

ASEE Chemical Engineering Division Newsletter

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A Message from the Chair:



Matthew Cooper
North Carolina State Univ.

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Pages 12– send any announcements you'd like included in future newsletters to elif.miskioglu@bucknell.edu

Fall has always been my favorite time of the year. I smiled earlier this month as I felt the first nipping cool breeze after what has been a very warm summer here in North Carolina. My tomato plants are now growing some of their last tender blooms in the increasingly golden autumn sun, and the other day I wore a jacket for the first time this season.

As wonderful as Fall is, it brings challenges to us as faculty. We have a fresh crew of students to meet - they all have names to learn! - and sometimes we have to prepare and teach new courses. Personally, I'm teaching Senior Design for the first time this semester, and I'm so grateful for the resources and encouragement I've received from my kind colleagues.

I have similar thoughts about our division. I remember at my first ASEE Conference (Atlanta 2013), I was amazed at not only the thoughtful and rigorous work presented in the ChE Division, but also the warmth and collegiality of everyone involved. It was the first conference I attended where I didn't wonder if I'd end up eating dinner alone, or worried someone in the audience might give me a hard time in front of everybody about my experimental oversights. Instead, so many of the engineering education folks I viewed as rock stars of our field were interested in talking to me about teaching and providing helpful, constructive suggestions for my research.

This is the ChE Division to me. I am excitedly hoping you will join me along with the rest of our division in Montreal (a truly beautiful city, particularly in the summer) for next year's ASEE National Conference June 20-24, 2020. It sounds like our program chair Taryn Bayles (check out her recent email to the division with the call for papers!) is putting together a great experience for everyone, but she needs wonderful abstracts from all of us to make the conference all it can be. Abstract submission is open now, and the abstract submission deadline for the conference is October 14.

Look inside this newsletter generously prepared by our colleague Elif Miskioğlu to learn more about this year's conference in Montreal, as well as information about this past year's award winners and award opportunities for next year. I love that our division cares about recognizing the faculty who help our community learn the best ways to teach and perform education research – as I've said to many of you before, I firmly contend we're all in this ChE education thing together.

Yours,



ChED Highlights from Tampa



Reginald E. Rogers, Jr.
Associate Professor
University of Missouri

A note from the 2019 meeting programming chair: The 2019 Annual Meeting was held in Tampa, FL from June 16th through 19th. ChED had a variety of programming during the meeting that spanned Monday through Wednesday. On Monday, June 17th, the Donald Woods Lectureship for Lifetime Achievement in Chemical Engineering Pedagogy was delivered by Dr. Joseph Shaeiwitz. Dr. Shaeiwitz delivered a wonderful lecture titled "What to Teach and How to Teach It. Lessons Learned in 40+ Years". Of course, the session could not have gotten started with funny stories from people who worked with Dr. Shaeiwitz. Monday evening had the traditional ChED Dinner and Awards Ceremony, which highlighted the accomplishments of key division members. Tuesday and Wednesday were filled with many of our technical sessions covering a wide range of topics from the integration of computers into the classroom to outreach activities within Chemical Engineering. Also featured once again this year was the

Works-in-Progress postcard session. During this session, individuals had an opportunity to give a 5-minute overview of their current research followed discussion in a large group setting. All-in-all, the 2019 program was a huge success. Thank you to all of our contributors and session chairs. We look forward to seeing you in Montreal in June 2020!

Reginald E. Rogers, Jr.

2019 ASEE ChED Mentoring Grant Recipient

ChE Division Young/Future Faculty Travel & Mentoring Grant

Tracy Carter
Chemical Engineering
Northeastern University



Have a colleague who would be perfect for a mentoring grant? Inspired to apply yourself? Check out the call for applications on the next page!

Call for Applications: Mentoring Grants

Inviting Mentoring Grant Applications for 2020!

Application Deadline for these Mentoring Grants is October 31, 2019!

