projects to core engineering fundamentals, and building community amongst chemical engineering students.

5:45 PM
Lifetime Engineering Applications Project: LEAPing into a Lifetime of Learning
Kalea Fajardo, *University of California, Los Angeles*

LEAP, the Lifetime Engineering Applications Project, is a technical project started by students who are part of AIChE at UCLA. Students learn how to use process design simulation software, called AVEVA PRO/II, to model real industrial processes while also taking economic analyses and ethics into consideration. We have developed a variety of unique projects to expose students to many aspects of chemical engineering, such as alcohol distillation, ammonia production, crude oil processing, biofuel synthesis, and perfume manufacturing. Although this project has a low cost, students complete it with a deeper understanding of chemical engineering fundamentals and preparation for senior design projects as well as industry challenges. The project leads sharpen their presentation

skills and gain experience in preparing lesson plans while having fun. In this workshop, current LEAP leads will discuss their experiences and how this project has also been continued virtually.

Impact & Inspiration

6:10 PM — 6:55 PM
Hynes Convention Center, 302

6:10 PM
Remote Reach: Innovating K-12 Education in a Time of Social Distancing and Beyond
Nadia Owen, *UCLA*

In the face of the COVID-19 crisis, parents and educators were tasked with the enormous responsibility of creating a dedicated learning environment for their students at home. While shifting to an online medium was challenging, it provided a unique opportunity for AIChE at UCLA to support K-12 students through its new Remote Reach project. In Remote Reach, designing and delivering personalized interactive lessons to students has proved to be a rewarding and enjoyable experience for members involved. The prospect of online education has enabled our chapter to establish several connections with schools and community groups and develop a new approach to outreach. This year, our chapter's Remote Reach, was a year-long project that was dedicated to helping elementary and high school students learn and get excited about STEM topics while learning from home. We partnered with 3 main schools, 2 elementary schools and 1 high school. For each elementary school, we had a team of 5 - 10 AIChE members make and present a unique STEM module biweekly to 100+ students. Topics were chosen based on teacher, school, and member input and were designed to include demos, videos, and interactive content. The goal was to facilitate learning and discussion amongst the students using different mediums, rather than just our members lecturing them. These biweekly modules gave the elementary students the opportunity to learn new topics on a regular basis and become comfortable with our members. For the high school, we designed modules that would teach them about what ChemE's do and how wide-ranging our careers can be with videos and an interactive Process Flow Diagram activity. At this workshop, we will introduce innovative ways our chapter has served hundreds of students in the Greater Los Angeles community online, and how all student chapters can grow their own outreach programs in this ever-changing climate. Additionally, we will detail how Remote Reach's techniques can be utilized in both an in-person and online format to best serve your community as guidelines change.

6:35 PM
The Importance of Philanthropy
Madison Alexander, *Purdue University*

The chapter at Purdue University is known for its unique relationship with the surrounding community. Our philanthropy committee holds events that are highly sought after by our members and provide impactful services to organization in the Lafayette community. We have a unique relationship with one of our industry sponsors where we will collaborate on a philanthropy event and build houses in the community. The Outreach K-12 Program hosts events at local schools and educates elementary, middle school or high school students on Chemical Engineering Fundamentals. What I would like to discuss is how the Purdue Chapter's philanthropic and outreach events engages our members and educates them on the importance of giving back to a community and inspiring a younger generation. Next after showing how Purdue plans philanthropy events, I would like to open up a discussion on how the audience can get involved in their communities or plan outreach events. I believe that philanthropy and outreach events enrich members with communication skills, relationship building, and the ability to motivate others.

Peer Mentorship Programs

6:10 PM — 6:55 PM
Hynes Convention Center, 306

6:10 PM
Undergraduate Mentor-Mentee Program
Grace Williamson, *University of Iowa*
Nina Laskowiecki, *University of Iowa*

Join to hear about the University of Iowa AIChE Student Chapter's Mentor-Mentee Program.

6:35 PM
Developing Your Mentorship Program
Lauren Molloy, *University of Michigan*
Bryce Tyburski, *University of Michigan*

Mentorship is a great way to involve and develop underclassmen in your chapter while fostering a tight-knit community within your ChE department. Come learn how the University of Michigan AIChE Chapter runs their undergraduate and graduate mentorship programs!

Expanding and Involving your Chapter

6:10 PM — 6:55 PM
Hynes Convention Center, 304

6:10 PM
Leveraging Existing Resources to Increase Involvement and Benefit Membership
Emily Spero, *North Carolina State University*
Alexis Voulgaropoulos

Officers from NC State's student chapter of AIChE will describe their initiatives to increase involvement and benefit membership. The initiatives include implementing events for casual conversations between undergraduates and professors, leveraging the alumni network for mentorship opportunities and speaking engagements, and utilizing the Engineering Career Fair to gain new sponsorships. They will describe how to identify and take advantage of existing frameworks available at your university.

6:35 PM
Freshmen and Transfer Involvement: AIChE at UCLA's Inaugural Intern Board
Brandan Taing, *UCLA*
Mark Keller, *UCLA,*
Mitchell Rogers, *University of California, Los Angeles*
Diya Kapur, *UCLA*

Incoming freshmen and transfer chemical engineering students are often thrust into the complex and unfamiliar world of engineering without a clear idea of what to expect or how to make connections (not to mention in the unprecedented state of remote learning). Officer service is a great way for students to gain invaluable leadership and mentorship experience, building up their professional accomplishments and profile. Here, we plan to discuss the UCLA AIChE Student Chapter's newly conceived Intern Board (founded 2020), where freshmen and transfer chemical engineering students supported more senior members over a six-month assignment. To improve how we engage with students entering UCLA who are interested in becoming more involved with our chapter, we implemented the Intern Board to be N.I.C.E.

- Networking-friendly by allowing direct mentorship between department heads and their interns as a smaller-scale unit than in committees
- Inclusive of club departments that have no history of committees
- Cohesive in new member identity-- with a shared intern identity and social intern events
- Expansive in our event offerings and professional initiatives by allowing interns to directly partake in their development

We will first begin with a description of the pre-existing committee model, and cover the associated issues of engagement and retention. We will then proceed to discuss the areas interns served in: Internal Events, Treasury, Alumni & Outreach, and Publicity.

We will also be going over intern testimonials, the continuity of the interns' involvement with AIChE after the end of their internship, and future directions we will pursue based on feedback.

Graduating Senior Welcome Networking Mixer - TICKETED EVENT

Sponsored by Evonik

7:00 PM — 9:00 PM
Hynes Convention Center, Bolyston Hallway - 3rd Floor

This mixer is an opportunity for our graduating seniors to network amongst peers and AIChE Professionals. Please note that this is a 21+ event. If capacity allows, tickets will be available for purchase at the Conference Registration Desk.

SATURDAY, NOVEMBER 6, 2021

Annual Student Conference Breakfast - TICKETED EVENT

8:00 AM — 8:45 AM
Hynes Convention Center, Ballroom Pre-Function

Continental breakfast will be served for all attendees before the Annual Student Conference Keynote address. Be sure to wear your Annual Student Conference badge.

Annual Student Conference Welcome Ceremony & Keynote Address

8:45 AM — 9:55 AM
Hynes Convention Center, Ballroom A/B/C

Kick off the Annual Student Conference with an exciting keynote speaker. AIChE leaders will also be on hand to review the schedule for the weekend. We are pleased to announce that this year's keynote speaker is Paul Mensah, Vice President, Biotherapeutics Pharmaceutical Science, Pfizer Inc.

Paul will be delivering his talk titled Moving at the Speed of Science: The Development of the Pfizer/BioNtech mRNA Vaccine for the COVID-19 Pandemic.

In March of 2020, as Covid-19 infection was spreading around the world, Pfizer joined forces with BioNtech to co-develop BNT162, a messenger RNA (mRNA) vaccine candidate for the potential prevention of Covid-19 infection. This was the second such collaboration between the two companies with the initial one focused on using the same mRNA technology platform to develop flu vaccine. However, in the case of the Covid vaccine development, the urgency was utmost as lives were being lost around the world due to the virus and there was no viable treatment available. The Covid pandemic was arguably the biggest challenge facing humanity in a generation.

Pfizer and BioNtech agreed to leverage the full resources and expertise of both companies to accelerate the development of the vaccine. The project was termed lightspeed with a highly ambitious goal of developing and gaining authorization/approval within a year. This seemed like an impossible task especially since the average time for vaccine development is typically 10-15 years and the fastest any vaccine had ever been developed was 4 years (mumps vaccine). However, within about 9 months of development, the safety and efficacy of the Pfizer-BioNTech Covid-19 vaccine had been established in a pivotal phase 3 study and emergency use of the vaccine authorized by the FDA. The talk will describe how courageous leadership, strong collaboration, and a new mRNA technology platform enabled the accelerated development of the Pfizer-BioNTech Covid-19 vaccine.

Town Hall with AIChE Leadership: Building the Bridge in 21st Century Education

10:05 AM — 10:50 AM
Hynes Convention Center, 302
AIChE Board of Directors

Moderator: Erin Kane, *President and CEO, AdvanSix Inc.*

All AIChE Student Members are invited and encouraged to attend and share your thoughts about the future of chemical engineering with the AIChE Board of Directors. This panel discussion will provide an open forum for the board to share their insights, and for students to voice their own thoughts about where they see the profession headed and how AIChE can continue to support its members at all stages of their career.

