

ASEE Chemical Engineering Division Newsletter

Editors: Lorena Grundy, Tufts University and Monika Crowl, University of Connecticut

A Message from the Outgoing Chair:



Reg Rogers
University of Missouri

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Call for Community Announcements

Please send any announcements you'd like included in the monthly newsletter to

ched.asee.newsletter@gmail.com

Dear ASEE Chemical Engineering Division,

Summer has arrived! And that means it is time for the ASEE Annual Meeting and Exposition. Look forward to a fun time well spent in Portland thanks to the efforts of *Program Chair Sarah Wilson, Program Co-Chair Chris Barr, Local Arrangements Chair Adam Lambert*, and the scholarship of our authors presenting their work. If you haven't already made your plans to participate, perhaps the schedule of sessions plus special events (starting page 4) will entice you to make a last-minute trip to beautiful Portland the Pacific Northwest!

In addition to the aforementioned conference information, we have more news of importance. Our elections were recently concluded resulting in some terrific additions to your Division leadership (see page 2). As a bonus for those attending, you'll have the opportunity to meet those officers (and other members) that you don't already know. While the scholarly aspect of our meeting is important, I have always believed that the opportunity to engage with our colleagues was the real value-add of attendance. So do not hesitate to reach out and meet a few new people while at the conference.

And if you are excited to get involved with Division activities, we have a range of chances for you to do so. Some are elected positions, and some are appointed. Plus, we're always interested in supporting our colleagues with ideas we can help make a reality. Just come to our business meeting on Monday of the Conference or reach out to any of our officers.

This conference also marks the beginning of the end of my service to the Division as your Chair. I am grateful for the chance to serve in this role as our Institutional Leadership continues to address the fiscal challenges faced by ASEE. Despite the constraints of deferred financial resources, we've still been able to plan our banquet (thanks again Sarah!), award our recognitions (thanks *committee co-chairs Margot Vigeant and Ashlee Ford Versypt* and our many reviewers), and execute our conference plan.

In the midst of continued challenges, I have been highly impressed at how our community continues to respond to those adversities. Our commitment to growing the ChED community continues to be, and always will be, a hallmark of why I enjoy being a part of ASEE. Because of our shared commitment to our students and each other (and the leadership resulting from that commitment), ASEE and the ChED will continue to grow stronger in the years to come.

I am honored to be able to turn leadership of this Division over to the very capable *Janie Brennan as incoming Chair* and *Taryn Bayles as incoming Chair-Elect* at the end of the month. I know Janie and Taryn will leave their mark in service through their leadership.

I look forward to seeing many of you in Portland!

Reg Rogers

2023-2024 ASEE ChED Chair

ChED Elections

Congratulations to Our Elected Officers!

Chair-Elect

Will serve as chair
of ChE Division for 2025 - 2026



Taryn Bayles
University of Pittsburgh

Secretary/Treasurer

Will serve as Secretary/Treasurer
of ChE Division for 2024 - 2026



Sarah Wilson
University of Kentucky

Director

Will serve as an advisor to the
executive board for a term of 2 years



Betul Bilgin
University of Illinois Chicago

CEE Corner

CALL FOR NOMINATIONS:

Do you know an educator who has had a sustained impact in the chemical engineering community? Nominate that person for a Chemical Engineering Education Educator Profile. Educator candidates should have participated in the classroom education process and have been engaged in education activities (post-degree).

To nominate an educator*, email a document with the following information to cee@che.ufl.edu:

1. Name and affiliation of person being nominated.
2. Name and contact information for the nominator.
3. Three reasons why the nominator feels this individual should be profiled by CEE. This information should be on a separate page from the contact information, and it must be no more than one page in length. Only the first page will be considered.

* It is expected that if you are nominating a person, you will serve as the author on the profile or will work with the Profiled Educator and CEE Editorial Staff to identify an author.



Annual Conference: ChED Summary

Looking for an easy way to access all the ChED session information at your fingertips?
Check out the Google calendar of events made by our Newsletter Co-Chair, Lorena!

Click on any event in the calendar to see the session title, location, and speaker.

