

ASEE Chemical Engineering Division Newsletter

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A Message from the Chair:



Anthony Butterfield
University of Utah

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I have to admit, last year at this time I was imagining being chair of our division with this world-wide pandemic in our rearview mirrors. Piloting our division in such stressful times struck me as quite a challenge. I already had a great measure of admiration for our past two chairs before this crisis, Matthew Cooper and Ashlee Ford Versypt. My appreciation for them certainly grew as they managed division business through uncharted territory with skillful leadership, while also contributing in novel ways to our community.

I would first encourage our division members to continue to take advantage of their ongoing positive impacts on our community. Matt Cooper's engineering education podcast, *In the (Fume) Hood*, may be found on your local podcast app, for example: <https://podcasts.apple.com/us/podcast/in-the-fume-hood/id1495105>. Please also consider contributing to and learning from the ongoing discussion series on DE&I issues in engineering education, initiated by Ashlee Ford Versypt and now continued on by Janie Brennan and Sindia Riveria-Jimenez (sign-up form: <https://forms.gle/LqsYjJ8qMVgzFo9S6>). Our students and colleagues are in particular need of such thoughtful support, advocacy, and understanding.

Now though, it seems my term as chair will take place during a resurgence of this pandemic. And okay, fine. To be frank, my big summer plans have not come to any comparably impactful new division initiatives. Like most of you, these last several semesters have been an education in professorial and personal triage. We've taken on the classes of colleagues in sudden quarantine; we've worried over students we've only known as a name in a zoom window; we've hurried together unit ops experiments that could be done by students recovering in their dorm rooms; and some of us have lost loved ones, only to barely compose ourselves for lecture the next day. I dare say we've all spit into far more test tubes on campus than we'd ever have predicted when we began our faculty career.

As such, my "message from the chair" will be only gratitude this fall. Each ASEE conference I'm reminded how fortunate I am to know the folks in our division, by their talents as educators and their compassion as people. With the inspiration you all have given me in these tough times, I can only imagine the thousands of students who have also leaned on your example, while obtaining a difficult degree in difficult times. If we could, let us pretend that, as chair of our division, I have some sort of grand authority to tell you "*Thank you; you've been amazing through all this, and you should take it easy on yourself.*" When your department chair next asks you to join some committee or author more proposals, you can tell them the chair of our *national* division said that you've taken on enough this year...

As I rally and work towards adding my own unique touches to our division, I wish you all the best and may you and yours be well.

Anthony E. Butterfield

Anthony (Tony, he/they) E. Butterfield

Remember H. Scott Fogler (1939 – 2021)

Professor H. Scott Fogler, Arthur F. Thurnau Professor and Vennema Professor of Chemical Engineering at University of Michigan, passed away on August 21, 2021.

Almost everyone in the Chemical Engineering world knows the name “Professor Scott Fogler” or at least remembers one of his textbooks on reaction kinetics or creative problem-solving. All of which have had a huge impact on the chemical engineering world. Prof. Fogler was always willing to stop to talk, sign a textbook, or take a picture at a conference or during visits to Chemical Engineering departments across the world. He will be missed by the Chemical Engineering Department at University of Michigan as well as the greater Chemical Engineering community that he so loved.

Outside of his textbooks and research, Prof. Scott Fogler created the Chem-E-Car Competition which now includes the endowed “Scott Fogler AIChE Chem-E-Car Competition First Place Prize” as well as served as AIChE President in 2009. Prof. Fogler also served as the President (1988-1989) as well as a trustee for the Computer Aids for Chemical Engineering (CACHE) organization. Most recently, Prof. Fogler was working on building modules on process safety for easy implementation into core Chemical Engineering courses. This initiative will be continued by his colleagues at the University of Michigan.

A session “Celebrating the Life and Achievements of H. Scott Fogler” will be held during the AIChE National Conference on Monday, November 8, 2021 from 11:00 AM - 12:00 PM. It is being co-hosted by AIChE and the University of Michigan and will be held in the John B. Hynes Veterans Memorial Convention Center room 304. More information about Professor Fogler’s life and time at University of Michigan as well as a link to a tribute archive page where you can share memories or condolences can be found on the University of Michigan Chemical Engineering website at: <https://che.engin.umich.edu/2021/08/24/remembering-h-scott-fogler/>