Panelists:

Brian Davison, *Chief Scientist for Biotechnology, Oak Ridge National Laboratory (ORNL)*

Ann Lee, *Head of Cell Therapy Development and Operations, Celgene*

Elsa Reichmanis, *Anderson Endowed Chair in Chemical and Biomolecular Engineering, Lehigh University*

David Sholl, *John F. Brock III School Chair of Chemical and Biomolecular Engineering, Georgia Institute of Technology*

Checklist for Life After Graduation

10:50 AM — 11:35 AM
Hynes Convention Center, 304

Taylor Daniels Williams, Greg Gavazzi, *Bechtel*

So you've been a student for the last 16 years of your life. Crazy, right? Graduating from college is a very important, exciting, and sometimes daunting transition period. In this session, you will hear from two recent ChemE grads who will share their tips on how to make the transition to adult work life as seamless as possible.

Getting your PE License

10:50 AM — 11:35 AM
Hynes Convention Center, 302

Joseph Cramer, *AIChE, William Parrish Licensing and Professional Development*

This presentation discusses how becoming a Professional Engineer (PE) can enhance a chemical engineer's career. Students learn about the PE licensure process and the two exams required to become licensed. The Computer Based Testing (CBT) exam content for both the Fundamentals of Engineering (FE) Exam and Practice of Engineering (PE) exams are described. The presentation utilizes embedded videos of young PEs and stresses the value of taking the FE exam before, or shortly after, graduation. It aims to demystify the FE/PE process. The workshop leaders are Joe Cramer and Bill Parrish who are chemical engineering PE's and active members of the AIChE's Licensing and Professional Development Committee as well as the National Council of Examiners for Engineering and Surveying's Chemical PE Exam Committee. Both have also served on AIChE's Career and Educational Operating Council which oversees licensing for AIChE. The workshop encourages Q&A and interaction with attendees.

Finding the Right Company through the Questions You Ask

10:50 AM — 11:35 AM
Hynes Convention Center, 312

Ryan Morrison, *Evonik Corporation*

Interviewing for a full-time job opportunity after graduation can be a challenging experience for a number of reasons. Most often it is challenging because companies invest a good bit of time into finding the right candidates through specific interview processes. But it is just as important for you as an interviewee to invest a good bit of time into finding the right opportunity for you. One way to do this is through the questions you ask the interviewers. Come listen to some highlights on Evonik's interview process as well as some tips on how to find the right company for you.

World of Particle Technology

10:50 AM — 11:35 AM
Hynes Convention Center, 311

Ben Freireich, *Origin Materials*

More than 80% of gasoline, 70% of polyolefins and a plethora of other products are made using fluidized bed (FB) technology. From gasification to drying, FBs and circulating FBs provide the distinct advantage of high heat transfer and solids mobility. These features have resulted in several breakthrough technologies with better temperature control and the ability to move solids from a reduction to an oxidation environment. Billions of pounds of bulk solids are processed and handled every year by the US process industries, yet most chemical engineers are ill-equipped to deal with the complexities of engineering science of solids processing. Hence, plants and products suffer with lost production, inability to achieve design production rates, off grade or off specification products. During this session, we will take a look at the fun and exciting world of solids processing, specifically some of the more common particle-based technologies examining both the important role they play in society today along with the associated technical challenges. If a picture is worth a thousand words, then a video is worth a thousand pictures and a live demonstration is worth a thousand videos. This session will illustrate some of the awe-inspiring and unique features in the field of particle technology through hands-on demonstrations on fluidization, hopper design, segregation, etc.

Non-Traditional ChemE Careers

11:45 AM — 12:30 PM
Hynes Convention Center, 304

Taylor Daniels Williams

Why did you become a ChemE? Many students say they liked chemistry in high school, were good at math or science, or saw that ChemE was one of the highest paid engineering disciplines. But what CAN you do with your degree? In this session, you will hear from a panel of ChemEs that chose an unconventional route after graduation and what led them down the path that they chose.

Custom-Built Thin Films – A Molecular Dynamics Perspective

11:45 AM — 12:30 PM
Hynes Convention Center, 311

Patricia Taboada-Serrano, *Rochester Institute of Technology*
Obioma Uche, *Rochester Institute of Technology*
Poornima Padmanabhan, Rochester Institute of Technology

The workshop will introduce participants to multi-scale modeling, with the focus on molecular dynamics as a tool for custom-building materials for several applications including electronics, drug delivery and industrial processes. Steps necessary to develop representations of physical systems will be outlined and implemented within the LAMMPS software application for a simple example during the workshop. Students will learn how to analyze output and visualize results for the above demo. Using the demo as a framework, a more complex, industrially relevant example will be discussed to further demonstrate the breadth of capabilities of the molecular dynamics technique. The workshop will wrap up with a brief discussion on the recommended type of graduate training for a career in engineering custom-built materials using multi-scale modeling. The syllabus for the workshop is provided below:

- High-level discussion on the use of multi-scale modeling of materials
- Different methods presented in terms of their time and length scale
- Molecular dynamics background and description
- Building models – from the actual system to a model of it
- Definition of interactions – what can you simplify, what do you need to account for
- Getting it done – LAMMPS input
- Getting your results
- Visualizing results
- Demo: a small 5 minute problem (what we learn?) – live action
- Results from a problem relevant to custom-building of thin films
- Resources required to support this work: high-performance computing
- Requisite skills and graduate training

Honeywell UOP: Make your Future Here

11:45 AM — 12:30 PM
Hynes Convention Center, 306

Saadet Ulas Acikgoz, *Honeywell UOP*

Joe Miyamura, *Honeywell UOP*

Join us to learn how you can become a #FutureShaper at Honeywell UOP. Reshape refining, petrochemicals, renewable fuels, and the gas processing industry for a company with a century of experience using breakthrough chemistry and engineering to power global growth and sustainability. Your future at UOP will continue to help us solve the world's energy challenges by creating adaptable products, future-forward, and sustainable solutions. Industry leaders will present our business and answer your questions about employment opportunities to shape the future of sustainability with Honeywell UOP.

Exploring Graduate Opportunities at WPI

11:45 AM — 12:30 PM
Hynes Convention Center, 312

Susan Roberts, *Worcester Polytechnic Institute*

WPI is a technical university in the heart of Massachusetts. We are known for integration of theory and practice, interdisciplinarity, project based learning, diversity equity and inclusion practices and holistic training. This presentation will highlight our PhD and MS programs and detail the research ongoing in molecular bioengineering, sustainability, energy, computational sciences and advanced materials science, highlighting opportunities for collaboration and professional development.

The Importance of Teamwork and Collaboration

11:45 AM — 12:30 PM
Hynes Convention Center, 302

Cristina Thomas, *3M*
Joseph Cramer, *AIChE*

We all work in teams these days, whether we work in an industrial, academic, government or non-profit organization. This session will focus on a guided discussion on the importance of teamwork and collaboration to achieve and maximize results. You will hear from managers about the importance of creating and working in an environment that encourages everyone to work together as it relates to team's results. Finding the correct balance between autonomous work, teamwork and collaboration skills is critical for workforce engagement and for team's performance.

Annual Student Conference Lunch - TICKETED EVENT

12:30 PM — 1:30 PM
Hynes Convention Center, Ballroom Pre-Function

Lunch will be served for all prior to the Leadership Panel. Be sure to wear your Annual Student Conference badge.

Leadership Panel

1:30 PM — 2:30 PM
Hynes Convention Center, Ballroom A/B/C

Moderator: Michelle Bryner, *Director, Publications & Business Development, AIChE*

The 2021 Annual AIChE Student Conference will feature a Leadership Panel that will give students the opportunity to learn about the experiences and obstacles of successful Chemical Engineers in a variety of career paths.

Panelists:

Kelvin H. Lee, *Gore Professor of Chemical & Biomolecular Engineering, University of Delaware, Director, NIIMBL*

Laura Matz, *Chief Science and Technology Officer, EMD Digital*

Shelby Mills, *Staff Scientist, Glycosyn*

Eric S. Reiner, *University of California, Berkeley, Haas School of Business, Lecturer*

Navigating Dynamic Careers in Catalysis and Reaction Engineering

2:40 PM — 3:25 PM
Hynes Convention Center, 306

Michael T. Timko, *Worcester Polytechnic Institute*
Bihter Padak, *University of California, Irvine*

Panelists will discuss their careers in the field of Catalysis & Reaction Engineering; how the Catalysis & Reaction Engineering Division has played a role in their careers; and advice on how to navigate a dynamic and fulfilling career in the field. The panel will be designed to engage the audience and provide opportunities for interaction.

Applying to Graduate School and Research Fellowships

2:40 PM — 3:35 PM
Hynes Convention Center, 304

Victoria G. Muir, *Young Professionals Committee*

Why should you pursue a graduate degree in engineering? What should you consider when applying to graduate school? How do you ace your fellowship and graduate program applications? How can AIChE help you prepare for graduate school and excel as a graduate student as you pursue your degree? Members of AIChE's Young Professionals Committee (YPC) will be discussing answers to all these questions and more. Join us for a great session discussing everything you need to prepare for your graduate school career.