<https://tinyurl.com/bdhe6php>

	Monday	Tuesday	Wednesday		
8:00					
8:15					
8:30					
8:45					
9:00					
9:15	ChE Division Poster Session Exhibit Hall B, C & D	Woods: Distinguished Lecture C124	Perspectives in Chemical Engineering Education G132		
9:30					
9:45					
10:00					
10:15					
10:30					
10:45					
11:00	Executive board meeting Willamette 4 (Hyatt)	Safety and Sustainability in the ChemE Classroom F152	Felder: Distinguished Lecture Portland Ballroom C		
11:15					
11:30					
11:45					
12:00					
12:15					
12:30					
12:45					
1:00					
1:15					
1:30	Improving Student Problem Solving and Performance F152	Laboratory and Research Skill Development Columbia 3 (Hyatt)	WIP: Classroom Innovations C124	Cultivating Community, Wellness, and Character Development F152	
1:45					
2:00					
2:15					
2:30					
2:45					
3:00					
3:15	ChE Division Business Meeting Willamette 5 (Hyatt)	Promoting Inclusivity and Broadening Participation C124	Open Mic Deschutes Ballroom B (Hyatt)		
3:30					
3:45					
4:00					
4:15					
4:30					
4:45					
5:00					

Game Night!
Sunday 7-9 PM
Regency Ballroom
B (Hyatt)

Division Banquet!
Tuesday 6-9 PM
10 min walk to
Easton Broad
Tickets: \$55

Banquet tickets:

bit.ly/3Ki98wJ

Annual Conference: ChED Events

Join ChE Division colleagues at one of our Celebrations or events!

Chemical Engineering Division — Social Hangout Time: Board Games and More!

Sunday June 23rd 7:00 – 9:00 PM, Regency Ballroom B (Hyatt)

Come hang out with your pals (or soon-to-be new pals) in the Chemical Engineering Division! There will be board games and other activities to enjoy.

Chemical Engineering Business Meeting

Monday June 24th 3:00 to 4:30 PM, Willamette 5 (Hyatt)

The Business Meeting of the Chemical Engineering Division will include an annual update from all officers and election of new officers.

Chemical Engineering Division Awards Banquet – Ticketed Event

Tuesday, June 25th 6:00 PM to 9:00 PM, Easton Broad (237 NE Broadway UNIT 300)

Ticketed Event: \$55.00 advanced registration

Join us for the presentation of this year's ChE Division awards!

Lightning Roundtable

Wednesday, June 26th 11:30 – 12:45 PM, Portland Ballroom C

Attendees will circulate through the tables every 10 minutes to get to learn about different teaching tools. See abstracts below.

<https://docs.google.com/document/d/1ETBCG9HIUIzZk-71GWOqjsf96hInDOAZgj8qDqqFwhs/edit>

Chemical Engineering Division Open Mic

Wednesday, June 26th 2:00 – 3:30 PM, Deschutes Ballroom B (Hyatt)

The session can include broader discussion about any topic related to the current state of ChE, as well as ideas for future ASEE meetings.

Have a topic
you want to
discuss?
Submit here!



Events for Teaching Focused Faculty

Please fill out this survey and let us know if you are able to attend! <https://forms.gle/hw2TRxEKhYW2H7mKA>

- **Sunday, June 23: Hike around Powell Butte 3:00–6:00 pm** (6 mile or 1.9 mile loop). We will be sharing ride-shares between the Convention Center and Powell Butte.
- **Monday, June 24: Mox Boarding House 7:00–9:00 pm.** This is a board game bar, where we hope those who enjoy games and those who want particular beverages can co-mingle.



Annual Conference: ChED Events

Sunday, June 25th

ASEE Division Mixer

3:30 – 5:00 PM, Oregon Ballroom 201-204

Join your friends and colleagues at our member engagement event - the Division Mixer

Welcome Reception & Taste of the Town

5:00 – 7:00 PM, Exhibit Hall BCD

Join your colleagues as we open the ASEE Annual Conference Exhibit Hall and welcome attendees to the 2024 conference. Find old friends or forge new connections while you taste the best that Portland has to offer.

Chemical Engineering Division — Social Hangout Time: Board Games and More!

7:00 – 9:00 PM, Regency Ballroom B (Hyatt)

Come hang out with your pals (or soon-to-be new pals) in the Chemical Engineering Division! There will be board games and other activities to enjoy.