Note: Applicants must have submitted an abstract for the 2020 ASEE conference by October 14, 2019 (see pages 10 and 11 for ASEE Call for Papers)

Send one file (see instructions on Page 9) to ASEE ChE Division Award Chairs:*

Margot Vigeant (mvigeant@bucknell.edu) and Milo Koretsky (milo.koretsky@oregonstate.edu)

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. There will be at most one or two grants per year.

Applications are due October 31 of each year. Applicants *must have submitted an abstract to meet the mid-October deadline for the following summer's ASEE conference*. For faculty the application consists of a curriculum vita, a maximum one-page statement of interest in educational scholarship and a copy of any submitted abstracts. For graduate students the application consists of a one-page nomination letter by a faculty member who is a member of ASEE, the student's resume, and the abstract of any ASEE talks with the student as a coauthor. . Applications will be reviewed by a committee consisting of the awards chairs and directors. If there is a conflict of interest, the directors will identify another member of the committee. Award announcements will be within two weeks of the application submission.

The amount of the grant is \$900, 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. The grant will be presented at 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. Preference will be given to first-time attendees at the ASEE Annual Conference. For graduate students the grant is intended to build upon the existing ASEE "Bring-A-Student" program.

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. More than one grant may be given annually. A faculty member may apply for this grant by the last day of February. The application consists of a curriculum vitae and a maximum one-page statement of interests in educational scholarship.

Applications will be reviewed by a committee consisting of the awards chairs and directors. If there is a conflict of interest, the directors will identify another member of the committee.

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.

*A condition of receiving most awards and mentoring grants is attendance at the Chemical Engineering Division banquet at the 2020 ASEE Annual Meeting in Montreal, QC, June 21-24, 2020.

2019 ASEE Chemical Engineering Division Award Recipients

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

This award is given for lifetime achievement, recognizing a sustained career of contributions to pedagogical practice, scholarship, and/or mentoring that not only caused innovative and substantial changes, but also inspired other educators to new behaviors that benefit students in Chemical Engineering.



Joseph Shaeiwitz
Visiting Professor of Chemical Engineering
Auburn University

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.



H. Scott Fogler
Distinguished Professor of Chemical Engineering
Dean of the College of Engineering
University of California, Davis

2019 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.*

*"Building air quality sensors
and inspiring citizen scientists"*



Katrina Mỹ Quyên Lê, Anthony Butterfield, Kerry Kelly, Pierre-Emmanuel Gaillardon, Kyle Tingey, & Thomas Becnel
University of Utah / Velentium

Joseph J. Martin Award

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

*"Computer Simulations vs. Physical
Experiments: A gender comparison of
implementation methods for inquiry-
based heat transfer activities"*



Katharyn Nottis*, Mike Prince[^], Carrine Gadoury*,
Amy Golightly*, and Margot Vigeant[^]
*Education & [^]Chemical Engineering,
Bucknell University

2019 ASEE Chemical Engineering Division Award Recipients

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.



Lucas Landherr
Associate Teaching Professor of Chemical Engr.
Northeastern University



Janie Brennan
Lecturer of Energy, Environmental, & Chemical Engr
Washington University, St. Louis

Best Poster Award

(for best poster at the previous ASEE Meeting)

“Conceptual Activities for Separations Courses”

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

Call for Nominations

Announcing 2020 ASEE ChE Division Awards!

Send packet contents (instructions on next page) as one file to ASEE ChE Division Award Chairs:
Margot Vigeant (mvigeant@bucknell.edu) and Milo Koretsky (milo.koretsky@oregonstate.edu)

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/or mentoring that not only caused innovative and substantial changes, but also inspired other educators to new behaviors that benefit students in Chemical Engineering. Preference given to individuals who also demonstrate achievement through the formulation of fundamental theory or principles, improvements of lasting influence to chemical engineering education with books and/or articles, and the demonstration of success as a teacher. In addition, evidence of the ability to conduct original, sound, and productive research, and an interest in the progression of chemical engineering through participation in professional and educational societies shall be demonstrated. The recipient will be obligated to present a lecture at the ASEE annual conference. The award consists of a small honorarium, \$500 travel allowance, and a commemorative plaque presented at the Chemical Engineering Division Banquet of the ASEE Annual Conference. The nomination consists of a letter of support from the person making nomination, the CV of the nominee, and at least three letters of support gathered by the person making the nomination. The award will be presented on an as-merited basis, not necessarily annually.