This workshop will feature numerous YP's either currently in graduate programs or recently graduated. This session has been very successful in the past, as numerous students attending the AIChE conference are interested in pursuing research-based graduate degrees in engineering. The session will be interactive, leaving ample time for Q&A. Furthermore, this session can be easily adapted to a virtual format if need be. One of the society-wide goals of AIChE is to add new members and increase member retention. This session will also focus on how AIChE can help students prepare for graduate school and succeed once they start to pursue their degree by advertising for graduate-student leadership in YPC and potentially divisions and forums.

Graduating Student Bootcamp: How to Prepare for your Next Step

2:40 PM — 3:25 PM
Hynes Convention Center, 312

Chris Cogswell Ph.D., *ElSevier*

So you are graduating with a degree in Chemical Engineering. Now what? Join this session to learn tips and tricks to help make your transition to graduate school or industry easier. In this entertaining session, join Dr. Chris Cogswell as he goes through a comedic tour of his time in graduate school and industry. We will showcase tools that can support your next steps and answer any questions you may have.

Career Planning and Job Searching for Entrepreneurial-Focused Science and Engineering Fundamentals

2:40 PM — 3:25 PM
Hynes Convention Center, 302

Alaina G. Levine, *Quantum Success Solutions*

Thinking of starting your own business or consultancy? Or perhaps you are interested in working in or with an entrepreneurial venture? This presentation will address careers in entrepreneurship, of which there are many. We will discuss the entrepreneurial ecosystem, and how to prepare for and find and land jobs in this ecosystem. And for those of you interested in being the entrepreneur, we will address how to design a career plan that will incorporate your goals with your interests, passions, and skills. Learn about the basics of launching your own company, developing your brand, and finding and solidifying customers.

Mixing of Viscous, Non-Newtonian Fluids

2:40 PM — 3:25 PM
Hynes Convention Center, 311

Richard K. Grenville, *Philadelphia Mixing Solutions Ltd.*

Many viscous fluids processed in industry exhibit non-Newtonian rheology. These industries include paints, personal products such as shampoo and detergents and food products such as ketchup and mayonnaise. All at some stage in their production require mixing. Most of these fluids are shear-thinning which means that the apparent viscosity of the fluid will be low near the impeller, where velocity gradients are high, and high near the vessel wall where velocity gradients are low. This presentation will discuss how to select the impeller type that is appropriate for a particular operating regime (Reynolds number). Then correlations for estimating blend times in Newtonian fluids will be discussed and how they can

be modified to take account of non-Newtonian fluid behavior. There is a class of fluids which exhibit a yield stress, meaning that a minimum level of shear must be applied before the fluid will move. Examples include toothpaste and high solids loading slurries. The rules used to size mixing equipment for these fluids will be discussed.

Chem-E-Car Safety Inspection & Poster Competition

3:35 PM — 6:35 PM
Hynes Convention Center, Veterans Memorial Auditorium

This is a mandatory session for those participating in the Chem-E-Car Competition. Student teams should bring their car, poster and full printed Engineering Design Package for the Safety Inspection and Poster Competition. Judging will begin by 4:00 PM.

Posters will remain displayed throughout Sunday afternoon and all are welcome to come learn about the design and chemical reactions that made these cars winners in the regional competitions. Choose which car you think will win on Sunday afternoon!

Exploring the Wild World of Nanoscale Science and Engineering: From School to Industry

3:35 PM — 4:20 PM
Hynes Convention Center, 311

Reginald Rogers Jr., *University of Missouri-Columbia*

The world of nanoscale materials has become vast and overly complex. Numerous avenues for research, development, and application have made understanding the impacts of the world of nano more complicated. Whether it is nanobiotechnology or energy-related fields, nanoscale materials have become an important thrust for future growth of science and technology. In this workshop, we will delve deep into the world of nanoscale science and engineering. Examples from nanobiotechnology, carbon nanomaterials, and nanomaterials for energy-related applications will showcase how you can be a part of this ever-growing world. An interactive discussion panel will help audience members understand the different career paths available for pursuing work involving nanoscale materials. It is expected participants will leave with a broader and fuller understanding of nanoscale science and engineering and the importance of their contributions to its continual evolution.

How to Champion Yourself – in the Lab, at Work, in your Career

3:35 PM — 4:20 PM
Hynes Convention Center, 302

Alaina G. Levine, *Quantum Success Solutions*

Marketing is everything, and that includes communicating your own value to individuals who will invest resources, such as a salary, in you. To land the job and to be successful in this role, you must articulate what you can do for the other party and their team. In this session, we will discuss the why and how of appropriately championing yourself at work and in the employment marketplace. You will learn tactics and strategies that are relevant and practical no matter what culture you are operating.

Everything You Always Wanted to know about Being a STEM Ambassador

3:35 PM — 4:20 PM
Hynes Convention Center, 304

Elizabeth Ostadali, *Ohio State University*
Lillian Vagedes, *Ohio State University*
Tori Ostrow, *Ohio State University*

Join The Ohio State University (OSU) AIChE student chapter to learn about their pilot of the Dow K-12 STEM Ambassador program at Edison Intermediate / Larry Larson Middle School! Weekly you can find us in 4th & 8th grade classrooms doing interactive science experiments thanks to Larry Sernyk and the generosity of AIChE Foundation Trustee, Dan Coombs, and his wife Ellen. Learn how you can plan to implement and perform the K-12 STEM Ambassador Program with your student chapter to promote science, technology, engineering, and math to the next generation.

ChemE Jeopardy Preliminary + Semi-final Rounds

Sponsored by Merck & Co., Inc. & Omega Chi Epsilon

4:30 PM — 6:30 PM
Hynes Convention Center, 202, 203, 204, 206

Regional ChemE Jeopardy winners will compete for the 1st place title. This year's competition will feature a bracket of the top qualifiers from the 2021 North American Student Regional Conferences, which will begin at 4:30 PM. The 2021 International ChemE Jeopardy Competition will take place virtually from November 13-14, 2021.

4:30 PM: NORTH AMERICAN PRELIMINARY ROUND

Hynes Convention Center, 202
University of Maryland, Baltimore County (1st, Mid-Atlantic Region)
New Mexico Institute of Mining & Technology (1st, Rocky Mountain Region)
Iowa State University (Wildcard, Mid-America Region)

Hynes Convention Center, 203
University of Southern California (1st, Western Region)
University of Connecticut (1st, Northeast Region)
Western Michigan University (2nd, North Central Region)

Hynes Convention Center, 204
Lamar University (1st, Southwest Region)
University of Idaho (1st, Pacific Northwest Region)
Louisiana State University (3rd, Southern Region)

Hynes Convention Center, 206
Notre Dame (1st, North Central Region)
Auburn University (1st, Southern Region)
University of Delaware (2nd, Mid-Atlantic Region)

5:30 PM: NORTH AMERICAN SEMI-FINAL ROUND

Hynes Convention Center, 202
1st place winner – Preliminary Round, 202
2nd place winner – Preliminary Round, 203
1st place winner – Preliminary Round, 204

Hynes Convention Center, 203
1st place winner – Preliminary Round, 203
2nd place winner – Preliminary Round, 202
2nd place winner – Preliminary Round, 206

Hynes Convention Center, 204
1st place winner – Preliminary Round, 206
2nd place winner – Preliminary Round, 204
University of Iowa (1st, Mid-America Region)

5:30 PM: INTERNATIONAL FRIENDLY MATCH

Hynes Convention Center, 206
Teams to be determined

LGBTQ+ & Allies Panel Discussion

Supported by LGBTQ+ & Allies Initiative & the AIChE Foundation

4:30 PM — 5:30 PM
Hynes Convention Center, 312

A panel of young professionals from industry and academy will share insights into issues faced by newly hired LGBTQ+ engineers.

LGBTQ+ & Allies Ice Cream Social - TICKETED EVENT

Supported by LGBTQ+ & Allies Initiative & the AIChE Foundation

5:30 PM — 6:30 PM
Hynes Convention Center, 312

I scream, you scream, we all scream for ice cream! Please join the LGBTQ+ & Allies ice cream social at this year's Annual Student Conference! Mingle and network with friends and colleagues while enjoying a scoop or two.

Student Conference Night of Networking featuring John Warner - TICKETED EVENT

6:00 PM — 9:00 PM
Hynes Convention Center, Ballroom B

All students are encouraged to attend the Student Conference Night of Networking. Hear from John C. Warner, *Co-Founder, Beyond Benign,* starting at 6:00 PM, then enjoy refreshments and develop relationships with future ChemE coworkers or research partners beginning at 7:00 PM. Don't miss out on this opportunity to mingle with your peers, industry representatives, and members of the AIChE Boston Local Section. Prizes will be available for the students who make the most connections at the event.

6:00 PM
Green Chemistry: Inventing the Circular Economy
John C. Warner, *Co-Founder, Beyond Benign*

The natural world is a beautiful and intricate system of intertwined and overlapping materials ecosystems. As humans, our understanding of the various interrelationships is only at the most basic level. One important reason why these naturally interdependent cyclic systems exist with exquisite complexity is because of the very fact that they all co-emerged over hundreds of thousands of years in the presence of one another.