Annual Conference: ChED Sessions

Monday, June 24th

M205-Chemical Engineering Division (ChED) Poster Session

9:15 – 10:45 AM, Exhibit Hall B, C, & D, Oregon Convention Center

Board 22: A Multi-Tiered Mentoring Community Approach to Expanded Research Experiences for Local Students from Complex and Underrepresented Minority Backgrounds

Mr. Thomas McKean (University of Arkansas), Dr. Ranil Wickramasinghe P.E. (University of Arkansas), LaShall Bates (Affiliation unknown), Gary Bates (Affiliation unknown), and Jacquelyn Wiersma-Mosley (University of Arkansas)

Board 23: Add a Real Experience on Process Control Lab to your Students ... for Free!

Dr. Joaquin Rodriguez (University of Pittsburgh)

Board 24: Development of Multi-User-enabled, Interactive, and Responsive Virtual/Augmented Reality-based Laboratory Training System

Prof. Ariel Chan (University of Toronto) and Jackie Anjie Liu (University of British Columbia, Vancouver)

Board 25: Promoting Chemical Engineering Students' Entrepreneurial Mindset in A Chemical Reactor Design Course

Prof. Jean M. Andino Ph.D., P.E. (Arizona State University)

Board 26: Reducing Environmental Impact in Higher Education: Curriculum Design for the Sustainable-Unit Operations Laboratory

Dr. Ariel Chan (University of Toronto) and Ms. Chijuan Hu (Texas Tech University)

Board 27: Work in Progress: Where We Live: The Process of Building an Experiential-Energy Design Course for Undergraduate Chemical Engineering

Dr. Desen Sevi Özkan (University of Connecticut) and Dr. Monika Crawl (University of Connecticut)

Board 28: Work in Progress: Glucose Analyzer Learning Module for Chemical Engineering Education Theory

Riley Jackson Fosbre (Washington State University), Prof. Bernard J. Van Wie (Washington State University), Dr. Prashanta Dutta (Washington State University), and David B. Thiessen (Washington State University)



Annual Conference: ChED Sessions

Monday, June 24th continued...

M305A·Safety and Sustainability in the ChE Classroom

11:00 AM – 12:30 PM, F152, Oregon Convention Center

Development of an Introduction to Sustainable Engineering Course as a Chemical Engineering Elective

Dr. Heather L. Walker (University of Arkansas) and Dr. Edgar C Clausen (University of Arkansas)

Broadening Sustainability Education in Engineering Disciplines

Dr. David R. Wagner (The University of Utah) and Prof. Anthony Butterfield (The University of Utah)

Navigating the Theory-to-Practice Gap: Insights from a Process Safety Education Pilot Study

Mrs. Brittany Lynn Butler-Morton (Rowan University), Cayla Ritz (Rowan University), Dr. Elif Miskioglu (Bucknell University), Dr. Cheryl A Bodnar (Rowan University), and Dr. Emily Dringenberg (The Ohio State University)

Development of a Learning Module to Teach Chemical Engineering Students About Moral Reasoning in the Context of Process Safety

Prof. Adam T Melvin (Clemson University) and Michael J. Ardoline (Louisiana State University and A&M College)

Analysis of the Use of SAcHE Modules in Undergraduate Programs and Summary of Process Safety

Dr. Laura P Ford (The University of Tulsa), Dr. Gary A Aurand (Penn State University), Dr. Chris Barr (University of Michigan), Frank Bowman (University of North Dakota), Dr. Hema Ramsurn (The University of Tulsa), Dr. Janie Brennan (Washington University in St. Louis), Prof. Tracy L. Carter (Northeastern University), Dr. Kevin D. Dahm (Rowan University), Dr. Luke Landherr (Northeastern University), Dr. David L. Silverstein P.E. (University of Kentucky), Dr. Stephen Ward Thiel P.E. (University of Cincinnati), Dr. Bruce K Vaughen P.E. (American Institute of Chemical Engineers), and Dr. Troy J. Vogel (University of Notre Dame)

M305B·Chemical Engineering Division (ChED) Executive Board Meeting

11:00 – 12:30 PM, Willamette 4, Hyatt Regency Portland (HQ Hotel)

This meeting is open only to Chemical Engineering Division executive board members.



Annual Conference: ChED Sessions

Monday, June 24th continued...