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. The award consists of a small honorarium and a commemorative plaque presented at the Chemical Engineering Division Banquet of the ASEE Annual Conference.

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. Professor Fahien selflessly gave his time and talents to advance pedagogical scholarship, particularly in the careers of young educators, through his dedication to the journal and the profession. The award is given annually to an educator who has shown evidence of vision and contribution to chemical engineering education, consists of a small honorarium and a commemorative plaque presented at the Chemical Engineering Division Banquet of the ASEE Annual Conference. See the Division web site for more details on the award criteria. Educators who have been faculty members for not more than ten years as of July 1st in the year of the award are eligible.

Call for Nominations: Instructions for Nominating

The Chemical Engineering Division of ASEE presents awards to outstanding chemical engineering educators (described on previous page) at the Division Banquet during the annual ASEE meeting. Nominations of candidates for awards to be presented at the 2020 meeting in Montreal, QC are due by January 15, 2020, with the winners notified in Spring 2020. Mentoring grant applications are due by October 31, 2019.

Please consider nominating one of your faculty or a colleague at another school for an ASEE Chemical Engineering Division Award!

Instructions for Assembling Nomination Packets

Please assemble the nomination package in the following order:

1. Nominee Information – list the information found on the general ASEE awards form that may be found at http://ched.asee.org/wp-content/uploads/2016/01/ASEE-ChED_Award-Nomination-Form.doc.
2. Include a 100-word maximum Citation, which will be used if the nominee wins the award.
3. Include a 700-word maximum description of the Rationale for the Nomination.
4. Include a Curriculum Vitae containing the following information: Degrees earned (university and granting dates); other postgraduate study; record of positions held; publications, including all books, published papers and articles; ASEE activities and offices held; awards, honors and inventions, etc.
5. Other Supporting Information as required for that particular award. Please see the Chemical Engineering Division web site for details on particular award criteria.
6. Include a maximum of 8 Letters of Support for the nomination. These letters may be from peers, students, and/or former students as appropriate to the award.

These instructions parallel those available at www.asee.org. Nominating a faculty member for an award implies that the nominee has been informed and consents to the nomination and conditions of the award.

Instructions for Submission

Award packets should be sent (as a single Word or PDF file) to ASEE ChE Division Award Chairs:

Margot Vigeant (mvigeant@bucknell.edu) and Milo Koretsky (milo.koretsky@oregonstate.edu)

Deadline: January 15, 2020 (October 31, 2019 for mentoring grants)

It is the nominator's responsibility to assemble all of the pertinent information into ONE electronic document. Include separate sections for each of the six categories of submission materials.

Do not submit to ASEE headquarters or through their web page. Paper submissions will not be accepted.

Any nominee for an award may be re-nominated using the original nomination package for one additional year only by sending an email to the Awards Chair along with the electronic award nomination. However, reference letters should be updated for the year of the renewed application. After the re-nomination a complete new nomination is required.

Contact the Awards Committee Chairs, Margot Vigeant (mvigeant@bucknell.edu) and Milo Koretsky (milo.koretsky@oregonstate.edu) or consult the Division website (<http://www.asee-ched.org>) for more information; note amounts and dates on website may be out of date.

Call for Nominations: Other Awards

The following awards do not accept nominations, but we would like you to be aware of them:

William H. Corcoran Award

This award is presented each year for the most outstanding article published in *Chemical Engineering Education*. Nominations are not accepted. All published papers in a calendar year are automatically considered. The award consists of a small honorarium (per paper) and a commemorative plaque presented at the Chemical Engineering Division Banquet of the ASEE Annual Conference.