Evolutionary forces drove symbiotic relationships by selecting for and against mechanisms and materials that were conducive to the success of the entire multi-component matrix. As human society seeks to create a circular economy, we unfortunately have the disadvantage that our various industrial "species" have developed with a level of independence, essentially unaware of adjacent processes.

We are forced into a position of creating connectivity's that were not part of the considerations in the original design. Obviously, this creates a daunting challenge. While there have been some examples of the circular economy designed and deployed in many industrial settings, the vast majority of industrial products and processes continue to exist disconnected and unsustainable over the long run.

The pathway to create most of these technological ecosystems will require the inventive application of green chemistry (the molecular level mechanistic underpinnings of sustainability). This presentation will describe examples of how organizations seeking a circular strategy benefit from integrating the principles of green chemistry with product design, manufacturing and supply chain management.

7:00 PM
Night of Networking

SUNDAY, NOVEMBER 7, 2021

Freshman/Sophomore Recognition

8:00 AM — 9:00 AM
Hynes Convention Center, Ballroom C

This event recognizes this year's freshman and sophomore award winners. All are welcome to this event to show support for their fellow classmates.

ChemE-Sports™ Competition

Sponsored by PetroSkills - Simulation Solutions, Inc.

8:30 AM — 1:00 PM
Hynes Convention Center, Ballroom A

This year's program will feature a live ChemE-Sports competition on optimization and safety, open to academia and industry, using a simulated distillation column provided by Simulation Solutions Inc. The hosts will set up two simulations to be run simultaneously on laptop computers. The competitors will be given real-life scenarios that could be observed in a plant and an objective to complete within a given timeframe.

Recruitment Fair

9:00 AM — 4:00 PM
Hynes Convention Center, Bolyston Hallway & Ballroom Pre-Function

Join us at AIChE's 2021 Recruitment Fair to meet ScaleUp sponsors, representatives from graduate schools, and

corporate recruiters with open entry-level positions and internships. This exciting event will be your chance to decide which path is best for you after graduation. Representatives of graduate schools and companies from across the country will be on hand to describe their degree programs along with job and internship opportunities. You will learn about current research, new and emerging study options and interesting venues for continuing your studies and starting your career.

Student Chapter Presidents Meeting

9:00 AM — 9:50 AM
Hynes Convention Center, 302

This session is an opportunity for AIChE Student Presidents and the Executive Student Committee to discuss opportunities and challenges facing their regions and chapters. Attendees will have the opportunity to break out into smaller groups to discuss any ongoing business or challenges within their specific Region. All student chapter leaders are encouraged to attend.

How to Make the Most of your Omega Chi Epsilon Chapter

10:00 AM — 10:50 AM
Hynes Convention Center, 308

Christi Patton Luks, *Missouri University of Science & Technology*
Douglas Ludlow, *Missouri University of Science & Technology*
Glenn Lipscomb, *University of Toledo*

Officers and members of Omega Chi Epsilon, the National Chemical Engineering Honor Society, are encouraged to attend this session to meet with national officers and share best practices and favorite activities. Students from schools that do not have an Omega Chi Epsilon chapter are also invited to attend to learn more about establishing a chapter on their campus.

What Should I Do With My Life? Strategies to Create Your Unicorn Career

10:00 AM — 10:50 AM
Hynes Convention Center, 309

Alaina G. Levine, *Quantum Success Solutions*

It is never too early to be thinking about what you want to do with the rest of your life, but the reality is that most people have no idea what they can do, let alone what they want to do. People change careers multiple times in their lives, and often don't truly understand what they love to do until later in life, after they have tried different jobs, worked for different organizations, utilized different skills, and sampled different experiences. So what should you do, early in your career, to position yourself for success, if you are not sure what exactly you want to do? Learn how to identify, seize, and create your own opportunities to dabble in the tasks you enjoy performing, We will discuss what steps you can pursue to explore, taste and experiment with different ideas you have for yourself, and we will illuminate what you can literally do today to both plan for the future AND enjoy the present.

Student Awards Ceremony

11:00 AM — 12:30 PM
Hynes Convention Center, Ballroom C

The Student Awards Ceremony recognizes this year's scholarship, award and competition winners. All are welcome to this ceremony to show support for their fellow classmates.

Win an internship or cash! Participate in the AVEVA Academic Competition

11:00 AM — 11:50 AM
Hynes Convention Center, 303

Dr. Richard Turton, *West Virginia University*
Mihaela Hahne, *AVEVA*
Mike Donahue, *AVEVA*
Jesse Williamson, *AVEVA*

Get the opportunity to show your talent, connect with top experts in the industry and build your resume the fun way. This is an opportunity to challenge yourself and test your ideas. In collaboration with Dr. Richard Turton, AVEVA is hosting a process simulation competition for students in North America and Europe. Learn more here: https://www.aveva.com/en/products/process-simulation/

Networking for Nerds

11:00 AM — 11:50 AM
Hynes Convention Center, 309

Alaina G. Levine, *Quantum Success Solutions*

Looking to land your dream job? Get ready to network! Most jobs and other game-changing career opportunities are not advertised, and even if they are, there is usually a short-list of candidates already in mind. So how do you find out about and access the 90% of jobs and other opportunities that are "hidden"? In this workshop, we will focus on proven networking strategies and tactics to identify new opportunities, locate decision-makers within organizations, solidify your reputation and brand in the minds of those who hire, and gain access to hidden jobs and game-changing opportunities. Discover how networking and self-promotion can enable you to land or even create your dream job from scratch!

MAC Real Talk Speed Mentoring - TICKETED EVENT

12:00 PM — 2:00 PM
Hynes Convention Center, 304

This event will be for students to mingle with MAC professionals in a speed networking style. This speed mentoring event is open to ALL chemical engineering students who participate in the Annual Student Conference. Registration is $5 per student and includes beverages and light snacks.

Career Discovery Workshop Part I – TICKETED EVENT

12:00 PM — 2:00 PM
Hynes Convention Center, 204

This career planning workshop uses the AIChE Career Discovery™ approach as part of the AIChE Institute for Learning and Innovation. Workshop participants will discover their current work talents as input to career planning and identify job opportunity gaps as possible career futures that are a fit with work talents and skill interests. Workshop participants will also start the development of a Five Futures career development plan. This is part one of a two-part workshop, spread over two days.

SCHEDULE OF EVENTS + PRESENTATIONS

2021 AIChE Chem-E-Car Competition® Finals

12:30 PM — 4:00 PM
Hynes Convention Center, Veterans Memorial Auditorium

A highlight of the Annual Student Conference, more than 20 student teams from around the world will be racing their chemically powered vehicles. Come and cheer for your favorite team as they compete for the international title! Please note that the first run of the competition will begin at 12:30pm.

Don't forget to join us online for the 2021 Virtual AIChE Chem-E-Car Comptition® Finals, taking place November 13-14, 2021.

Public Affairs and AIChE: A PAIC Town Hall

3:00 PM — 4:15 PM
Hynes Convention Center, 303
Public Affairs and Information Committee (PAIC)

AIChE's Public Affairs & Information Committee (PAIC) will hold its third annual Town Hall discussion in this session. We are excited this year to issue 2 new position statements and begin building capability to do more to serve AIChE. A couple panelists will tell you more about what we have done. We want your input, so come engage with us on priorities for the future. We want to hear from members and all of the divisions, forums, operating councils, etc. on focus areas for interaction with the government.

Student Chapter Advisors Meeting

4:00 PM — 4:50 PM
Hynes Convention Center, 306

Officers from the Student Chapters Committee will give an overview of Student Chapter Committee Structure and discuss student activities, conferences and how important the role of Chapter Advisor is to a Chapter's success. Attendees will also break out into smaller groups to discuss any ongoing business or challenges within their specific Region. All Student Chapter Advisors are encouraged to attend.

ChemE Jeopardy Competition Final Round

Sponsored by Merck & Co., Inc. & Omega Chi Epsilon

4:30 PM — 6:00 PM
Hynes Convention Center, 306

Join us for a continuation of Saturday's ChemE Jeopardy Competition and watch as we crown this year's winners following the final round of competition.

4:30 PM: NORTH AMERICAN FINAL ROUND

Hynes Convention Center, 210
1st place winner – Semi-Final Round, 202
1st place winner – Semi-Final Round, 203
1st place winner – Semi-Final Round, 204

Honors Ceremony

5:00 PM — 6:30 PM
Hynes Convention Center, Ballroom B

The Institute and Board of Directors' Awards are AIChE's highest annual honors, with each recipient nominated by the chemical engineering community and voted on by the members of AIChE's volunteer-led Awards Committee. The awards recognize eminent achievements and world-class contributions across a spectrum of chemical engineering endeavors.

2021 AIChE Annual Meeting Opening Reception

6:30 PM — 7:30 PM
Hynes Convention Center, Exhibit Hall D

Meet and network with professionals from around the world.

MONDAY, NOVEMBER 8, 2021

Student Technical Presentation Competition

Sponsored by Omega Chi Epsilon

8:00 AM — 11:00 AM
Hynes Convention Center, 102

This session features oral presentations from the winners of undergraduate student paper competitions from each student regional conference. The session features a wide variety of chemical engineering topics. These presentations represent the best of the best of undergraduate research projects and some research from co-ops and internships. A panel of judges will select the top three presenters, who will be awarded cash prizes sponsored by Omega Chi Epsilon.

