

# 5-YEAR INDEX • 1997-2001

## Volumes 31 through 35

(Note: Author Index begins on page 315 )

### TITLE INDEX

Note: Titles in italics are books reviewed.

- A**
- ABET EC 2000: Chemical Engineering and ..... 33(2),104
- ABET Criteria 2000: An Exercise in Problem Solving ... 32(2),126
- Acetone Production from Isopropyl Alcohol ..... 33(3),210
- Adsorption, An Undergraduate Experiment on ..... 32(1),76
- Advanced Transport Phenomena* ..... 35(2),110
- Advice From an Old-Timer ..... 32(1),72
- Affinity Adsorption: Introduction to Bioseparations ..... 31(2),124
- Alternative Fuels* ..... 33(1),39
- Ammonia from a Liquid Jet, Desorption of ..... 33(4),328
- Analysis, Synthesis, and Design of Chemical Processes* 32(4),268
- Animal Guts as Ideal Reactors ..... 32(1),24
- Anomalous Results from Process Simulators ..... 31(1),46
- Anonymous Quizzes: An Effective Feedback Mechanism .. 31(1),56
- Antiwindup, Bumpless Transfer, and Split-Range  
Control, Teaching ..... 32(3),220
- Articulation Matrix, The: A Tool for Defining and  
Assessing a Course ..... 33(2),122
- ASEE Annual Meeting Program, 1997 ..... 31(2),108
- ASEE Annual Meeting Program, 2001 ..... 35(2),120
- ASEE Chemical Engineering Division  
Awards ..... 32(4),269; 33(4),287; 34(4),337
- Assess a ChE Program, Using Portfolios to ..... 33(2),110
- Assessing a Course, A Tool for: The Articulation Matrix 33(2),122
- Assessment Plan, Issues in Developing and  
Implementing an ..... 34(2),268
- ASTutE: Computer-Aided Teaching of Materials  
Balancing ..... 34(2),258
- Asymmetric Ceramic Membranes, Permeation of  
Gases in ..... 33(1),58
- Asynchronous Learning of Chemical Reaction  
Engineering ..... 35(4),290
- Automotive Catalytic Reaction Engineering Experiment .. 34(2),240
- Award Lectures**
- Do Changes in the Chemical Industry Imply Changes  
in Curriculum? ..... 33(1),12
- Combustion Synthesis of Advanced Materials ..... 35(1),14
- Particle Dynamics in Fluidization and Fluid-Particle  
Systems: Part 1. Educational Issues ..... 34(1),40
- Particle Dynamics in Fluidization and Fluid-Particle  
Systems: Part 2. Teaching Examples ..... 34(2),128
- Process Control: From the Classical to the  
Postmodern Era ..... 31(1),12
- Synergism Between Research and Teaching in  
Separations ..... 31(4), 202
- B**
- Basic Principles, Use of an Emission Analyzer to  
Demonstrate ..... 34(2),178
- Batch Distillation, Simulation, Optimal Design and Control* 32(1),13
- Batch Distillation Optimization Made Easy ..... 32(4),280
- Batch Processing Experiment, Sequential: For  
First-Year ChE Students ..... 33(3),216
- Beroulli Equation, Demonstrating the Quantitative  
Accuracy of ..... 35(2),116
- Biochemical Engineering, Laboratory Experiment in ..... 33(1),54
- Bioengineering and Process Modeling, A Case Study  
in: Cross-Course Project Assignments ..... 35(2),128
- Bioinformatics, Genomics, and the Chemical Engineer 34(4),346
- Bioseparations, Introduction to: Affinity Adsorption ..... 31(2),124
- Biotech Manufacturing Facility Design and  
Regulatory Compliance, Teaching ..... 35(3),188
- Bode Plots, A Note on Stability Analysis Using ..... 35(3),208
- Brain Structure and Function: Part 1. Toward  
Technical Understanding ..... 31(3),152
- Bubble Column, Mass Transfer in a ..... 32(2),138
- Bubble Column, Measuring Axial Dispersion in a ..... 32(3),198
- Building the EC 2000 Environment ..... 33(2),128
- Business Meeting, The: An Alternative to the Classic  
Design Presentation ..... 35(2),104
- By-Product Disposal Costs, CSTR Optimization with ... 31(2),142
- C**
- Capital Cost Estimation, A Software Package for ..... 33(3),254
- Capstone ChE Course, Evaluation of Computer-  
Simulation Experiments in a Senior-Level ..... 33(1),34
- Case Study Projects in an Undergrad Process  
Control Course ..... 32(3),214
- Catalytic Reaction Engineering Experiment, Automotive 34(2),240
- Cellular Automation Concepts Through Interdisciplinary  
Collaborative Learning, Teaching ..... 34(4),304
- Ceramic Membranes, Permeation of Gases in Asymmetric 33(1),58
- Chemical Engineering and the Other Humanities ..... 32(1),14
- Chemical Engineering, The Practical Side of ..... 32(3),208
- Chemistry and Life Sciences in a New Vision of ChE .... 35(4),248
- Choose/Focus/Analyze Exercise, A ..... 35(1),80
- Choosing an Optimum Feedstock for Yeast Production .... 31(1),22
- Chromatography Laboratory, Ion Exchange ..... 31(1),26
- Citation Statistics, Some Pitfalls with ..... 34(1),62
- Citation Statistics, The Effect of Publication  
Rate Profile on ..... 35(1),32