- Chris Barr

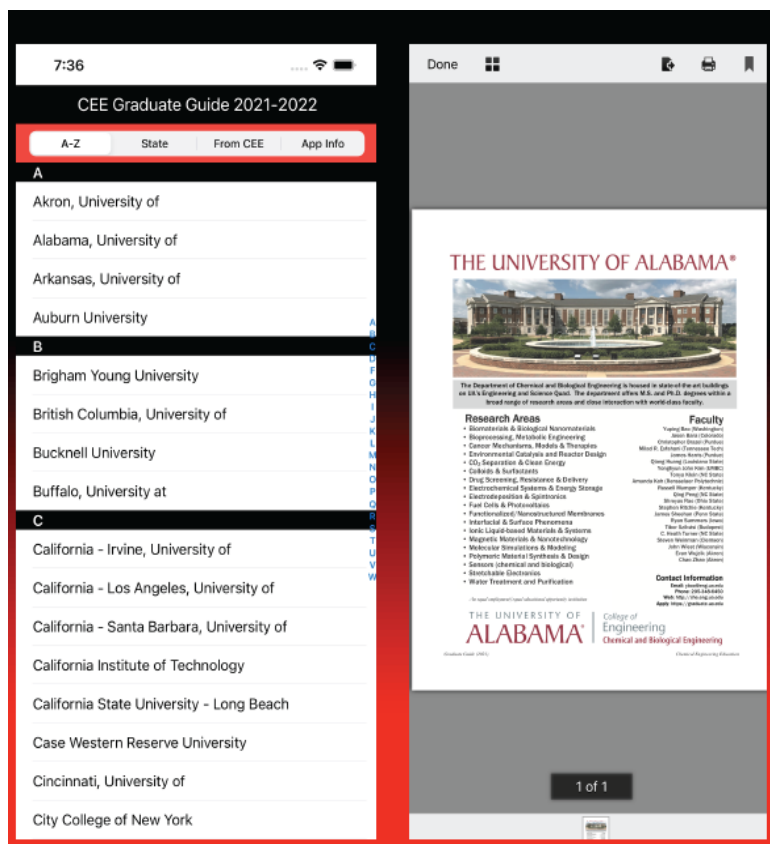


Scott Fogler with University of Michigan Chemical Engineering Department Chair, Sharon Glotzer, and a Scott Fogler cookie at his 80th birthday celebration. AIChE 2019.

CEE Graduate Guide

The *Chemical Engineering Education* Graduate Guide 2021-2022 is published annually as an [iPhone app](#) and on our [website](#). Within the CEE Grad Guide is nearly 100 advertisements for graduate programs in chemical engineering across the US and beyond. Additionally, there is a short article that provides advice (from our Editorial Team and Publications Board) to undergraduate students who are contemplating graduate school.

If you interact with undergraduate students, especially juniors and seniors, who are thinking of options available to them after they graduate with their B.S. degree, I ask you to send them links to the CEE Grad Guide that are provided above.



Diversity, Equity and Inclusion (DEI) Requirements Upon Submission to CEE

Starting at the beginning of 2021, CEE issued a policy that required authors to consider their work through “a DEI lens”. To meet this requirement, authors either had to discuss how their work was viewed from a DEI perspective within the submitted manuscript or in their letter of submission to the Editor. As we approach the latter stages of 2021, a rough estimate would be that about half the time I had to remind an author of this requirement, which necessitated a resubmission (of the manuscript or the letter of submission).

At a later date (no earlier than January 1, 2022), CEE will likely require all unsolicited submissions to the journal to meet this requirement within the manuscript itself. Once a formal decision is made, information will be posted on the Announcements page of the [journal submission website](#).

Don Visco
Editor, *CEE*

2021 ASEE Chemical Engineering Division Award Recipients

William H. Corcoran Award

**Sponsored by the ASEE
Chemical Engineering
Division**

***This award is presented to
the author of the most
outstanding article published
in Chemical Engineering
Education.***

***“Revealing the Decision-Making
Processes of Chemical
Engineering Students in
Process Safety Contexts”***



**Cheryl Bodnar, Emily Dringenberg, Brittany Butler,
Daniel Burkey, Daniel Anastasio, Matthew Cooper**

Joseph J. Martin Award

***Recognizes the most outstanding
Chemical Engineering Division
paper presented at the ASEE
Annual Conference***

***“Using Incident Reporting to Integrate
Hazard Analysis and Risk
Assessment into Unit Operations
Lab”***

Using Incident Reporting to Integrate Hazard Analysis and Risk Assessment into the Unit Operations Lab

Abstract

Since 2017, instructors from six universities have collaborated to better understand and improve the integration of process safety into chemical engineering unit operations (UO) laboratories. While past studies by the team have focused on assessing the state of UO lab safety education, the current study aims to implement new strategies for improving process safety education in the UO labs. By examining the Safety and Chemical Engineering (SACHE) process safety learning outcomes, hazard analysis and risk assessment were identified as the first priority for integration into these university labs, as they are most relevant to a laboratory setting and not heavily covered elsewhere in these university chemical engineering curricula. For integration, a safety incident reporting structure was developed to allow students to report safety incidents and assess hazards and risk levels. Students were asked to categorize the incidents as being related to personal, process, or environmental safety, and were then asked to assess risk levels. The goals of the reporting structure were to increase student awareness of these topics, improve safety culture, and develop an understanding of actual risk frequencies in the undergraduate teaching labs.

