BUSINESS ADDRESS: Chemical Engineering Education 675 Wolf Ledges Parkway, Suite 2459 Akron, OH 44309-2459 PHONE: 352-682-2622 FAX: 866-CEE-0576 email: cee@che.ufl.edu

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

ASSOCIATE EDITOR Joseph H. Holles, University of Wyoming

ASSOCIATE EDITOR & LIFELONG LEARNING EDITOR Lisa G. Bullard, North Carolina State University

ASSISTANT EDITOR & PROBLEMS EDITOR David Silverstein, University of Kentucky

> ASSISTANT EDITORS Allison Godwin, Purdue University

Monica Lamm, Iowa State University

Justin Shaffer, Colorado School of Mines

Troy Vogel, University of Notre Dame

ACCESS EDITOR Carlos Rinaldi, University of Florida

PUBLICATIONS MANAGER Erin Stevic

PUBLICATIONS BOARD

• CHAIR • Milo Koretsky Oregon State University

• VICE CHAIR • Adrienne Minerick Michigan Technological University

• MEMBERS •

Jason Bara (Alabama) Taryn Bayles (Pittsburgh) Lorenz Biegler (Carnegie-Mellon) Cheryl Bodnar (Rowan) Daniel Burkey (Connecticut) Jennifer Cole (Northwestern) Matthew Cooper (NC State) John Falconer (Colorado) Laura Ford (Tulsa) Ashlee Ford Versypt (Buffalo) LaRuth McAfee (Delaware) Polly Piergiovanni (Lafayette) Stewart Slater (Rowan)

Uttandaraman Sundararaj (Calgary)

Chemical Engineering Education Volume 55 Number 1 Winter 2021

► DEPARTMENT

3 The Pennsylvania State University Andrew L. Zydney

► FOOD FOR THOUGHT

9 The Oldest Unit Operation Margot Vigeant

► CLASSROOM

- 11 Hierarchical Data Analysis for the Characterization Of Polymeric Materials: Linking Measurements and Statistical Methodology Nicholas Filipovic, Alison J. Scott, Alexander Penlidis
- 43 Student Success and Attempts on Auto-Graded Homework Across Multiple Cohorts in Material and Energy Balances Kayla E. Chapman, Megan E. Davidson, Matthew W. Liberatore

► CURRICULUM

31 A Student-Led Approach to Integrate ASPEN Plus[®] in the Chemical Engineering Curriculum at The University of Kansas *Michael Shao, Mark B. Shiftett*

► LABORATORY

- 24 Experiencing Process Plant Conditions Through a Pilot Plant-Based Laboratory Class
 - Colin A. Scholes, Guoping Hu
- 51 Using Ongoing Laboratory Problems as Active Learning Research Projects in Transport Phenomena Ryan R. Hansen, Audrey C. Anderson, Niloy Barua, Logan M. McGinley

► DRAWN TO ENGINEERING

- **61** Little Things
 - Lucas Landherr, Parker Hitt, Ana Cabriada

► TEACHING TIPS

- 23 Stakeholders Presentations: A Technical Presentation to a General Audience Laura P. Ford, Kerry L. Sublette
- 63 What is the Re in a Whale's Aorta? Justin F. Shaffer

► OTHER CONTENTS

- 2 Editorial: Leaving 2020 Behind Donald P. Visco, Jr.
- 42 Book Review: Green Sustainable Process for Chemical and Environmental Engineering and Science: Supercritical Carbon Dioxide as Green Solvent, 1st Ed. Edited by Dr. Inamuddin, Abdullah M. Asiri, Arun M. Isloor Reviewed by Concepcion Jimenez-Gonzalez
- 64 Winter 2021 USPS Statement

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, 01 H4309. Copyright © 2021 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.fbc.org/cee/index