### ***Class and Home Problems***

|   |           |
|---|-----------|
| Application of a Heat Pump: A Feasibility Study .....   | 34(1),68  |
| Batch Distillation Optimization Made Easy .....   | 32(4),280 |
| Beware of Bogus Roots with Cubic Equations of<br>State .....                                      | 33(4),278 |
| CSTR: Start-Up of a Non-Isothermal .....  | 31(4),250 |
| CSTR Optimization with By-Product Disposal Costs  | 31(2),142 |
| Design Project for Thermodynamics Students, An<br>"Open-Ended Estimation" .....                   | 34(2),154 |
| Icing the Rink: A Problem for the Stoichiometry<br>Course .....                                   | 33(2),154 |
| Introduction to Process Flexibility:<br>Part 1. Heat Exchange .....                               | 31(3),172 |
| Prediction and Prevention of Chemical Reaction<br>Hazards: Learning by Simulation .....           | 35(4),268 |
| Problems in Mass Transfer and Separation Processes  | 31(1),40  |
| Residue Theorem to Invert Laplace Transforms,<br>Use of the .....                                 | 35(1),22  |
| Sequential and Non-Disciplinary Problems to<br>Teach Process Dynamics, Use of .....               | 35(3),182 |
| Tuning and Activation of a PI Controller During<br>Startup of Non-Isothermal CSTR .....           | 34(2),246 |
| Classroom to the Workplace, From the .....  | 33(1),84  |
| Cogeneration Facility, Using A .....  | 33(4),316 |
| Collaborative Learning, Teaching Cellular<br>Automation Concepts Through Interdisciplinary .....  | 34(4),304 |
| Colum Transport Experiments for Dissolved<br>Pollutants and Colloids .....                        | 35(3),222 |
| Combustion, An Experiment in .....  | 31(4),236 |
| Combustion Synthesis and Materials Processing .....   | 31(4),228 |
| Combustion Synthesis and Materials Processing: Exercises  | 32(1),82  |
| Combustion Synthesis of Advanced Materials .....  | 35(1),14  |
| COMET: An Open-Ended, Hands-On Project for<br>Sophomores .....                                    | 32(1),20  |
| Communication for Professional Engineering, Effective ..  | 34(2),234 |
| Communications Course? Just a .....   | 32(1),84  |
| Compressible Flow Analysis, Importance of<br>System Selection on .....                            | 32(4),308 |
| Computational Tools in Engineering Education, Use of:<br>A Case Study on the Use of Mathcad ..... | 31(3),180 |
| Computer-Aided Process Control Education,<br>A Training Simulator for .....                       | 34(2),252 |
| Computer-Aided Teaching of Materials<br>Balancing, ASTutE .....                                   | 34(2),258 |
| Computer-Mediated Collaborative Learning in Che .....   | 33(3),250 |
| Computer Modeling in the Undergraduate Unit Ops Lab   | 35(2),116 |
| Computer-Simulation Experiments in a Senior-Level<br>Capstone ChE Course, Evaluation of .....     | 33(1),34  |
| Computer Simulation of Tracer Input Experiments .....   | 33(4),300 |
| Concentration-Front Movement, Using In-Bed<br>Temperature Profiles for Visualizing the .....      | 35(2),122 |
| Concepts, Introducing Students to Basic ChE .....   | 33(3),190 |
| Contaminants, Experiments Illustrating Phase<br>Partitioning and Transport of Environmental ..... | 32(1),40  |
| Continuing Education Using the Internet, Graduate<br>Bridging and .....                           | 35(4),230 |
| Control Course, Experiences with an Experimental<br>Project in a Graduate .....                   | 33(4),270 |
| Cooperative Education .....   | 35(1),58  |