M405A-Improving Student Problem Solving and Performance

1:30 – 3:00 PM, F152, Oregon Convention Center

Integrating Problem-Solving Studio into 75-minute Chemical Reaction Kinetics Sessions

Dr. Huan Gu (University of New Haven)

Leveraging a token economy system to motivate concept practice in a fluid dynamics classroom

Mr. Sanha Kim (University of Virginia), Steven R Caliari (University of Virginia), and Dr. Roseanne M Ford (University of Virginia)

Effects of problem type on completion and attempts on auto-graded homework problems for Material and Energy Balances

Samantha Yanosko (University of Toledo), Grant Valentine (University of Toledo), and Prof. Matthew W Liberatore (University of Toledo)

Do Lightly-Flexible Deadlines Support Student Performance?

Prof. Joshua A Enszer (University of Delaware)

Quantitative and Qualitative Analysis of a Curriculum-Wide Chemical Process Project

Dr. Alyssa Powell (University of California, San Diego) and Dr. Justin Paul Opatkiewicz (University of California, San Diego)

M405B-Laboratory and Research Skill Development

1:30 – 3:00 PM, Columbia 3, Hyatt Regency Portland (HQ Hotel)

Building Better Engineers: Teaching Chemical Engineers to Troubleshoot in the Laboratory

Dr. George Prpich (University of Virginia), Dr. Natasha Smith (University of Virginia), Caroline Elizabeth Crockett (University of Virginia), and Anukriti Shrestha (University of Virginia)

Project-Based Learning and Industry Collaborations to Integrate Process Safety in an Undergraduate Chemical Engineering Laboratory

Dr. Carlos Landaverde Alvarado (University of Texas at Austin)

Promoting Chemical Engineering Identity through Student Agency and Experiment Relevance

Dr. Vanessa Svihla (University of New Mexico), Madalyn Wilson-Fetrow (University of New Mexico), Prof. Stephanie G Wettstein (Montana State University, Bozeman), Ms. Catherine Anne Hubka (University of New Mexico), Dr. Jennifer R Brown (Montana State University, Bozeman), and Prof. Eva Chi (University of New Mexico)

Session papers continued on page 10.



Annual Conference: ChED Sessions

Monday, June 24th continued...

M405B·Laboratory and Research Skill Development (continued)

1:30 – 3:00 PM, Columbia 3, Hyatt Regency Portland (HQ Hotel)

A Departmental Research Methods Course to Support New Undergraduate Researchers

Dr. Ashlee N. Ford Versypt (University at Buffalo, The State University of New York), Dr. Jeffrey R. Errington (University at Buffalo, The State University of New York), Dr. David A. Kofke (University at Buffalo, The State University of New York), Dr. Maura Sepesy (University at Buffalo, The State University of New York), and Dr. Mark T. Swihart (University at Buffalo, The State University of New York)

M505·Chemical Engineering Division (ChED) Business Meeting

3:15 – 4:45 PM, Willamette 5, Hyatt Regency Portland (HQ Hotel)



Annual Conference: ChED Sessions

Tuesday, June 25th

T205·Donald R. Woods Lectureship for Lifetime Achievement in Chemical Engineering Pedagogy

9:15 – 10:45 AM, C124, Oregon Convention Center

T305·DISTINGUISHED LECTURE: Richard Felder, ASEE Hall of Fame Inductee

11:00 – 12:30 PM, Portland Ballroom C, Oregon Convention Center

T405A·WIP: Classroom Innovations

1:30 – 3:00 PM, C124, Oregon Convention Center

Work In Progress: Enhancing Thermal and Fluids Laboratory Learning through the Integration of the Heat Exchanger Module (HEM)

Benjamin Miles Phillips (Baylor University), Alexandre Yokochi (Baylor University), and Dr. Anne Marie Spence (Baylor University)

Work-in-Progress: Creating Recycled Products to Incorporate Sustainability Projects in the Undergraduate Chemical Engineering Laboratories

Dr. Carlos Landaverde Alvarado (University of Texas at Austin), Emily Mellen (University of Texas at Austin), and Amanda Nguyen (University of Texas at Austin)

Work-in-progress: Elevating Chemical Engineering Outreach Through Collaborative Efforts Showcasing Fluid Flow Experiments

