

EDITORIAL AND BUSINESS ADDRESS:

Chemical Engineering Education
 Department of Chemical Engineering
 University of Florida
 Gainesville, FL 32611

EDITOR: *Ray W. Fahien* (904) 392-0857

ASSOCIATE EDITOR: *T. J. Anderson*

CONSULTING EDITOR: *Mack Tyner*

MANAGING EDITOR: *Carole Yocum* (904) 392-0861

PUBLICATIONS BOARD**CHAIRMAN**

E. Dendy Sloan, Jr.
 Colorado School of Mines

PAST CHAIRMEN

Gary Poehlein
 Georgia Institute of Technology

Lee C. Eagleton
 Pennsylvania State University

MEMBERS**South**

Richard M. Felder
 North Carolina State University

Jack R. Hopper
 Lamar University

Donald R. Paul
 University of Texas

James Fair
 University of Texas

Central

J. S. Dranoff
 Northwestern University

West

Frederick H. Shair
 California Institute of Technology

Alexis T. Bell
 University of California, Berkeley

Northeast

Angelo J. Perna
 New Jersey Institute of Technology

Stuart W. Churchill
 University of Pennsylvania

Raymond Baddour
 Massachusetts Institute of Technology

Northwest

Charles Sleicher
 University of Washington

Canada

Leslie W. Shemilt
 McMaster University

Library Representative

Thomas W. Weber
 State University of New York

Chemical Engineering Education

VOLUME XXIV

NUMBER 3

SUMMER 1990

DEPARTMENT

118 Auburn University, *Belinda Dickman, Robert P. Chambers*

CURRICULUM

124 A One-Hour Professional Development Course for Chemical Engineers, *Mark E. Orazem, Dinesh O. Shah*

CLASSROOM

132 Introducing the Concept of Film Heat Transfer Coefficients, *Robert Field*

148 An Open-Ended Problem in Chemical Reaction Engineering, *Phillip E. Savage*

164 Stochastic Modeling of Chemical Process Systems: Part 3. Applications, *R. O. Fox, L. T. Fan*

AWARD LECTURE

136 A Random Walk in Porous Media, *J. L. Duda*

CLASS AND HOME PROBLEMS

145 Drainage of Conical Tanks With Piping, *Jude T. Sommerfeld*

CURRICULUM

154 Composite Materials: An Educational Need, *Tony E. Saliba, James A. Snide*

RANDOM THOUGHTS

130 Meet Your Students: 3. Michelle, Rob, and Art, *Richard M. Felder*

OUTREACH

158 Introducing Applications of Biotechnology to High School Students, *Donald L. Wise, Ralph A. Buonopane, David C. Blackman*

LABORATORY

168 Plasmid Instability in Batch Cultures of Recombinant Bacteria: A Laboratory Experiment, *William E. Bentley, Dhinakar S. Kompala*

135, 147, 153 Book Reviews

157 Books Received

CHEMICAL ENGINEERING EDUCATION (ISSN 0009-2479) is published quarterly by the Chemical Engineering Division, American Society for Engineering Education and is edited at the University of Florida. Correspondence regarding editorial matter, circulation, and changes of address should be sent to CEE, Chemical Engineering Department, University of Florida, Gainesville, FL 32611. Advertising material may be sent directly to E.O. Painter Printing Co., PO Box 877, DeLeon Springs, FL 32130. Copyright © 1990 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. Defective copies replaced if notified within 120 days of publication. Write for information on subscription costs and for back copy costs and availability. POSTMASTER: Send address changes to CEE, Chem. Engineering Dept., University of Florida, Gainesville, FL 32611.