|  |           |
|--|-----------|
| Correlation for Estimating the Transfer of Oxygen<br>From Air to Water, Developing the Best .....      | 35(2),134 |
| Cost Estimation, A Software Package for Capital .....  | 33(3),254 |
| Creative Problem-Solving Skills in Engineering<br>Design, Teaching .....                               | 33(2),150 |
| Cross-Course Project Assignments .....   | 35(2),128 |
| CSTR Optimization with By-Product Disposal Costs ..  | 31(2),142 |
| Curriculum? Do Changes in the Chemical Industry<br>Imply Changes in .....                              | 33(1),12  |
| Curriculum for Introductory Courses in ChE, A<br>Project-Based Spiral: Part 1. Curriculum Design ..... | 34(2),222 |
| Curriculum for Introductory Courses in ChE, A<br>Project Based Spiral: Part 2. Implementation .....    | 34(4),296 |
| Curriculum, Incorporation Chemical Process<br>Miniaturization into the ChE .....                       | 34(4),316 |
| Curriculum Through a Multidisciplinary Research<br>Experience, Introducing Emerging Technologies in .. | 35(4),296 |
| Curve, Quantifying the .....   | 32(3),238 |

### **D**

|  |           |
|--|-----------|
| Dairy Products as a ChE Laboratory Experiment,<br>Ultrafiltration of ..... | 32(4),318 |
| Data Acquisition, Using MATLAB/Simulink for .....                          | 35(4),286 |
| Debates, Chemical Engineering .....  | 34(4),362 |

