

ASEE Chemical Engineering Division Newsletter

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A Message from the Chair:



Joshua Enszer
University of Delaware

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Pages 12 & 13— send any announcements you'd like included in future newsletters to elif.miskioglu@bucknell.edu

I write to you standing on the shoulders of giants. I should explain. If you visit our division website, you can view our officer resources, including the responsibilities for each role. For this time of year, the chair writes this message for the Fall newsletter, and is encouraged to use old newsletters for ideas. As I reread many of those newsletters, I saw the names and faces of previous chairs, newsletter editors, secretary-treasurers, directors, program chairs, and other officers. And many of those same names are those of mentors, role models, project collaborators, colleagues, and friends. I'm honored to work among all of you.



If you are not familiar with the names you see throughout this newsletter, I encourage you to reach out to any of them! We have a great community here and I am glad to be part of it.

I am also grateful to have seen so many of our members at the 2018 Annual Conference and Exposition in Salt Lake City. Program chair Dan Anastasio, local events coordinator Tony Butterfield, session moderators, and individual authors, all did a terrific job contributing to our division's program. I attended inspirational talks in our division about hands-on projects and learning opportunities with global perspectives. We held a "postcard session" to spotlight several budding works including the newest implementation of useful academic integrity videos, and work to improve process safety education.

One topic discussed in our perennial "open mic" session this year was the reasons our members are part of ASEE and the Chemical Engineering Division. I thought I would list the ideas that especially resonated with me here:

- ASEE ChEd provides an opportunity to see what goes on in other chemical engineering programs at other institutions.
- The ASEE Annual Meeting is a way to connect with others passionate about teaching and learning.
- The meeting provides a forum to generate or expand on teaching ideas.
- The meeting is multidisciplinary, as opposed to siloed by engineering discipline.
- The work done by ASEE ChEd members serves as great examples of teaching, research, and service.

I hope that this year our division can continue to provide additional motivation to be part of our community and to participate in our 2019 Annual Meeting in Tampa. The call for abstracts runs from early September through the middle of October. I want to thank Reg Rogers for his work as program chair and Richard Gilbert as local events coordinator for this meeting.

As to the current (and/or future?) giants I stand among, I have many to thank personally: past chair Troy Vogel, chair-elect Matt Cooper, new director Janie Brennan, current director Ashlee Ford Versypt, membership chair Anju Gupta, division delegate to the committee on diversity, equity, and inclusion Shannon Ciston, awards co-chairs Margot Vigeant and Milo Koretsky, secretary/treasurer Cheryl Bodnar, webmaster Tony Butterfield, and finally newsletter editor Elif Miskioğlu. Whew! Feels like reading off a credits reel. But this division wouldn't be the same without each of them and those that came before them.

If you, too, would like to get more involved in our division, I encourage to consider running for a position on our executive board. We will be holding elections for Chair-Elect, Director, and Secretary/Treasurer in the spring. If you are interested, please check out our website for descriptions of these roles and send me an email.

If there is anything I can do to increase your pride in and thankfulness for our division, please don't hesitate to send me a message. I look forward to working with you and especially to seeing you in Tampa next June!

Salt Lake City Highlight: Division Workshop

At the 2018 ASEE Annual Conference, Matt Cooper and Milo Koretsky facilitated the workshop "You Can Do It! Overcoming Common Challenges in Engineering Education Research." The 90 minute workshop drew an enthusiastic group of about 60 participants from within the Chemical Engineering Division and other divisions as well. In this workshop two engineering education researchers with different levels of experience led the group through the steps of doing a research study using their previous studies and experiences to provide context, lessons learned, and best practices along the way. The collaboration resulted from an idea Cooper had during Koretsky's Concept Warehouse Workshop at the 2012 ASEE ChE Summer School where Cooper became interested in incorporating written justifications into concept questions and studying their influence - it turned out Koretsky was already working on his very similar study.

The ASEE workshop Cooper and Koretsky developed was interactive. At various decision points, the facilitators led brief think-pair-share active learning activities to let participants situate research ideas with their own interest and to hear what choices other participants would make. Broadly, the topics included ideation, conducting a literature review around a conceptual or theoretical framework, planning and executing data collection (including quantitative, qualitative, and mixed methods approaches), IRB approval, analyzing and reporting findings, and publication venues.