Best Poster Award

The Best Poster Award is presented for the most outstanding Chemical Engineering Division poster presentation at the ASEE Annual Conference. Nominations are not accepted. Papers must be presented at the chemical engineering division poster session to be considered. The award consists of a commemorative plaque presented at the Chemical Engineering Division Banquet of the ASEE Annual Conference.

Joseph J. Martin Award

The Joseph J. Martin Award is presented for the most outstanding Chemical Engineering Division paper presented at the ASEE Annual Conference. Nominations are not accepted. All papers presented that also appear in the conference proceedings are automatically considered. The award consists of a commemorative plaque presented at the Chemical Engineering Division Banquet of the ASEE Annual Conference.

For more information on national and other awards, visit the ASEE awards page at <https://www.asee.org/member-resources/award>

2020 ASEE Annual Meeting June 20-24, 2020, Montreal, QC

The Chemical Engineering Division (ChED) of ASEE invites papers for the 2020 Annual Conference and Exposition in Montreal, Quebec, Canada (June 20-24, 2019). Papers on all topics related to chemical engineering education will be considered. In addition, suggestions/proposals for panel discussions, workshops and cross-divisional sessions are welcome.

Other topics of interest to ChED include, but are not limited to:

• Innovative use of technologies and new pedagogies in chemical engineering education.	• Learning outcomes, assessment, and accreditation of chemical engineering programs.
• Contemporary perspectives (or new advances) in chemical engineering education.	• Diversity initiatives on all fronts – (race, gender, etc.) in chemical engineering programs.
• 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.

Deadlines:

Abstract Submission Opens: **Tuesday, September 3, 2019**

Abstract Submission Closes: **Monday, October 14, 2019**

Notification on Acceptance/Rejection of Abstracts: **Monday, November 4, 2019**

See author guidelines on next page

202 ASEE Annual Meeting June 20-24, 2019 Montreal, QC

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/2020/2020-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 2020 ASEE ChED Program Chair, Taryn Bayles, at tbayles@pitt.edu.



Community Announcements

Call for Participation: AIChE Education Division Survey

The AIChE Education Division Survey Committee compiles and shares information about the current state of undergraduate education. This year, we are focusing on chemical engineering in *the first year*. We would be very grateful if you or another member of your department who is familiar with the first year courses would complete this survey. We hope that this survey can be fully completed in 15 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_0eTFeKeJaU9OD9b

A full pdf of the survey is available at

<https://drive.google.com/file/d/1wDI5TiPgICj4Y4R6yAyLthNz0bivqpBu/view?usp=sharing>

in case you wish to prepare answers in advance or collaborate with other instructors.

We appreciate your participation by Oct. 14, 2019, so we can prepare our presentation for the Annual Meeting.

Previous recent surveys have been on 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!

PhD Positions at City College of New York

The Department of Chemical Engineering at the City College of New York has PhD openings for Spring 2020 and Fall 2020 admission. We recently have had a large influx of new grants into the department including multiple training grants and career awards. The training grants include the NASA-CCNY Center for Advanced Batteries for Space (ABS), the Partnership for International Research and Education (PIRE) Project at The City College of New York, the US Department of Education Graduate Assistance in Areas of National Need (GAANN), and the CREST Center for Interface Design and Engineered Assembly of Low Dimensional Systems (IDEALS). We are excited to be able to bring in larger cohorts of students to our program in both Spring 2020 and Fall 2020. Our department is active in the research areas of energy & environment, materials & interfaces, and biomolecules & biotechnology. More information about our program can be found at: <https://www.ccny.cuny.edu/chemeng/> or by emailing chephinfo@ccny.cuny.edu. Undergraduate and masters students interested in our PhD program should apply at https://app.applyyourself.com/AYApplicantLogin/fl_ApplicantConnectLogin.asp?id=CUNYCCNYG. Application deadlines are November 15 for Spring 2020 admission and December 31 for Fall 2020 admission.

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