Chemical Engineering Education
Volume 49 Number 1 Winter 2015

DEPARTMENT
2 Chemical Engineering at Tuskegee University
   Tamara Floyd-Smith, Shamim Begum, Nader Vahdat, Qinghua Peter He, Kyung Kwon, Jonathan Mbah, and Allen Smith

EDUCATOR
58 Matthew Liberatore of the Colorado School of Mines
   Charles R. Vestal and Ronald L. Miller

LABORATORY
9 Ultrafiltration of Protein Solutions: A Laboratory Experiment
   Vikram J. Pansare, Daniel Tien, and Robert K. Prud’homme
37 Novel Hands-on Water Overflow SIS Experiment in Undergraduate Process Control Laboratory
   Yan Fang, M.A.K. Rasel, Tracy J. Benson, and Peyton C. Richmond

CURRICULUM
19 First-Year Hands-On Design Course: Implementation & Reception
   Anthony E. Butterfield, Kyle Branch, and Edward Trujillo
29 A New Graduate-Level Seminar to Prepare Students for the Next Step in Their Careers
   Kelly L. Fleming, James Mattaehi, and Jim Pfendtner

CLASSROOM
47 Program Level Curriculum Reform at Scale: Using Studios to Flip the Classroom
   Milo D. Koretsky

RANDOM THOUGHTS
27 We Hold These Truths To Be Self-Evident
   Richard M. Felder

OTHER CONTENTS
18 Teaching Tips: Dramatically Improving Student Attendance at Office Hours
   Frank DeVilbiss
57 In Memoriam: Duncan Fraser
   Rich Felder
inside front cover Teaching Tips: Student-Initiated Senior Design Projects
   Lisa G. Bullard and Steven W. Peretti

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 matters, circulation, and changes of address should be sent to CEE, 5200 NW 43rd St., Suite 102-239, Gainesville, FL 32606. Copyright © 2015 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 CEE Division, ASEE, which body assumes no responsibility for them. Defective copies replaced if notifed 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, 5200 NW 43rd St., Suite 102-239, Gainesville, FL 32606. Periodicals Postage Paid at Gainesville, Florida, and additional post offices (USPS 101900), www.che.ufl.edu/CEE.