Attendees of the workshop provided overwhelmingly positive feedback:

"Thanks for a great ASEE session (You can Do It)! I liked the interactivity."

"This was an interesting session on conducting research and your tips were very helpful."

"As a very new engineering education professional and new to research in general, I found this discussion very helpful."

"Great session... on increasing rigor in CHE Ed research and seeking future publication venues for ideas initially presented at ASEE."



Matt Cooper
North Carolina State University



Milo Koretsky
Oregon State University

2018 ASEE Chemical Engineering Division Mentoring Grant Recipients

ChE Division Young/Future Faculty Travel & Mentoring Grant

Hassan Golpour
Postdoctoral Research Scholar, Chemical Engineering
NC State University



ChE Division Engineering Education Mentoring Grant

Monica Lamm
Associate Professor of Chemical and Biological Engineering
Iowa State 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 2019!

Application Deadline for these Mentoring Grants is October 31, 2018!

Note: Applicants must have submitted an abstract for the 2019 ASEE conference by October 15, 2018 (see pages 10 and 11 for ASEE Call for Papers)

Send one file 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.

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. The application consists of a curriculum vitae and a maximum one-page statement of interests in educational scholarship. 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 2019 ASEE Annual Meeting in Tampa, FL June 16-19, 2019.

2018 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 education who has shown evidence of vision and contribution to chemical engineering education within their first 10 years as faculty.



Jason Bara
Assistant Professor of Chemical Engineering
University of Alabama

Joseph J. Martin Award

(for best paper in the ChE Division
at the previous ASEE Meeting
that also appears in the proceedings)

“Chemical engineering student perceptions of
communication development from participation in
game-based activities”



Cheryl Bodnar
Professor, Experiential
Engineering Education
Rowan University



Abigail Kulhanek
DuPont

Best Poster Award

(for best poster at the previous ASEE Meeting)

“Development and usage of an online homework
system in a chemical engineering curriculum”



Anthony Butterfield
Asst. Professor (Lecturer),
Chemical Engineering



Kyle Branch
Graduate Student

University of Utah

2018 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.*

*"Students learn without lectures: Scaffolded problem-
based learning in an applied fluid flow and heat transfer
course"*



Polly Piergiovanni
Professor of Chemical Engineering
Lafayette College

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.*



Jennifer Sinclair Curtis
Distinguished Professor of Chemical Engineering
Dean of the College of Engineering
University of California, Davis

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

Call for Nominations

Announcing 2019 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 2019 meeting in Tampa, FL are due by January 15, 2019, with the winners notified in Spring 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. Include 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, 2019

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>

2019 ASEE Annual Meeting June 16-19, 2019 Tampa, Florida

The Chemical Engineering Division (ChED) of ASEE invites papers for the 2019 Annual Conference and Exposition in Tampa, Florida (June 16-19, 2019). While all topics on Chemical Engineering education will be considered, papers on the following general topics are strongly encouraged:

- **Interdisciplinary/Inter-Collegiate Partnerships**
- **Diversity and inclusion efforts in the classroom or laboratory (particular focus on underrepresented and women students)**
- **Online Classes (100% online or distance learning)**
- **Time saving models for teaching**
- **“Best Practices in Teaching...” (Abstracts/papers submitted on this topic may be invited to participate in an upcoming workshop)**

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 workshop session.

Deadlines:

Abstract Submission Opens: **Tuesday, September 4, 2018**

Abstract Submission Closes: **Monday, October 15, 2018**

Notification on Acceptance/Rejection of Abstracts: **Monday, November 5, 2018**

See author guidelines on next page

2019 ASEE Annual Meeting June 16-19, 2019 Tampa, Florida

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/2019/2019-Authors-Kit.pdf>

Work-in-Progress: Papers and posters describing ongoing work (“work-in-progress”) are welcome in all sessions. **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.

Poster Presentations: Poster papers can be in any topic related to chemical engineering education including the list above and 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:
Abstract submission, review, and acceptance, followed by
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 2019 ASEE ChED Program Chair, Reginald Rogers, at rerche@rit.edu.