**Sarah Wilson, Samira Azarin, Chris Barr,
Janie Brennan, Tracy Carter, Amy Karlsson**

2021 ASEE Chemical Engineering Division Award Recipients

Donald Woods Lectureship Award for Lifetime Achievement in Chemical Engineering Pedagogy



Milo Koretsky
Tufts University

Milo Koretsky received his BS and MS degrees from UC San Diego and his PhD from UC Berkeley, all in chemical engineering. Prior to joining Tufts University in April 2021, he was a faculty member in the Department of Chemical, Biological, and Environmental Engineering at Oregon State University (OSU). Koretsky began his career pursuing canonical chemical engineering research focusing on plasma processes and thin film materials research. In a mid-career transition, he switched to engineering education research where he led the transition of the curriculum in chemical, biological, and environmental engineering to a studio model and led the development of technology based instructional tools such as the Concept Warehouse. He is author of the popular textbook, Engineering and Chemical Thermodynamics.



Taryn Melkus Bayles
University of Pittsburgh

Taryn Melkus Bayles is a non-tenure stream (NTS) Professor of Chemical and Petroleum Engineering, and has formerly served as the Chair of the AIChE Education Division. She has spent part of her career working in industry with Exxon, Westinghouse and Phillips Petroleum. Her industrial experience has included process engineering, computer modeling and control, process design and testing, and engineering management. She has also spent over 20 years teaching Chemical Engineering at the Univ. of Nevada Reno, Univ. of Pittsburgh, Univ. of Maryland College Park and Univ. of Maryland Baltimore County. In her courses she incorporates her industrial experience by bringing practical examples and interactive learning to help students understand fundamental engineering principles.

Her research focuses on Engineering Education and Outreach to increase awareness of and interest in pursuing engineering as a career, as well as to understand what factors help students be successful once they have chosen engineering as a major. She is the co-author of the INSPIRES (INcreasing Student Participation, Interest and Recruitment in Engineering & Science) curriculum, which introduce high school students to engineering design through hands-on experiences and inquiry-based learning with real world engineering design challenges.

2021 ASEE Chemical Engineering Division Award Recipients



John Falconer
Professor Emeritus of Chemical Engineering
University of Colorado

The Thomas and Donna Edgar CACHE Award for Excellence in Chemical Engineering Education

Sponsored by the CACHE Corporation

*This award, is presented for significant
contributions in the development of computer
aids for chemical engineering education.*

Ray W. Fahien Award

This award is given in honor of Ray Fahien, who was editor of Chemical Engineering Education from 1967-1995, and who was effectively the founding father of the journal, establishing it as a premier publication vehicle in the field of chemical engineering education. This award is given to an educator who has shown evidence of vision and contribution to chemical engineering education within their first 10 years as faculty.



Elif Miskioglu
Assistant Professor of Chemical Engr.
Bucknell University

Inspired to nominate a colleague for an award? Check out the details for nominations on the next page!

Nominations for Division Awards

For contact info and the most complete version of each award description, criteria, and nomination materials please see: <http://ched.asee.org/awards/> and <http://ched.asee.org/awards/nomination-information/>

Awards with a nomination deadline of October 31:

ChE Division Young Faculty / Future Faculty Mentoring and Travel Grant

All chemical engineering or chemistry faculty within their first two years of teaching, or graduate students in chemical engineering or a related field and intending to go into teaching as a career are eligible. The amount of the honorarium, intended to subsidize travel to the conference, and will include a ticket to the ChE Division Banquet. A condition of the grant is that the winner attends the meeting and presents their paper.

Awards with a nomination deadline of January 15:

The Thomas and Donna Edgar CACHE Award for Excellence in Chemical Engineering Education

This award, sponsored by the CACHE Corporation, is presented for significant contributions in the development of computer aids for chemical engineering education.