Dr. Neha B. Raikar (University of Maryland, Baltimore County) and Dr. Fernando Mérida (University of Florida)

Work-in-Progress: Chemical Engineering Students' Representational Fluency when Designing in the Context of Fluids Mechanics

Dr. Ruben D. Lopez-Parra (University of New Mexico) and Dr. Vanessa Svihla (University of Texas at Austin)

Work in Progress: Building Conceptual Understanding in the Mass and Energy Balances Course through Qualitative Analysis and Interactive Demonstrations

Dr. Sakul Ratanalert (Columbia University), Mr. Franklin Hsu (The Johns Hopkins University), and Dr. Nagma Zerín (The Johns Hopkins University)

Work-in-Progress: Introduction of a Computational TA Role to Support Undergraduate Training in Computational Thinking Strategies for Chemical Engineering Applications

Dr. Leah Granger (North Carolina State University), Mr. William Buren Parker (North Carolina State University), and Dr. Laura Bottomley (North Carolina State University)



Annual Conference: ChED Sessions

Tuesday, June 25th (continued)

T405B·Cultivating Community, Wellness, and Character Development

1:30 – 3:00 PM, F152, Oregon Convention Center

Use of Top Hat Questions to Build Classroom Community and Improve the Student-Teacher Relationship

Dr. Matthew Cooper (North Carolina State University)

A Wellness Course for Engineering Students

Glauca Prado (University of California, Davis), Dr. Jason White (University of California, Davis), and Sara Sweeney (University of California, Davis)

Does Endorsement of Masculine Ideals Predict Sense of Belonging and Identity over Performance and Peer interactions?

Dr. Stephanie Butler Velegol (Penn State University), Katharine Getz (Penn State University), and Dr. Mechteld Veltman Hillsley (Penn State University)

Reflections on a “Math Disaster”: the Role of Instructor Confusion in the Classroom

Dr. Lorena S. Grundy (Tufts University)

Material and Energy Balances and Character Development: An Investigation of Student Responses to Intentional Virtue Education in a Traditional Chemical Engineering Course

Dr. Victoria E Goodrich (University of Notre Dame)

T505·Promoting Inclusivity and Broadening Participation

3:15 – 4:45 PM, C124, Oregon Convention Center

To Record or Not to Record? Collaborating through Conflict

Emily Risë Crum (Columbia University), Kristin Leigh Bennett (University of Washington), Prof. Stuart Adler (University of Washington), Prof. David S Bergsman (University of Washington), Nicole Minkoff (University of Washington), and Dr. Alexis N Prybutok (University of Washington)

Fostering Diversity, Equity, and Inclusion in Engineering Education: A Case Study of UIC Chemical Engineering Department

Dr. Betul Bilgin (The University of Illinois at Chicago)

Introducing Students To Chemical Engineering Through Educational Comics

Nethra Iyer (Northeastern University) and Dr. Luke Landherr (Northeastern University)

Bioengineering 101: A Design Challenge to Teach High School Students about How Engineers Design and Build Complex Systems

Prof. Adam T Melvin (Clemson University)

Session papers continued on page 13

Annual Conference: ChED Sessions

Tuesday, June 25th (continued)

T505-Promoting Inclusivity and Broadening Participation (continued)

3:15 – 4:45 PM, C124, Oregon Convention Center

Using Comics to Promote Student Interest in the Breadth and Depth of Chemical Engineering

Ira Hysi (Northeastern University) and Dr. Luke Landherr (Northeastern University)

T705-Chemical Engineering Division (ChED) Banquet - Ticketed Event

6:00 – 9:00 PM, Easton Broad, 237 NE Broadway Street Suite 300, Portland, OR, 97232

Ticketed event: ChED Banquet - \$55.00 advanced registration and \$65.00 on site registration

We are excited to bring everyone for networking and celebration of the award winners across our community.

The banquet will be held at Easton Broad, which is about a 10-minute walk from the conference center. We will have a food truck for dinner, as well as Voodoo Donuts for dessert. There will be a cash bar onsite (they also accept cards).



Division Mixer and Awards Banquet Tuesday, June 25th 6:00 - 9:00 PM

Where?