8:00 AM
Introduction

8:03 AM
Delivery of Therapeutic Carbon Monoxide by Gas Entrapping Materials
Hannah Boyce, *Northeastern University*

8:18 AM
Plastics to Fuel: A Community Oriented Solution
Shelby Surprenant, *Oregon State University*

8:33 AM
Effects of early geometric confinement on the transcriptomic profile of human cerebral organoids
Alexis Voulgaropoulos, *North Carolina State University*

8:48 AM
Theoretical Investigation of Correlation Between PFCA Chain Length and Reactivity Following PFOA Breakdown
Benjamin Walls, *Rice University*

9:03 AM
Waste to biodegradable packing material: coupling agroindustrial residual biomass from Valle del Cauca with mycelium growth
Maria Camila Rodríguez Castaño, *ICESI University*

9:18 AM
Optimization of Pipeline Flushing Operations in Lubricant Blending and Processing Facilities
Emily Rooney, *Rowan University*

9:33 AM
Intermission

9:43 AM
Correlation Length: Length Scales in Semi-Dilute Polymer Solutions
Brian Carrick, *University of Minnesota - Twin Citites*

9:58 AM
Flame Merging Correlations for Vertically- and Horizontally-separated Buoyant Flames
Denver Haycock, *Brigham Young University*

10:13 AM
Engineering of Metal/Air Fuel Cell systems using recyclable Aluminum as a power source
Jyotisman Rath, *Institute of Chemical Technology - Indian Oil Odisha Campus*

10:28 AM
Evaluation of Active Principles for the Preparation of Alginate-Based Biodegradable Curative Films
Laura Merat, *UFRJ*

10:43 AM
Integrated Waste Management Systems to Construct Live Hydroponic Farming Experience at Caturra Espresso
Chandra Hady Brata, *Institut Teknologi Bandung*

10:58 AM
Concluding Remarks

Undergraduate Student Poster Competition

Sponsored by Omega Chi Epsilon

10:00 AM — 12:30 PM
Hynes Convention Center, Exhibit Halls C & D

Hundreds of students are expected to present their research in poster format. Topics include catalysis and reaction engineering; sustainability, food, pharmaceutical and biotechnology; separations, environmental, education & general, fuels, petrochemicals and energy; computing and process control; materials engineering and sciences. Prizes will be awarded in several categories. This year's poster competition will also feature posters from the Microbes at Biomedical Interfaces research area due to the presence of the Topical Conference at the 2021 Annual Meeting.

Career Discovery Workshop Part II – TICKETED EVENT

10:00 AM — 12:00 PM
Hynes Convention Center, 109

This is a continuation of "Career Discovery Workshop Part I" taking place Sunday, November 7th. This career planning workshop uses the AIChE Career Discovery™ approach as part of the AIChE Institute for Learning and Innovation. Workshop participants will discover their current work talents as input to career planning and identify job opportunity gaps as possible career futures that are a fit with work talents and skill interests. Workshop participants will also start the development of a Five Futures career development plan.

Celebrating the Life and Achievements of H. Scott Fogler (Invited Talks)

11:00 AM — 12:00 PM
Hynes Convention Center, 304

This session honors the life and contributions of H. Scott Fogler, the Vennema Professor of Chemical Engineering and Arthur F. Thurnau Professor at the University of Michigan, who died on August 21, 2021, at age 81. A Fellow of AIChE, Fogler served as the Institute's president in 2009.

ChemE Cube

12:00 PM — 4:00 PM
Hynes Convention Center, Veterans Memorial Auditorium

ChemE Cube is an annual student competition where university teams design, build, and demonstrate a on-cubic foot plant to produce a pre-defined chemistry. ChemE Cube's core values are teamwork, creativity, innovation, sustainable development, and diversity & inclusion.

2021 Hoover Medal Lecture

12:15 PM — 1:15 PM
Hynes Convention Center, Ballroom B

The purpose of this medal is to recognize great, unselfish, non-technical services by engineers to humanity. Established in 1929, this medal commemorates the civic and humanitarian achievements of engineers. It is conferred upon an engineer whose professional achievements and personal endeavors have advanced the well-being of humankind. The Hoover Medal is administered by a board representing five engineering organizations: The American Society of Mechanical Engineers, the American Society of Civil Engineers, the American Institute of Chemical Engineers, the American Institute of Mining, Metallurgical and Petroleum Engineers and the Institute of Electrical and Electronics Engineers.

12:15 PM
Introductory Remarks

12:25 PM
"Black Lives Matter in Science, Engineering and Medicine" and "Success is What You Leave Behind"
Cato T. Laurencin, M.D., Ph.D., *UConn Health University of Connecticut*

In two talks, Dr. Laurencin will focus on the two areas for which he received the Hoover Medal: his work in social justice, and his work in mentoring.

In his first talk, delivered when he received the Herbert W. Nickens Award, he will discuss addressing racism as being key in moving forward to create a more equitable environment. Dr. Laurencin describes the critical need to shift from diversity, inclusion, and equity (D.I.E.) to inclusion, diversity, equity, anti-racism, and learning (I.D.E.A.L.)

In his second talk, he will discuss the 14 principles of success he has taught his students. The principles are a part of his forthcoming biography published by Elsevier, entitled "Success is What You Leave Behind".

The Langer Prize for Innovation and Entrepreneurial Excellence Award Presentation and Lecture

1:45 PM — 3:15 PM
Hynes Convention Center, Ballroom B

Join us for one of AIChE's most prominent awards and lectures, at which Bob Langer will join us to celebrate our 2021 Langer Fellow. The event will include a presentation from our soon to be announced 2021 Langer Fellow, on their blue-sky idea and its potential to have a transformative impact on society. The Langer Fellow will be awarded an unrestricted grant up to $100,000, enabling them to tackle their bold and creative ideas into technical and commercial innovations with broad societal impact."

1:45 PM
Session Welcome & Introduction – Pablo Debenedetti

2:00 PM
Remarks from Bob Langer

2:10 PM
2020 and 2021 Prize Presentation

2:20 PM
Remarks from María Eugenia Inda, 2020 Langer Prize Fellow

2:25 PM
Remarks from Aditya Kunjapur, 2021 Langer Prize Fellow

2:50 PM
Closing Remarks - Terry McGuire & Amy Schulman

2:55 PM
Networking & Light Refreshments

2020 Hoover Medal Lecture

6:15 PM — 7:15 PM
Hynes Convention Center, Ballroom B

The purpose of this medal is to recognize great, unselfish, non-technical services by engineers to humanity. Established in 1929, this medal commemorates the civic and humanitarian achievements of engineers. It is conferred upon an engineer whose professional achievements and personal endeavors have advanced the well-being of humankind. The Hoover Medal is administered by a board representing five engineering organizations: The American Society of Mechanical Engineers, the American Society of Civil Engineers, the American Institute of Chemical Engineers, the American Institute of Mining, Metallurgical and Petroleum Engineers and the Institute of Electrical and Electronics Engineers.

6:15 PM
Introductory Remarks

6:25 PM
Reclaiming the Engineering in the Minds of the Public: The Unheralded, Underappreciated, and Misunderstood Method that Built Our Modern World
William Hammack, *University of Illinois at Urbana-Champaign*

Naively the public assumes the products of engineers arise from the scientific method, as reflected in an old joke among engineers about the relationship of science and engineering: "if it's a success, then it's a scientific miracle, if a disaster, then an engineering failure." This joke highlights that successful technologies are invisible: The hallmark of good engineering is invisibility — we rarely think of our furnace, or a jet's engine, or the purity of a pharmaceutical because the methods to manufacture all these have been honed to perfection. This, though, also hides the creative work of engineers because the public assumes the secret of engineering lies in the mastery of arcane realms of knowledge — sophisticated calculus and powerful computing science implemented by a dispassionate, almost mechanical person — yet the power of engineers to change the world lies in their method, a method used long before sophisticated mathematics and computers. This talk lifts the veil to show, in all its glory, the engineering method, which, once understood, highlights the creativity of engineers, demonstrates their work is the pinnacle of human reasoning, and lays a foundation about how to think about technology — how to decide its proper use and aid it in fulfilling its promise. Using rich examples, this talk strips bare the tools often confused for the engineering method – scientific knowledge, mathematical manipulation – to expose what lies at the heart of the method: a surprisingly simple notion called a "rule of thumb."

TUESDAY, NOVEMBER 9, 2021

Andreas Acrivos Award for Professional Progress in Chemical Engineering Lecture

11:15 AM — 12:15 PM
Hynes Convention Center, Ballroom B

Supported by the generous donors of the AIChE® Foundation. Recognizes outstanding progress in the field of chemical engineering. 1. The recipient must be less than 45 years of age at the end of the calendar year in which the award is presented. 2. The awardee will have made a significant contribution to the science of chemical engineering through one of the following means: a) A theoretical discovery or development of a new principle in the chemical engineering field. b) Development of a new process or product in the chemical engineering field. c) An invention or development of new equipment in the chemical engineering field. d) Distinguished service rendered to the field or profession of chemical engineering. 3. The recipient is invited to deliver an address either at the time of the award presentation or later.