Ray W. Fahien Award

This award is given in honor of Ray Fahien, who was editor of Chemical Engineering Education from 1967-1995, and who was effectively the founding father of the journal, establishing it as a premier publication vehicle in the field of chemical engineering education. The award is given annually to an educator who has shown evidence of vision and contribution to chemical engineering education. Educators who have been faculty members for not more than ten years as of July 1st in the year of the award are eligible.

The Donald R. Woods Lectureship Award for Lifetime Achievement in Chemical Engineering Pedagogy

This award is presented to a distinguished engineering educator to recognize and to encourage outstanding achievement. This award will normally be given for lifetime achievement, recognizing a sustained career of contributions to pedagogical practice, scholarship, and mentoring that not only caused innovative and substantial changes, but also inspired other educators to new behaviors that benefit students in Chemical Engineering. The recipient will be obligated to present a lecture at the ASEE annual conference or ASEE Chemical Engineering Summer School.

Award with a nomination deadline of February 1:

ChE Division "Engineering Education" Mentoring Grant

All chemical engineering or chemistry faculty who have not attended an ASEE Annual Conference in the past five years are eligible for this grant. The grant will be a ticket to the ChE Division Banquet. The grant winner(s) will be provided with a ChE Division mentor (an individual determined by the ASEE CHED executive committee) who will meet with the grant winner for both formal and informal interactions during the meeting.

Non-nominated Awards include:

- Gamry Instruments Sponsored Joseph J. Martin Best Paper Award in the ASEE Chemical Engineering Division (newly with honorarium, with much thanks to our sponsor!)
- Best Poster Award
- William H. Corcoran Award for the best paper in Chemical Engineering Education.

Thank you Gamry Instruments for sponsoring the Joseph J. Martin Award!.

2022 ASEE Annual Meeting June 26 - 29, Minneapolis, MN

The Chemical Engineering Division (ChED) of ASEE invites papers for the 2022 Annual Conference and Exposition in Minneapolis, MN (June 26 – 29, 2022). While all topics of Chemical Engineering education will be considered, papers on the following general topics are strongly encouraged:

• Continued innovations to adapt to the COVID-19 pandemic.	• Learning outcomes, assessment, and accreditation of chemical engineering programs.
• Diversity and Inclusion initiatives on all fronts – (race, gender, etc.) in chemical engineering programs.	• Contemporary perspectives (or new advances) in chemical engineering education.
• Incorporating safety and regulatory compliance in chemical engineering curricula.	• Teaching professional skills in chemical engineering courses - critical thinking, creativity, communication, and collaboration skills.
• Non-traditional learning experiences such as experiential, inquiry-based, problem-based, and immersive learning in chemical engineering.	• How are we helping our students with mental health issues – everything from recognition to resources and strategies?
• Bring-your-own-experiment/demo in chemical engineering (hands-on, online, and virtual).	• Business and entrepreneurship literacy in chemical engineering.
• Works-in-progress you would like to discuss or solicit for feedback	• All other topics related to chemical engineering education.

In addition, suggestions/proposals for panel discussions, workshops, and cross divisional sessions are welcome. During the brainstorming, there was a strong desire to have a ChED workshop after a short hiatus. We will consider all ideas submitted for workshop proposals and select the most appropriate to be presented during the Sunday/Wednesday workshop sessions.

Deadlines:

Abstract Submission Opens: **Monday, October 11, 2021**

Abstract Submission Closes: **Monday, November 9, 2021**

Notification on Acceptance/Rejection of Abstracts: **Monday, December 6, 2021**

See author guidelines on next page

2022 ASEE Annual Meeting June 26 - 29, Minneapolis, MN

Author Guidelines:

Please note that both abstract and draft paper reviews are **double blind**, so do not include personal or institutional identification.

Abstracts: Submitted abstracts should be approximately one page or less in length, with a suggestion of 250-500 words (See **Appendix B** of the Author Kit for details).

Paper Submissions: Full paper submissions should be approximately 10-20 pages in length, inclusive of figures and other graphical elements (See **Appendix B** of the Author Kit for details).

Please limit Work-in-Progress papers to 3-5 pages (see below).

ASEE Author Kit: Please make sure to follow the abstract and paper submission guidelines, available at: <https://www.asee.org/documents/conferences/annual/2021/2021-Authors-Kit.pdf>

Work-in-Progress: Papers describing ongoing work (“work-in-progress”) are welcome in all sessions, including the poster session. **Please title your WiP Papers in the format of “Work-in-Progress: Title of your project” in addition to indicating it is WiP in the abstract submission portal.** This will help us easily identify these submissions. The Works-in-Progress oral sessions will include shorter presentations with time allotted to meet and exchange ideas with session attendees.

