

**EDITORIAL AND BUSINESS ADDRESS:**

*Chemical Engineering Education*  
Department of Chemical Engineering  
University of Florida • Gainesville, FL 32611  
PHONE and FAX : 352-392-0861  
e-mail: [cee@che.ufl.edu](mailto:cee@che.ufl.edu)

**EDITOR**

*Tim Anderson*

**ASSOCIATE EDITOR**

*Phillip C. Wankat*

**MANAGING EDITOR**

*Lynn Heasley*

**PROBLEM EDITOR**

*James O. Wilkes, U. Michigan*

**LEARNING IN INDUSTRY EDITOR**

*William J. Koros, Georgia Institute of Technology*

**PUBLICATIONS BOARD**

• **CHAIRMAN** •

*E. Dendy Sloan, Jr.*  
*Colorado School of Mines*

• **VICE CHAIRMAN** •

*John P. O'Connell*  
*University of Virginia*

• **MEMBERS** •

*Kristi Anseth*  
*University of Colorado*

*Pablo Debenedetti*  
*Princeton University*

*Dianne Dorland*  
*Rowan University*

*Thomas F. Edgar*  
*University of Texas at Austin*

*Richard M. Felder*  
*North Carolina State University*

*Bruce A. Finlayson*  
*University of Washington*

*H. Scott Fogler*  
*University of Michigan*

*Carol K. Hall*  
*North Carolina State University*

*William J. Koros*  
*Georgia Institute of Technology*

*Steve LeBlanc*  
*University of Toledo*

*Ronald W. Rousseau*  
*Georgia Institute of Technology*

*Stanley I. Sandler*  
*University of Delaware*

*C. Stewart Slater*  
*Rowan University*

*Donald R. Woods*  
*McMaster University*

---

# Chemical Engineering Education

Volume 40

Number 2

Spring 2006

---

► **DEPARTMENT**

- 80 Tulane: Katrina and its Aftermath,  
*Brian S. Mitchell, John A. Prindle, Henry S. Ashbaugh, Vijay T. John*

► **EDUCATOR**

- 74 Eric M. Stuve of the University of Washington, *Bruce A. Finlayson*

► **CURRICULUM**

- 88 Design Projects of the Future,  
*Joseph A. Shaeiwitz, Richard Turton*
- 132 Energy Consumption vs. Energy Requirement,  
*L.T. Fan, Tengyan Zhang, John R. Schlup*

► **CLASS AND HOME PROBLEMS**

- 140 Gas Permeation Computations with Mathematica,  
*Housam Binous*

► **RANDOM THOUGHTS**

- 96 A Whole New Mind for A Flat World, *Richard M. Felder*

► **THE NEXT MILLENNIUM IN CHEMICAL ENGINEERING**

- 99 Introduction,  
*Christine M. Hrenya, H. Scott Fogler*
- 104 A Vision of the Curriculum of the Future,  
*Robert C. Armstrong*
- 110 Teaching Engineering in the 21st Century with a 12th-Century Teaching Model: How Bright Is That?  
*Richard M. Felder*
- 114 A Different Chemical Industry,  
*E.L. Cussler*
- 116 Crystal Engineering: From Molecules To Products,  
*Michael F. Doherty*
- 126 Inside the Cell: A New Paradigm for Unit Operations and Unit Processes?  
*Jerome S. Schultz*

---

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 32611-6005. Copyright © 2006 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 Chemical Engineering Education, Chemical Engineering Department, University of Florida, Gainesville, FL 32611-6005. Periodicals Postage Paid at Gainesville, Florida, and additional post offices.