11:15 AM
Directed Evolution of New Adeno-Associated Viral Vectors for Clinical Gene Therapy
David V. Schaffer, *University of California at Berkeley*

Gene therapy – the delivery of genetic material to the cells of a patient for therapeutic benefit – has been increasingly successful in human clinical trials over the past decade, and there are currently five FDA-approved gene therapies. The most successful gene delivery vehicles, or vectors, are based on adeno-associated viruses (AAV); however, vectors based on natural versions of AAV face a number of delivery barriers that limit their efficacy and will thus preclude the extension of these successes to the majority of human diseases. These delivery limitations arise since the parent viruses upon which these vectors are based were not evolved by nature for our convenience to use as human medicine. Unfortunately, due to the highly complex mechanisms of virus-host interactions, there is currently insufficient mechanistic knowledge to enable rational design to be sufficiently successful in creating new vectors. As an alternative, however, we developed the concept of using directed evolution to engineer highly optimized variants of AAV for a broad range of cell and tissue targets. Directed evolution involves the iterative genetic diversification of a biomolecule to create a gene pool and functional selection to isolate variants with optimal properties. Using this approach, we have engineered AAV variants with greatly improved delivery efficiency to multiple organs including the retina; lung, and muscle; targeted delivery to specific cell types; and the capacity to evade immune responses. Our novel AAV variants are currently used in 5 human clinical trials involving delivery to the retina and heart, and additional products will enter into the clinic this year.

In parallel, the advent of genome editing technologies such as the CRISPR/Cas9 system raise the possibility of using gene delivery not only for gene replacement but for repair or knockout of endogenous genes. We have thus been combining engineered AAVs with CRISPR/Cas9 for a range of applications. The integration of these new technologies – AAV delivery or genome editing machinery – can enable a broad range of basic and therapeutic applications.

LGBTQ+ Inclusion in Engineering: Advocating for Minorities

3:30 PM — 6:00 PM
Hynes Convention Center, 204
LGBTQ+ and Allies Community

Panel discussion to focus on how to become an effective ally as a part of a separate minority group within engineering. Engineers who have experienced discrimination have unique opportunities to effectively advocate for others. These opportunities will be discussed, along with the nuanced limitations to extrapolating from one person's experiences with discrimination, even within their own communities when intersectionality is considered. We expect to share actionable suggestions that our various minority communities can use in their careers to help AIChE realize the goals of the IDEAL Statement for all members.

SBE's James E. Bailey Award Lecture

7:00 PM — 7:45 PM
Hynes Convention Center, 302

This award is sponsored by the Society for Biological Engineers. In memory of Professor Jay Bailey for his many pioneering contributions to biotechnology, the award is presented to an individual who has had an important impact on bioengineering and whose achievements have advanced this profession in any of its aspects. The recipient should have a distinguished record of service to the profession. They should also be involved in the direct engagement of biology with engineering.

7:00 PM
Presentation of Biotechnology Progress Award for Excellence in Biological Engineering Publication

7:05 PM
Synthetic Biology: Life Redesigned
James J. Collins, *Wyss Institute for Biologically Inspired Engineering, Harvard University*

Synthetic biology is bringing together engineers, physicists and biologists to model, design and construct biological circuits out of proteins, genes and other bits of DNA, and to use these circuits to rewire and reprogram organisms. These re-engineered organisms are going to change our lives in the coming years, leading to cheaper drugs, rapid diagnostic tests, and synthetic probiotics to treat infections and a range of complex diseases. In this talk, we highlight recent efforts to create synthetic gene networks and programmable cells, and discuss a variety of synthetic biology applications in biotechnology and biomedicine.

SCHEDULE OF EVENTS + PRESENTATIONS

WEDNESDAY, NOVEMBER 10, 2021

John M. Prausnitz AIChE Institute Lecture

11:15 AM — 12:15 PM
Hynes Convention Center, Ballroom B

Supported by the generous donors of the AIChE® Foundation. The Executive Board of the Program Committee invites a distinguished member of AIChE to present a comprehensive authoritative review of the chemical engineering science in his or her field of specialization. Selection criteria include: 1. the quality and relevance of the accomplishments of the lecturer in the technical field likely to be the subject of the lecture, 2. the communication skills of the lecturer, 3. the value of the lecture to the meeting attendees and the members of the Institute

11:15 AM
Viruses, Immunity, and Vaccines
Arup K. Chakraborty, *Massachusetts Institute of Technology*

Infectious disease-causing pathogens have plagued humanity since antiquity, and the COVID-19 pandemic has been a vivid reminder of this perpetual existential threat. Vaccination has saved more lives than any other medical procedure, and indeed, effective vaccines now promise to end the COVID-19 pandemic. However, we do not have effective vaccines against rapidly mutating viruses, such as HIV; nor do we have a universal vaccine against seasonal variants of influenza. The ability to develop effective vaccines that protect us from highly mutable viruses will help create a more pandemic-resilient world. In this lecture, I will describe how by bringing together approaches from engineering and the life and physical sciences, progress is being made to address this challenge. Specifically, I will describe approaches that aim to define the mutational vulnerabilities of mutable viruses, and design vaccines that elicit immune responses that can target these vulnerabilities. The application of these approaches toward the development of effective HIV and influenza vaccines will be discussed.

IDEAL Featured Session: A Conversation on Equity, Diversity, and Inclusion

3:30 PM — 5:00 PM
Hynes Convention Center, 204

This year's Meeting theme deals with the crucial partnership between academia and industry for the 21st century. In keeping with this theme, and in line with AIChE's recent adoption of the IDEAL Statement, this session will bring together critical perspectives from the Chemical Engineering community to address the importance of early adoption of Diversity, Equity and Inclusion (DEI) efforts within an educational setting so that these principles can take root and last in the professional setting.

The session will feature remarks from Karl W. Reid, Ed.D., CDP, Senior Vice Provost, Chief Inclusion Officer and Professor of Practice, Graduate School of Education, Northeastern University. Following his lecture, the session will open up for a dynamic panel discussion with representatives from four of AIChE's communities, followed by a networking reception.

3:30 PM
Introductory Remarks

3:35 PM
EDI Challenges from Academia onward into Industry
Karl W. Reid, *Northeastern University*

4:10 PM
Panel Discussion
Melissa Postlewaite, *Disabilities OutReach & Inclusion Community (DORIC)*

Tony Butterfield, *LGBTQ+ and Allies Community*

Karen Romero, *Minority Affairs Committee (MAC)*

Caryn Heldt, *Women in Chemical Engineering (WIC) Community*

DON'T FORGET TO JOIN US VIRTUALLY!

2021 AIChE Annual Student Conference
November 13-14, 2021 - Online
aiche.org/asc

2021 AIChE Annual Meeting
November 15-19, 2021 - Online
aiche.org/annual

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The Global Home of Chemical Engineers

AIChE® would like to thank

the chemical engineering students and faculty at Northeastern University

for their contributions to the 2021 AIChE Annual Student Conference.

AIChE® ENGAGE STUDENT CENTRAL

The Exclusive Benefit to Help Kick Start Your School Year.

- Ask questions related to your chemical engineering studies
- Ask career-related questions
- Suggest or get suggestions on improving your student chapter
- Help other students by answering their questions
- Chat about the student conferences and other undergraduate student events
- Update your member profile information to reflect your best
- Volunteer and give back to the ChemE community through AIChE Engage Volunteer Central

AIChE Engage App
Download on iOS or Android to stay involved on the go.

AIChE Engage

Get involved with AIChE today at engage.aiche.org.

AIChE Student Awards Ceremony

Sunday, November 7, 2021 | 11:00 AM – 12:30 PM

John J. McKetta Undergraduate Scholarship Award

Sponsored by the Dekker Foundation

Awarded for the nineteenth year in 2021, this scholarship, named in honor of Professor Emeritus John J. McKetta, recognizes a chemical engineering undergraduate who is planning a career in the chemical engineering process industry.

Alexa Lowman-Tucker, *Brigham Young University*

ScaleUp Sponsor Essay Contest

Under the aegis of AIChE and its ScaleUp Program, ScaleUp corporate sponsors are awarding scholarships to be used as travel stipends for this year's AIChE Annual Student Conference. To qualify, students must have a declared major in chemical engineering and complete a written essay on a topic determined by the corporate sponsor.

CHEVRON AWARDS

Anthony Wagner, *University of Iowa*

Utkarsh Mishra, *NIT Rourkela*

HONEYWELL UOP AWARD

Pranjal Maheshwari, *Institute of Petroleum Technology*

Donald F. and Mildred Topp Othmer Scholarship Awards

Each year students are awarded scholarships based on outstanding academic achievement and involvement in Student Chapter activities.

Hannah Boyce, *Northeastern University*

Nolan Burson, *The University of Iowa*

Madeline Carroll, *Lafayette College*

Matthew Jeon, *University of Southern California*

Emma Madrigal, *Virginia Commonwealth University*

Juan Carlos Martínez, *Universidad San Francisco de Quito*

Lauren Molloy, *University of Michigan*

Nathaniel Nichols, *University of New Hampshire*

Skyler Parker, *University of Toledo*

Emma Rich, *Mississippi State University*

Nicholas Sbalbi, *University of Massachusetts Amherst*

Ameera Seetahal, *New Jersey Institute of Technology*

Ryan Tucker, *Brigham Young University*

Cindy Wong, *Oregon State University*

Vincent Xia, *Stanford University*

Donald F. Othmer Sophomore Academic Excellence Awards

Presented to one student in each Student Chapter who has attained the highest scholastic grade point average during his or her freshman and sophomore years.