Poster Presentations: Poster papers can be in any topic related to chemical engineering education including the list above, including works-in-progress. **If you would like to submit a paper to the poster session directly, please clearly designate this request at the end of your abstract.** Please note that poster papers also go through ASEE’s double-blind review process.

Conference paper submission is a two-step process:

1. Abstract submission, review, and acceptance, followed by
2. Paper submission, review, and acceptance.

As stated above reviews are double-blind, please *do not include* the names of authors, institutions, or other identifying information anywhere in the abstract, draft paper, or file names. At the end of your abstract, please state if you would particularly like your paper to be in a regular session or a poster session. Abstracts will be reviewed, and if accepted, authors are invited to complete full papers for further review. The ChED is a “publish-to-present” division: to present at the conference, you must have your paper accepted for publication and have at least one author participate in the peer review.

For questions regarding paper submission and review, and also suggestions for panels, workshops, or other non-traditional sessions or interdivisional sessions, please contact the 2022 ASEE ChED Program Chair, Jacqueline Gartner, at burgher@campbell.edu.



ASEE/AIChE SUMMER SCHOOL



COLORADO SCHOOL OF MINES
GOLDEN, COLORADO
JULY 24-29, 2022



Save the date!

The ASEE/AIChE Summer School for Chemical Engineering Faculty is scheduled for 8am July 25 through noon July 29, 2022, at the Colorado School of Mines in Golden, CO!

This gathering is the stand-out professional development opportunity for all aspects of a new faculty member's career and an opportunity to forge life-long connections with peers and potential mentors nationwide. If you are a new faculty member, please plan on attending. The workshop is open to chemical engineering instructors of any contract type (professional, instructional, or tenure track) in the first seven years of their position and advanced graduate students and postdocs planning on faculty careers of any type. Registration will open early in 2022.

For the not so new faculty members, workshop proposals were due on September 1, and the program is being formulated. Late proposals may be considered on a case-by-case basis.

Any questions about the ASEE/AIChE Chemical Engineering Summer School can be sent to the organizing committee via email ChESS+registration@bucknell.edu.

Support the Summer School

The ASEE/AIChE Summer School for Chemical Engineering Faculty is working on securing funds for 2022 and beyond. If you, your company, or other entity are interested in sponsorship opportunities, please contact Matt Liberatore matthew.liberatore@utoledo.edu. Also, a special announcement related to the Summer School will be announced at the AIChE Education Division Dinner on Tuesday, November 9th in Boston.



Community Announcements

Call for Participation: AIChE Education Division 2021 Survey

The AIChE Education Division Survey Committee compiles and shares information about the current state of undergraduate education. This year, we are focusing on material and energy balances. We would be very grateful if you or another member of your department who is familiar with the material and energy balances courses would complete this survey. We hope that this survey can be fully completed in 18 minutes or less by one member of the department who is familiar with the course offerings.

To complete the survey, please follow this link: https://utulsa.az1.qualtrics.com/jfe/form/SV_bj507yOYTcCzTaS

We appreciate your participation before Oct. 10, 2021, so we can prepare our presentation for the Annual Meeting.

Previous recent surveys have been on the first year, Unit Operations Laboratory, Chemical Reaction Engineering, Thermodynamics, Design, Transport, Controls, Mass and Energy Balances, and the curriculum as a whole. Our collected publications archive is available through this Google drive link. Questions? Please contact Laura Ford (committee chair) at laura-ford@utulsa.edu. Thank you for your help!

Call for Applications: Teaching Faculty at the University of Tulsa

The Russell School of Chemical Engineering seeks applicants for a full-time teaching position. The position is approved at the Applied Assistant Professor level. The anticipated starting date is either Spring 2022 or Fall 2022. The successful candidate must have a sincere commitment to excellence in, and must have a formal educational background that provides a foundation for, teaching traditional chemical engineering undergraduate laboratory and lecture courses. The Russell School of Chemical Engineering, one of eleven academic units in the College of Engineering and Natural Sciences, offers degree programs through the Ph.D., with a current undergraduate enrollment of approximately 110 students.

Interested individuals should apply at <https://universitytulsa.peopleadmin.com/postings/4617> with cover letter, letters of recommendation, CV, statement of purpose, diversity statement, and list of references by Oct. 1, 2021 for full consideration.

Stay safe & well –
looking forward to reuniting in person
when we are able to !

Photo Credits

Fall Colors: Forest Wander; <https://www.flickr.com/photos/10922353@N03/6086519585>, Awards: University sites or LinkedIn, ChemE Summer School: Lisa Bullard