### ***Departmental Articles***

|   |           |
|---|-----------|
| Alberta, University of .....  | 34(2),102 |
| City College of New York .....  | 35(3),162 |
| Clemson University .....  | 33(3),178 |
| Colorado State University .....   | 31(3),146 |
| Connecticut, University of .....  | 31(1),2   |
| Maine, University of .....  | 31(2),80  |
| Melbourne, University of .....  | 35(1),8   |
| Mississippi State University .....  | 32(2),82  |
| Oklahoma State University .....   | 34(1),2   |
| Puerto rice, Mayagüez Campus .....  | 32(3),168 |
| Rose-Hulman Institute of Technology .....   | 33(2),96  |
| Washington State University .....   | 33(1),6   |
| Wayne State University .....  | 32(1),8   |
| Worcester Polytechnic Institute .....   | 34(2),186 |
| Design, Chemical Product .....  | 35(4),280 |
| Design, Experience with Teaching: Do We Blend<br>the Old with the New? .....                                      | 33(2),158 |
| Design Throughout the ChE Curriculum, Integrating .....   | 32(4),290 |
| Design Presentation: The Business Meeting,<br>An Alternative to the Classic .....                                 | 35(2),104 |
| Design Project for Thermodynamic Students,<br>An "Open-Ended Estimation" .....                                    | 34(2),154 |
| Design Project in Chemical Process Design, Integrated<br>Course and .....   | 31(2),94  |
| Desorption of Ammonia from a Liquid Jet .....   | 33(4),328 |
| Differential-Algebraic Equations Systems: What to do if<br>Relative Volatilities Cannot be Assumed to be Constant | 31(2),86  |
| Differential Equations with Maple, Solving .....  | 34(4),328 |
| Dimensional Analysis, A New Approach to Teaching .....  | 31(3),158 |
| Dimensional Analysis, An Alternate Method for<br>Teaching and Implementing .....                                  | 34(2),216 |
| Dimensional Equation from Environmental<br>Engineering, A .....   | 34(1),94  |

Discontinuities in ChE Education ..... 33(1),18  
*Dynamics of Fluidized Particles, The* ..... 35(3),187

## E

Early Engineering Education, Experiments with  
Integration of ..... 33(3),204  
EC 2000 Criteria, An Introductory Laboratory  
Incorporating ..... 34(1),80  
EC 2000 Environment, Building the ..... 33(2),128  
EC 2000 Objectives, A Pollution Prevention  
Course that Helps Meet ..... 34(2),272

### Educator Articles

Cussler, Ed; Minnesota's ..... 35(3),158  
Dorland, Dianne ..... 35(1),2  
Doyle III, Frank ..... 34(2),192  
Glandt, Eduardo, of the University of Pennsylvania... 31(1),8  
Green, Don, of the University of Kansas ..... 34(1),8  
Hall, Carol, of North Carolina State University ..... 33(3),184  
Larson, Maurice A., of Iowa State University ..... 33(1),2  
Paul, Don, of The University of Texas ..... 35(2),86  
Reklaitis, G.V. (Rex), of "Old Purdue" ..... 34(2),98  
Rousseau, Ronald W., of Georgia Tech ..... 32(2),88  
Russell, T.W. Fraser ..... 31(2),74  
Tirrell, Matt; Minnesota's ..... 32(3),162  
Varma, Arvind, of Notre Dame ..... 32(1),2  
Westerberg, Art, of Carnegie Mellon University ..... 33(2),90

Electrochemical Engineering in the Process  
Laboratory Course ..... 35(1),74  
Electrochemical Treatment, Removal of Heavy  
Metals in Wastewater by ..... 33(2),172  
*Elementary Principles of Chemical Processes* ..... 35(2),91  
Energy in Reactions, Is Matter Converted to ..... 34(2),168  
Engineering Education for the 21st Century ..... 31(3),166  
*Engineering Flow and Heat Exchange* ..... 34(1),89  
Enrollment Cycling in ChE, An Analysis of ..... 35(1),50  
*Environmental Chemodynamics* ..... 31(4),249  
Environmental Engineering, A Dimensional  
Equation from ..... 34(1),94  
Environmental Engineering Program, Postgraduate ..... 32(4),250  
Environmental Health and Safety Department,  
Freshman Design Projects in the ..... 32(1),58  
Environmentally Sound Manufacturing Principles,  
Demonstrating: The Green Square  
Manufacturing Game ..... 33(2),166  
Emission Analyzer to Demonstrate Basic Principles,  
Use of an ..... 34(2),178  
Ethanol Fermentation: Laboratory Experiment in  
Biochemical Engineering ..... 33(1),54  
Europe, Courses in Fluid Mechanics and Chemical Reaction  
Engineering in ..... 34(2),284  
Experiment, A Simple Process Dynamics ..... 31(1),64  
Experiment, A Transient Fluidized-Bed Heat Transfer:  
Being Dynamic in the Unit Operations Laboratory ... 31(2),120  
Experiment, Automotive Catalytic Reaction  
Engineering ..... 34(2),240  
Experiment, Ultrafiltration of Dairy Products as a  
ChE Laboratory ..... 32(4),318  
Experiment for Mass Transfer, A Simple ..... 32(2),142