Peter Abraham, *Auburn University*
Andrea Aguila Vera, *Escuela Superior Politécnica del Litoral*
Siddharth Ajith, *Institute of Chemical Technology, Indian Oil Odisha Campus*
Zeynep Alptekin, *University of Massachusetts Amherst*
Kelsey Baker, *University of North Dakota*
Damola Bankole, *Obafemi Awolowo University*
Sarah Benson, *Northeastern University*
Andrew Berley, *North Carolina State University*
Anwesha Bhattacharya, *MIT World Peace University, Pune*
Viraj Boghani, *Ahmedabad University*
William Borlik, *University of California, Santa Barbara*
Anthony Bridges, *Benedictine College*
Annabelle Broussard, *Lamar University*
Owen Chamness, *Clemson University*
Suyog Choudhary, *AISSMS College of Engineering, Pune*
Sarah Clench, *University of California Davis*
Mateo Colorado-Zapata, *Universidad Nacional de Colombia - Sede Medellín*
Casey Cox, *Rowan University*
Jenna Crouse, *University of Wyoming*
Aashi D Parekh, *BMS College of Engineering*
Maria Paula Davila Velasquez, *Universidad Nacional de Colombia - Sede Bogotá*
Catalina Diaz Calderon, *Universidad Industrial de Santander*
Isabella DiGiulio, *Bucknell University*
Musfekur Rahman Dihan, *Bangladesh University of Engineering and Technology*
Daniel Dolce, *New Mexico Institute of Mining and Technology*
Tory Driskill, *University of Kentucky - Paducah*
Kevin Dunn, *Colorado School of Mines*
Danielle Flores, *University of South Alabama*
Esha Ghai, *Rice University*
Layla Ghalayini, *Georgia Institute of Technology*
Shubham Giri, *National Institute of Technology, Rourkela*
Andy Gregory, *Texas Tech University*
Jacob Hewes, *University of Delaware*
Allison Hohenshil, *Cornell University*
Markus Hughes, *University of British Columbia*
Kathryn Jackson, *University of Tennessee Chattanooga*
Naitik Jain, *Indian Institute of Technology, Roorkee*
Anupama Jayaraman, *University of Virginia*
Tuana Karaarslan, *Koc University*
Brandyn Kimball, *Virginia Commonwealth University*
Adam Klinger, *Syracuse University*
Mariana Yukari Kukita Goncalves, *University of South Florida*
Aaron Law, *University of Idaho*
Amanda Lee, *Michigan State University*
Madison Liguori, *University of New Haven*
Cheng-Hsin Liu, *University of California, Berkeley*
Nicole Lomelin, *ITESM*
Zach MacDonald, *Brigham Young University*
Aaryan Makhija, *BITS Pilani*
Samuel Mercer, *University of New Hampshire*
Nadia Owen, *University of California, Los Angeles*
Katie Papineau, *Oregon State University*
Skyler Parker, *University of Toledo*
Narelly Portela Matos, *Universidade Federal do Rio de Janeiro*
Luke Ralenkotter, *University of Louisville*
Ashley Riser, *Mississippi State University*
Carlos Henrique Rocha Oliveira, *Universidade Federal do Ceará*
Devin Rosmarin, *Lafayette College*
Darshiben Shah, *New Jersey Institute of Technology*
Adeelah Shamshuddin, *Illinois Institute of Technology*
Connor Smith, *Manhattan College*
Chase Thomas, *Brown University*
Jacqueline Tirtadinata, *Institut Teknologi Sepuluh Nopember*
Paul Twarog, *University of Cincinnati*
Bryce Tyburski, *University of Michigan*
Anshika Verma, *Rajiv Gandhi Institute of Petroleum Technology*
Franco Vetanzo, *Universidad Nacional de Ingeniería*
Anthony Wagner, *The University of Iowa*
Sophie Williams, *University of Florida*
Grace Wright, *Iowa State University*
Samuel Wyse, *University of Kentucky - Lexington*
Sofia Yañez, *Universidad de Ingeniería y Tecnología*
Richael Zhang, *Purdue University*

AWARDS CEREMONY

Freshman Recognition Awards

Presented to the one student member in each Student Chapter who has been the most active in their Student Chapter during their freshman year.

Murat Agca, *Purdue University*
BriAnna Amundson, *University of North Dakota*
Audrey Birkenbaugh, *Kansas State University*
Catherine Boltz, *Mississippi State University*
Jaxon Boudreau, *University of New Hampshire*
Ryan Cortes, *Georgia Institute of Technology*
Charlotte Creekmore, *University of Kentucky - Paducah*
Jack Danley, *Colorado School of Mines*
Adam Decker, *Iowa State University*
Nicholas Defillips, *University of South Florida*
Darshan Desadla, *AISSMS College of Engineering, Pune*
Nyssa Engebo, *Oregon State University*
Brooke Erickson, *University of Florida*
Ryann Finlayson, *University of Kentucky - Lexington*
Bryn Gerlach, *University of Michigan*
Zachary Gill, *North Carolina State University*
Isabelle Giorgis, *Lafayette College*
Davine Dorothy Halim, *Institut Teknologi Sepuluh Nopember*
Seth Hall, *Brigham Young University*
Brayden Halloway, *University of Toledo*
Batuhan Hekimler, *Koc University*
Tiffany Jones, *Bucknell University*
Diya Kapur, *University of California, Los Angeles*
Ashley Keeley, *University of Idaho*
Aron Korsunsky, *University of Massachusetts Amherst*
Roland Lassiter, *New Mexico Tech*
John Lazenby, *University of Tennessee Chattanooga*
Namkhang Le, *Virginia Commonwealth University*
Frances Lofranco, *University of California Davis*
Nicole Loureto Alves, *Universidade Federal do Ceará*
Abigail Martin, *Rowan University*
Trinity Martin, *Illinois Institute of Technology*
Vidhi Mehare, *MIT World Peace University, Pune*
Mustakim Moyeed, *Bangladesh University of Engineering and Technology*
Miyu Mudalamane, *University of Delaware*
Pragnay Nevatia, *University of California, Berkeley*
Anannya Oli, *Ahmedabad University*
Ava Palicki, *Texas Tech University*
Arpit Pati, *National Institute of Technology Rourkela*
Fabiana Perez, *Syracuse University*
Prakyath Prakash Thalya, *BMS College of Engineering*
Jhanela Yhaniré Quispe Zegarra, *Universidad Nacional Mayor de San Marcos*
Gabriel Ramos, *Universidad Nacional de Ingeniería*
Mason Razz, *Michigan State University*
María Paula Román Arévalo, *Universidad Nacional de Colombia*
Daniela Sancheschulz, *Tecnologico de Monterrey*
Anshh Seksaria, *BITS Pilani*
Benjamin Sudhoff, *University of Cincinnati*
Nicole Szponar, *New Jersey Institute of Technology*
Erovwosere Ubogun, *Obafemi Awolowo University*
Yashi Vijay, *Rajiv Gandhi Institute of Petroleum Technology*
Damaris Williams, *University of New Haven*
Melody Youwakim, *Lamar University*
Lidia Zegarra, *Universidad de Ingeniería y Tecnología*
Veronika Zenova, *University of British Columbia*
Alan Zhang, *Northeastern University*

Outstanding Student Chapter Advisor Award

Recognizes an individual's outstanding service and leadership in guiding the activities of an AIChE Student Chapter in accordance with AIChE principles.

Y. A. Liu, *Virginia Polytechnic Institute and State University*

AWARDS CEREMONY

Outstanding Student Chapter Awards

Presented annually to those Student Chapters that show an exceptional level of participation, enthusiasm, program quality, professionalism and involvement in the university and community.

