

**BUSINESS ADDRESS:**  
*Chemical Engineering Education*  
675 Wolf Ledges Parkway, Suite 2459  
Akron, OH 44309-2459  
PHONE: 352-682-2622  
EMAIL: [cee@che.ufl.edu](mailto:cee@che.ufl.edu)

**EDITOR**

*Donald P. Visco, Jr., University of Akron*

**ASSOCIATE EDITORS**

*Lisa G. Bullard, North Carolina State University*

*Allison Godwin, Cornell University*

*Joseph H. Holles, New Mexico State University*

**ASSISTANT EDITORS**

*Daniel D. Burkey, University of Connecticut*

*Laura Hirshfield, University of Michigan*

*Monica Lamm, Iowa State University*

*Lakshminarayanan Samavedham, National University  
of Singapore*

*David L. Silverstein, University of Kentucky*

*Troy Vogel, University of Notre Dame*

*S. Patrick Walton, Michigan State University*

**ACCESS EDITOR**

*Carlos Rinaldi, University of Florida*

**PUBLICATIONS MANAGER**

*Erin Stevic*

**PUBLICATIONS BOARD**

• CHAIR •

*Milo D. Koretsky*  
*Tufts University*

• VICE CHAIR •

*Adrienne Minerick*  
*Michigan Technological University*

• MEMBERS •

*Jason Bara (Alabama)*

*Taryn Bayles (Pittsburgh)*

*Christopher Chen (Columbia)*

*Jennifer Cole (Northwestern)*

*Matthew Cooper (NC State)*

*John Falconer (Colorado)*

*Laura Ford (Tulsa)*

*Ashlee Ford Versypt (Buffalo)*

*Luke Landherr (Northeastern)*

*LaRuth McAfee (Delaware)*

*Polly Piergiovanni (Lafayette)*

*Sarah Wilson (Kentucky)*

# Chemical Engineering Education

Volume 58      Number 2      Spring 2024

► **2022 ASEE/AIChE ChESS SPECIAL SECTION: PART 3**

- 90** A Third Special Section on the ASEE/AIChE Chemical Engineering Summer School  
*Allison Godwin, Milo D. Koretsky, Daniel D. Burkey*
- 92** Mixed Reality in Chemical Engineering Education – A Proof of Concept  
*Keisha C. A. Antoine, Lealon L. Martin, Jorge F. Gabitto*
- 101** Using a Virtual-Reality Activity to Enrich Nanoscale Concepts in Chemical Engineering  
*Michael P. Howard, Symone L. M. Alexander*
- 109** Photovoice: Visualizing the Experiences and Assets of Engineering Students  
*Abdulmalik Abdulsalam, Brian McGowan, Kristin L. Schaefer, Joan Wawire, Jerrod A. Henderson*
- 120** Problem-Based Learning (PBL) and Project-Based Learning (PJBL) in a Continuously Improving Chemical Engineering Laboratory Experience  
*Carlos J. Landaverde-Alvarado*
- 131** Cultivating an Entrepreneurial Mindset in Chemical Engineering Undergraduates Through Course Projects  
*Timothy M. Shenk, Nian Liu*
- 140** Three Real-World Oil and Gas Datasets for Petroleum Engineering Capstone Design with Applications for Chemical Engineering Design  
*Mohammad Heshmati, W. David Purvis*
- 150** Reflections and Assessment of the 2022 Chemical Engineering Summer School  
*Margot A. Vigeant, Daniel Anastasio, Daniel D. Burkey, Michael Barankin, Taryn M. Bayles, Laura P. Ford, Tracy Q. Gardner, Milo D. Koretsky, Daniel Lepek, Matthew W. Liberatore*

► **FOOD FOR THOUGHT**

- 161** Winesicle  
*Margot A. Vigeant*

► **DRAWN TO ENGINEERING**

- 163** Course Design and the MUSIC Model  
*Luke Landherr, Sarah Schanze*

► **OTHER**

- 160** CEE Educator Profiles: Call for Nominations  
*CEE Staff*

CHEMICAL ENGINEERING EDUCATION [ISSN 0009-2479 (print); ISSN 2165-6428 (online)] is published quarterly by the Chemical Engineering Division, American Society for Engineering Education. Correspondence regarding editorial matter, circulation, and changes of address should be sent to CEE, 675 Wolf Ledges Parkway, Suite 2459, Akron, OH 44309. Copyright © 2024 by the Chemical Engineering Division, American Society for Engineering Education. The statements and opinions expressed in this periodical are those of the writers and not necessarily those of the ChE Division, ASEE, which body assumes no responsibility for them. Valid defective copies replaced if returned within 90 days of publication. Write for information on subscription costs and for back copy costs and availability. POSTMASTER: Send address changes to Chemical Engineering Education, 675 Wolf Ledges Parkway, Suite 2459, Akron, OH 44309. Periodicals Postage Paid at Gainesville, Florida, and additional post offices (USPS 101900). <https://journals.fvc.org/cee/index>