Community Announcements



AICHE EdDiv Programming at 2018 Annual Meeting

The AICHE Education Division has a fantastic program planned for the Annual Meeting this October 28th-31st (Sun-Wed) in Pittsburgh, PA!

Highlights include new sessions on "Catalyzing the Unique Abilities of Disabled Students" and "Teaching Communication Skills to Engineers" as well as regularly offered sessions like our workshop on Effective Teaching for New or Prospective Faculty" and our "Free Forum" sessions for 1st/2nd year, Junior/Senior year, and Grad students.

Please come see what our community has going on! And if you are interested in helping Education Division promote educational research, scholarly teaching, and exciting programming like this in future years, please come to our Programming (Tue 11:10 AM) and Business (Tue 5:50 PM) meetings or to our Division's ticketed dinner on Tuesday night.

Benjamin Davis, Vice-Chair of AICHE Education Division - bdavis@cooper.edu

Daniel Lepek, 2nd Vice-Chair of AICHE Education Division - lepek@cooper.edu

Educational Resource: Academic Integrity Videos

Establishing expectations and educating students about academic integrity is a significant challenge to chemical engineering faculty. To help with this, Adam Melvin (LSU) and Lisa Bullard (NC State) have developed video resources for faculty to use to in their classroom (www.lsu.edu/eng/academicintegrity). These new videos expand upon a resource that Melvin and Bullard have been using for the past 10 years and have been updated to deal with new problems related to data fraud, online solutions, and creative methods to cheat in exams. Each video contains several examples of appropriate and inappropriate approaches to solve problems, write reports, and take tests. The videos also provide context on the motivation for why faculty are concerned with academic integrity. There are six separate videos focusing on cheating on homework (using online resources, peer resources, and faculty resources), cheating on computer assignments, cheating on lab reporters/projects, and cheating on exams.

Know a non-chemical engineering student interested in a chemical engineering graduate program? Read about NC State's bridging course on the next page!



Community Announcements

Graduate Chemical Engineering Bridging Course

Chemical engineering graduate programs often receive applications from students whose undergraduate degree is in chemistry, physics, biology, or another engineering discipline. Often these are excellent students with undergraduate research or work experience, but their lack of chemical engineering background can present challenges in their successful acceptance to and progress in a chemical engineering graduate program. Some students are asked to take several chemical engineering undergraduate courses as prerequisites to prepare them for graduate work.

As an alternative, NC State has developed an online chemical engineering bridging course, which is a two-semester course designed to prepare students with backgrounds in chemistry, biology and other non-chemical engineering fields for graduate study in chemical engineering. Although it is not equivalent to a four-year degree in chemical engineering, the course aims to furnish students with sufficient background to successfully undertake graduate classes offered by a chemical engineering program. This course will also provide a suitable option for engineers and scientists who desire understanding of core chemical engineering concepts.

Using information technology and multimedia tools, short modules have been designed which incorporate a variety of synchronized multimedia features including text, graphics, sound, short videos, and the ability to annotate presentations and examples with sketches and text. Students will be able to communicate and discuss their ideas and problems using live and archived group chat-room applications to practice working in an interactive group work environment with other students and the course instructor.

The courses, Core ChE Concepts: I and II, will be offered starting in fall 2019 (Course I) and spring 2020 (Course II) through NC State's Engineering Online Program. For additional information or to register, go to <https://www.engineeringonline.ncsu.edu/> or contact Dr. Lisa Bullard at lisa_bullard@ncsu.edu.

ChemEs at ASEE's MidWest Section Conference

The ASEE Midwest Section Conference was held on September 17, 2018 in Kansas City, MO. Pictured here are the chemical engineering faculty in attendance with conference chair Deb O'Bannon dressed as the UMKC mascot Kasey the Kangaroo. Represented are schools from Oklahoma (OSU), Kansas (KSU), Arkansas (U of A), and Missouri (S&T). Left to right: Ashlee Ford Versypt, Tammy Lutz-Rechtin, Christi Patton Luks, Ed Clausen, and Keith Hohn.



Photo Credits Fall Colors: Forest Wander; <https://www.flickr.com/photos/10922353@N03/6086519585>; Salt Lake City Skyline: CountryLemonade; 2017 Summer School: Lisa Bullard; ASEE Midwest Section: Ashlee Ford Versypt