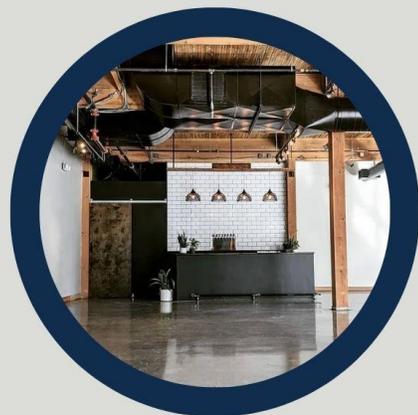
Easton Broad
237 NE Broadway UNIT 300

What?

Jump into the Portland food truck experience with Rip City Grill.

For dessert?

None other than Voodoo Donuts



Get your tickets now!
\$55
Cash bar
(cards accepted)



bit.ly/3Ki98wJ





Annual Conference: ChED Sessions

Wednesday, June 26th

W105-Perspectives in Chemical Engineering Education

8:00 – 9:30 AM, G132, Oregon Convention Center

How We Teach: Chemical Engineering Electives

Dr. Laura P. Ford (The University of Tulsa), Dr. Janie Brennan (Washington University in St. Louis), Dr. Heather Chenette (Rose-Hulman Institute of Technology), Dr. Jennifer L. Cole (Northwestern University), Dr. Kevin D. Dahm (Rowan University), Dr. David L. Silverstein P.E. (University of Kentucky), and Dr. Stephen Ward Thiel P.E. (University of Cincinnati)

Curriculum and Teaching Load in Top-Ranked U.S. Chemical Engineering Departments

Zachary Rasmussen (University of Utah) and Prof. Anthony Butterfield (University of Utah)

Analysis of Chemical Engineering Curricula Using Graph Theory

Blake Lopez (University of Wisconsin, Madison)

Baseline Data on CHE Teaching Focused Faculty in the U.S.

Dr. Stephanie Butler Velegol (Penn State University), Dr. Katie Cadwell (Syracuse University), Dr. Taryn Melkus Bayles (University of Pittsburgh), Dr. Lisa G. Bullard P.E. (North Carolina State University), and Dr. Mechteld Veltman Hillsley (Penn State University)

Essentials of the Nurse + Engineer: Chemical Engineers and Healthcare Devices

Dr. Daniel B Oerther P.E. (Missouri University of Science and Technology) and Sarah Oerther (Affiliation unknown)

W305A-Teaching Tools Lightning Roundtable

11:30 – 1:00 PM, Portland Ballroom C, Oregon Convention Center

Presenters will be given 2 minutes to summarize their teaching tool. After the presentations are completed, presenters will be assigned a table. Attendees will circulate through the tables every 10 minutes to get to learn about the teaching tools.

W305B-Innovations in Experiments and Modeling

11:30 – 1:00 PM, D135, Oregon Convention Center

Python-based Demonstration for Designing Distillation Columns for Ternary Mixtures

Dr. John Rajadayakaran Edison (The Johns Hopkins University), Kellen Roddy (The Johns Hopkins University), Man Kit Ao (The Johns Hopkins University), and Panwa Promtep (The Johns Hopkins University)

Session papers continued on page 15



Annual Conference: ChED Sessions

Wednesday, June 26th (continued)

W305B-Innovations in Experiments and Modeling (continued)

11:30 – 1:00 PM, D135, Oregon Convention Center

A Novel Laboratory-Scale Pilot Plant Study

Dr. Robert P. Hesketh (Rowan University), Mr. Barnabas Gao (Rowan University), Dr. Kirti M Yenkie (Rowan University), Miss Swapana Subbarao Jerpoth (Rowan University), Mr. David Anthony Theuma (Rowan University), Sean Curtis (Rowan University), Michael Fracchiolla (Rowan University), Dr. C. Stewart Slater (Rowan University), Dr. Mariano Javier Savelski (Rowan University), Steven Roth (Rowan University), and Emma Marie Padros (Rowan University)

Climate Change and Kinetics in an Undergraduate Laboratory: Injection and Tracking of CO₂ in a 7 Gallon Terrarium

Dr. Clint Guymon (Brigham Young University) and Joseph R Tuft (Affiliation unknown)

Simulation Analysis of Air Temperature Effects on Propylene Storage Tank Leaks

Dr. Mahmud Hasan (University of Houston)