Ahmedabad University
Dr.Snigdha Khuntia & Dr.Arijit Ganguli, *Advisors*
Het Baboo & Parth Patel, *Presidents*

All India Shri Shivaji Memorial Society's College of Engineering, Pune
Parmanand Dange, *Advisor*
Manali Kulkarni, *President*

Bangladesh University of Engineering and Technology
Dr. Md. Iqbal Hossain, *Advisor*
S.M. Nafiz Ahmed & Ishmamul Hoque Sadab, *Presidents*

Brigham Young University
David O. Lignell, *Advisor*
Alexa Lowman, *President*

Centro Universitário SENAI CIMATEC
Cristiane Leal, *Advisor*
Marcos Felipe Pereira, *Bruna Bastos, & Júlia Pedreira, Presidents*

Escuela Superior Politécnica del Litoral
Santiago Salas, *Advisor*
Juan Díaz-Granados, Cristina Chamba, & Fernando Zea, *Presidents*

Federal University of Rio de Janeiro
Bruno Capron, *Advisor*
Marina Nunes Lamim, *President*

GSFC University
Sanjukta Bose Goswami & Gaurav Saxena, *Advisors*
Jayrajsinh Parmar, Tirth Patel, & Nitya Shah, *Presidents*

Illinois Institute of Technology
Donald Chmielewski, *Advisor*
Jessica Forbes & Jake Tracey, *Presidents*

Institut Teknologi Sepuluh Nopember
K Kusdianto, S.T., M.Sc.Eng, *Advisor*
Jason Aditya Purnama & Tetuko Muditoaji Kartodirdjo, *Presidents*

Koç University
Alper Uzun & Nurcan Tunçbağ, *Advisors*
Burcu Özer & Mehmet Akif Aktaş, *Presidents*

Lamar University
Tracy Benson, *Advisor*
Rose Alincastre & Caroline Bridges, *Presidents*

Mississippi State University
Julie Jessop, *Advisor*
Clayton Dickerson & Nancy Usey, *Presidents*

MIT World Peace University
Prof. Datta Dandge, *Advisor*
Sunil Makwana, *President*

National Institute of Technology, Rourkela
Dr. Sujit Sen & Dr. Biswajit Saha, *Advisors*
ABHISEK AGARWAL, *President*

New Jersey Institute of Technology
Roman Voronov, *Advisor*
Emma Hamza, *President*

North Carolina State University
Kim Roberts & Adam Helsel, *Advisors*
Joseph Holder & Emily Spero, *Presidents*

Northeastern University
Courtney Pfluger, *Advisor*
Hannah Boyce, *President*

Oklahoma State University
Mari Andiappan, *Advisor*
John Michael, *President*

Purdue University
Sangtae Kim & Michael Harris, *Advisors*
Ashley King, *President*

Sardar Vallabhbhai National Institute of Technology
Dr. Meghal Ashwinkumar Desai, *Advisor*
Javed Alam Saifi, *President*

AWARDS CEREMONY

Texas A&M
Katherin Toback, *Advisor*
Chip Alberstadt, *President*

Texas Tech University
Carla Lacerda, *Advisor*
Emil Khusnatdinov, *President*

The University of Iowa
David Murhammer, *Advisor*
Elizabeth Occhi & Nolan Burson, *Presidents*

TKM College of Engineering
Al Ameen A, *Advisor*
Madhava Krishnan, *President*

Universidad de Ingeniería y Tecnología - UTEC
Francisco Tarazona, *Advisor*
Arnold Lazaro & Renzo Balaguer, *Presidents*

Universidad Nacional de Colombia – sede Medellin
Alejandro Molina Ochoa, *Advisor*
Aura Cristina Ramirez Ramirez, *President*

Universidad Nacional de Colombia – Sede Bogotá
Álvaro Orjuela Londoño, *Advisor*
Rosa Inés Pinchao Chalaca & David Steven Castro Arguello, *Presidents*

Universidad Nacional de Ingeniería
Ramiro Canchucaja, *Advisor*
Denis Alfonte, *President*

Universidade Federal do Ceará
Célio Cavalcante, *Advisor*
Gerson Ferreira, *President*

Universidade Federal do Paraná
Agnes de Paula Scheer, *Advisor*
Mariana Pereira Kasin & Luana Ianegitz, *Presidents*

University of California, Berkeley
Susan Muller, *Advisor*
Ashutosh Bhadouria, *President*

University of Delaware
Joshua Enszer, *Advisor*
Erin Hogan & Ryan Buchser, *Presidents*

University of Florida
Sindia Rivera-Jimenez, *Advisor*
Pragati Patel, *President*

University of Kentucky, Lexington
James Hilt, *Advisor*
Joseph Tapia, *President*

University of Michigan
Dr. Bryan Goldsmith, *Advisor*
Lena Young, *President*

University of South Florida
Ryan Toomey, *Advisor*
Joshua Irvin, *President*

Vellore Institute of Technology, Vellore
Monash Purushothaman & Dharmendra Kumar Bal, *Advisors*
Abhimanyu Milan & Shaily Gupta, *Presidents*

Virginia Polytechnic Institute and State University
Y.A. Liu, *Advisor*
Ian Davis, *President*

Minority Serving Institutions Scholarship Travel Grants

Sponsored by the AIChE Foundation

The purpose of this award is to facilitate the mentoring, participation and leadership development of students from four MSI Institutes with an emphasis on Historically Black Colleges and Universities, to attend the Annual Student Conference and to strengthen AIChE's relationship with these future leaders.

Jasmine Alarcon, *University of California, Davis*
Erikson Allen, *North Carolina State University*
Diana Alvarado, *New Mexico Institute of Mining & Technology*
Uzoma Aniche, *California State University Sacramento*
Victoria Blanco-Pineda, *University of North Carolina at Charlotte*
Amari Butler, *Harvard University*
Trinity Coates, *Syracuse University*
Giovani Costa, *Dartmouth College*
Nicole Enriquez, *The University of the Pacific*
Antonio Garcia, *Loyola Marymount University*
Lillian Gough, *Central Methodist University*
Tiffani Grayes, *The College of Wooster*
Andrea Green, *Georgia Institute of Technology*
Owali Moeai, *Brigham Young University*
Khalifa Munyagane, *Brigham Young University*
Nicolas Musa, *University of California - Berkeley*
Mireya Narvaez, *University of Michigan*
Renaud Fred Noubieptie Kamgang, *The George Washington University*
Olamide Omisakin, *New Jersey Institute of Technology*
Kodiak Ortiz, *New York University*
David Quarles, *Duke University*
Madelena Ruedaflores, *Yale University*
Edgar Salinas, *University of Iowa*
Makenzy Sarracino, *Fort Lewis College*
Alyssa Stevens, *Mount St. Joseph University*
Brandon Ugbesia, *University of Massachusetts, Amherst*
Karen Vera, *Northern Arizona University*
Tyler Void, *North Carolina State University*
Amanda Webb, *University of Michigan*
Seth Williams, *University of South Florida*
Messiah Williams, *Dominican University of California*

C'mon Everybody. Get Together!

Upcoming AIChE® Student Conferences and Programs

NOVEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Don't miss the rest of the 2021 AIChE Annual Student Conference and Annual Meeting!

2021 AIChE Annual Student Conference

aiche.org/asc
November 13-14, 2021 - Online

2021 AIChE Annual Meeting

November 7-11, 2021 - Boston, MA
November 15-19, 2021 - Online

2022 AIChE Annual Student Conference

November 11-14, 2022 - Phoenix, AZ

Four days of career information, social events and competitions. Over 1,500 chemical engineering students from around the globe will be in attendance.

Includes registration to:

2022 AIChE Annual Meeting

aiche.org/annual
November 13-18, 2022 - Phoenix, AZ
Learn from industry leaders and meet thousands of chemical engineering professionals.

2022 & 2023 AIChE Student Regional Conferences

Dates and hosts to be announced!

2023 AIChE Annual Student Conference

November 3-6, 2023 - Orlando, FL

For current dates and details, visit: aiche.org/conferences/student

AIChE ScaleUp

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AIChE Chem-E-Car Competition® Finalists

Sunday, November 7, 2021 | 12:30 PM - 4:00 PM | Boston, MA
Sunday, November 14, 2021 | 9:00 AM - 12:00 PM | Online

Sponsored by Chevron
First Place Prize funded by the H. Scott Fogler Endowment

These teams have designed and built vehicles powered solely by chemical reactions.

Auburn University
Centro Universitario FEI
Cornell University
Dalian University of Technology
GSFC University
Hubei University of Arts and Science
Iowa State University
MIT World Peace University
Montana State University
New Jersey Institute of Technology
North University of China
Northeastern University
Oregon State University
Purdue University
South Dakota School of Mines
Stony Brook University
The University of British Columbia
Trine University
Universidad Industrial de Santander
University of Arkansas
University of California Irvine
University of Florida
University of Illinois at Urbana - Champaign
University of Kentucky
University of North Alabama
University of Pittsburgh
University of Rhode Island
University of Tennessee at Chattanooga
University of Tennessee Knoxville
University of Toledo
Virginia Tech
Youngstown State University

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Register and complete SAChE courses for free, anytime. No application is required, as courses are free for AIChE student members. Not a student member? If you're an undergraduate student, you can sign up for a free AIChE Undergraduate Membership today!"

A Benefit to You, the Profession and the Planet
The SAChE Certificate Program is part of the Undergraduate Process Safety Learning Initiative, a global effort to ensure that every chemical engineering graduate has working knowledge of process safety.

By completing 24 of these courses you can earn a comprehensive 'Process Safety Fundamentals' program certificate.
aiche.org/academy/courses/elp900/ccpsf-ccps-process-safety-fundamentals-certificate-program

Certificates available to you now includes:

Level One (Basic) Curriculum
- *Introduction to Process Safety*
- *Hazard Recognition*
- *Identifying & Minimizing Process Safety Hazards*
- *An Introduction to Managing Process Safety Hazards*
- *Lab Safety*

Level Two (Intermediate) Curriculum, 12 Courses such as:
- *Explosion Hazards*
- *Source Models*
- *Toxicological Hazards*
- *Chemical Reactivity Hazards*
- *Fire Hazards*
- *Understanding Hazards and Risk*

Level Three (Advanced) Curriculum, 15 Courses such as:
- *Risk Review Using LOPA (Layer of Protection Analysis)*
- *The Role of Inert Gases in Process Safety*
- *Common Chemicals and Their Major Hazards*
- *Risk Based Process Safety - Manage Risk: Operations*

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