

The AIChE JOURNAL, a monthly publication of the American Institute of Chemical Engineers, is devoted to fundamental research and developments having immediate or potential value in chemical engineering.

EDITOR

Matthew V. Tirrell

MANAGING EDITOR

Haeja L. Han

ASSOCIATE EDITORS

Edward L. Cussler

Mark E. Davis

Julio M. Ottino

George Stephanopoulos

COPY EDITOR

Arthur H. Baulch

EDITORIAL ASSISTANTS

Peter Hurley

Karen M. Simpson

CONSULTING EDITORS

L. S. Fan

Particle Technology

Alice P. Gast

Materials

Carol K. Hall

Thermodynamics

George E. Keller, II

Separations

Michael T. Klein

Reaction Engineering

Douglas A. Lauffenburger

Bioengineering

Glen H. Pearson

Materials Processing

Ronald W. Rousseau

Crystallization

John Seinfeld

Environmental Engineering

Michael Shuler

Biochemical Engineering

PRODUCTION DIRECTOR

Daniel Chillak

EDITOR-IN-CHIEF

Mark D. Rosenzweig

**MANAGING DIRECTOR,
PUBLICATIONS & COMMUNICATIONS**

Stephen R. Smith

AIChE Standing Order Plans

*The No-Muss, No-Fuss, No Bother Way
to Get Exactly Those Publications
You Want*

If you find yourself ordering the same AIChE serials or annual volumes year after year after year, consider subscribing to one of our Standing Order Plans. These subscription plans allow you to assemble your own unique package of publications, and guarantee their delivery as soon as they roll off the presses. Standing Orders eliminate prepayment requirements, as well as the need to write or call us every time a new volume in a series comes out. And, you'll get your copy faster, too, since you won't have to wait for publication announcements to place your order.

Current Standing Order Plans include:

AIChE Symposium Series

Center for Chemical Process Safety

Chemical Engineering Faculty Directory

Equipment Testing Procedures

Meeting Papers on Microfiche

Technical Manuals (i.e. Ammonia Plant Safety, Ethylene Producers, Dow Fire & Explosion, Etc.)

To start your Standing Order Plan call
the AIChExpress Center at 1-800-242-4363.

AIChE Journal (ISSN 0001-1541) is published monthly by the American Institute of Chemical Engineers, 345 E. 47th St., New York, NY 10017. Manuscripts should be submitted to Editor Matthew V. Tirrell at the Dept. of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN 55455, phone (612) 625-5823, fax (612) 624-6564. The statements and opinions in the *AIChE Journal* are those of the contributors, and AIChE assumes no responsibility for them. Annual subscription rates: \$675 for nonmembers, \$85 for members, and \$45 for student members; outside U.S., add \$80 for postage. Single copies: \$70; outside U.S., add \$8 for postage. Periodicals postage for domestic and air mail postage for foreign mailing paid at New York, NY and additional mailing offices. Copyright 1996 by the American Institute of Chemical Engineers. Subscribers are requested to give prompt notification of any change of address. Postmaster: Send changes of address to *AIChE Journal*, 345 East 47th St., New York, NY 10017.

Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by AIChE for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that \$3.00 per article plus \$1.50 per copy is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923. This consent does not extend to copying for general distribution, for advertising or promotional purposes, for inclusion in a publication, or for resale. Articles published before 1988 are subject to the same copyright conditions and the fee for each article is \$3.00 plus \$1.50 per copy. *AIChE Journal* fee code: 0001-1541/96 \$3.00 per article plus \$1.50 per copy.