W405A-ChE Division Open Mic

2:00 – 3:30 PM, Deschutes Ballroom B, Hyatt Regency Portland Hotel (HQ Hotel)

W505A-Student Success and Sustainability

3:45 – 5:15 PM, C126, Oregon Convention Center

WIP: Chemical Engineering Faculty Attitudes Towards Evidence-based Instruction Practices and Growth Mindset

Dr. Mechteld Veltman Hillsley (Penn State University), Dr. Karen A High (Clemson University), Dr. Stephanie Butler Velegol (Penn State University), Michael John Janik (Penn State University), and Dr. Jennifer S. Brown (Clemson University)

Work in Progress: Do Growth Mindset Interventions Work? Observations from a Case Study in a Chemical Engineering Core Course

Dr. Nagma Zerín (The Johns Hopkins University) and Dr. Sakul Ratanalert (Columbia University)

Evaluating Students' Belonging in Two Engineering Departments

Prof. Susan P. Gentry (University of California, Davis) and Glaucia Prado P.E. (University of California, Davis)

Session papers continued on page 16



Annual Conference: ChED Sessions

Wednesday, June 26th (continued)

W505A-Student Success and Sustainability (continued)

3:45 – 5:15 PM, C126, Oregon Convention Center

Empowering Students to Self-Select Resources Befitting Their Individual Learning Styles in a Reactor Design Engineering Course

Dr. Elizabeth Michelle Melvin (Clemson University)

Work-In-Progress: Integrating Sustainability Across the Chemical Engineering Curriculum

Dr. Christopher V.H.-H. Chen (Columbia University) and Dr. Courtney Pfluger (Northeastern University)

Work-in-Progress: Implementation of Standards-based Grading in a Mass Transfer/Kinetics Course

Dr. Alison Leigh Banka (University of Georgia)

Work in Progress: Implementation of a Curricular Development Project for Experiential Learning in a Senior Capstone Product-Design Course

Dr. Chris Barr (University of Michigan), Taylor Ashley Dotto (University of Michigan), Joseph Gilbert Restivo (University of Michigan), Christina Said (University of Michigan), Rinrada Watchara (University of Michigan), Laura Hirshfield (University of Michigan), Elaine C Wisniewski (University of Michigan), and Xiaoxia Nina Lin (University of Michigan)

W505B-Inclusivity, Mentorship, and Entrepreneurial Thinking

3:45 – 5:15 PM, A105, Oregon Convention Center

Designing Inclusive Teamwork Activities to Improve International Masters Students' Teamwork Skills in Chemical Engineering

Ms. Ya He (University of Sheffield) and Dr. Mohammad Zandi P.E. (University of Sheffield)

Enhancing Entrepreneurial Minded Learning of Process Control and Heat Transfer Concepts Using Micromoments and Concept Maps

Prof. Erick S. Vasquez-Guardado (University of Dayton), Prof. Ricardo Gómez González (Universidad Autonoma de Nuevo Leon), Prof. Jean M. Andino Ph.D., P.E. (Arizona State University), Prof. Nilza D. Aples (University of Technology, Jamaica), and Prof. Xiaojing Yuan (University of Houston)

Building a Great Student Chapter: Reflections on Workshop Activities Using Entrepreneurial Mindset

Prof. Matthew W Liberatore (University of Toledo)

Session papers continued on page 17



Annual Conference: ChED Sessions

Wednesday, June 26th (continued)

W505B-Inclusivity, Mentorship, and Entrepreneurial Thinking (continued)

3:45 – 5:15 PM, A105, Oregon Convention Center

Intrinsic Benefits of a Chemical Engineering Alumni Student Mentoring Program

Dr. Heather L. Walker (University of Arkansas) and Dr. Edgar C Clausen (University of Arkansas)

Alumni Engagement and Mentoring Integrated in the Chemical Engineering Curriculum

Dr. Joaquin Rodriguez (University of Pittsburgh)



**The Future of
Engineering Education**

2024 ASEE Annual Conference

June 23 - 26 | Oregon Convention Center, Portland, OR

See you in Portland!

Photo Credits: Spring at the White House: Joyce Boghosian, Portland Oregon Downtown Cityscape: David Gn Photography via Getty Images, ASEE Conference Logo: ASEE