Experiment in Applied Optics, An: Determination of  
the Kinetics of the Oxidation of an Organic Dye ..... 32(3),174  
Experiment in Combustion, An ..... 31(4),236  
Experiment on Adsorption, An Undergraduate ..... 32(1),76  
Experiment, Sequential Batch Processing ..... 33(3),216  
Experiments, A Novel Laboratory Course on  
Advanced ChE ..... 31(4),260  
Experiments, Computer Simulation of Tracer Input ..... 33(4),300  
Experiments for the Fluid-Mechanics and Heat  
Transfer Laboratory Class, Two Simple ..... 33(3),226  
Experiments on Viscosity of Aqueous Glycerol Solutions 33(3),232  
Extraction Experiment, A Supercritical: For the  
Unit Ops Lab ..... 35(2),96

## F

Faculty in Effective Teaching, How to Involve ..... 33(3),244  
Feed-Effluent Heat Exchanger/Reactor Dynamic  
Control Laboratory Experiment, A ..... 34(1),56  
First-Year Students, An Introductory ChE Course for ..... 32(1),52  
Flashback and Laminar Flames: A Classroom  
Demonstration ..... 35(3),220  
Flowrates, Calculating Minimum Liquid: New Method  
for Rich-Phase Gas Absorption Columns ..... 34(4),338  
*Fluid Dynamics, Introduction to Theoretical and  
Computational* ..... 32(1),29  
Fluidized-Bed Heat Transfer Experiment, A Transient:  
Being Dynamic in the Unit Operations Laboratory ... 31(2),120  
Fluid Mechanics and Chemical Reaction Engineering  
in Europe, Courses in ..... 34(2),284  
Fluid-Mechanics and Heat-Transfer Laboratory Class,  
Two Simple Experiments for the ..... 33(3),226  
Fluid-Particle Flow, CFD Case Studies in ..... 32(2),108  
Fluid-Particle Systems, Particle Dynamics in  
Fluidation and ..... 34(2),40,128  
Fluid-Particle Processes, Teaching ..... 32(2),94  
Freshman Design Projects in the Environmental  
Health and Safety Department ..... 32(1),58

### Future of Engineering Education Series

Introduction ..... 34(1),14  
Part 1. A Vision for a New Century ..... 34(1),16  
Part 2. Teaching Methods that Work ..... 34(1),26  
Part 3. Developing Critical Skills ..... 34(2),108  
Part 4. Learning How to Teach ..... 34(2),118  
Part 5. Assessing Teaching Effectiveness and  
Educational Scholarship ..... 34(2),198  
Part 6. Making Reform Happen ..... 34(2),20

## G

Gas Absorption Columns, New Method for Rich-Phase:  
Calculating Minimum Liquid Flowrates ..... 34(4),338  
Gases in Asymmetric Ceramic Membranes,  
Permeation of ..... 33(1),58  
Gaseous Diffusion through Permeable Solids,  
A Laboratory for ..... 34(2),172  
Genomics, and the Chemical Engineer, Bioinformatics, . 34(4),346  
Globalization of ChE Education and Research ..... 35(4),244  
Glycerol Solutions, Experiments on Viscosity of Aqueous 33(3),232  
Graduate Bridging and Continuing Education Using  
the Internet ..... 35(4),230

|   |           |
|---|-----------|
| Graduate Control Course, Experiences with an<br>Experimental Project in a ..... | 33(4),270 |
| Graduate Course in Materials Design, A ChE .....                                | 33(4),262 |
| Graduate Course in Research Methods .....                                       | 35(4),236 |
| Graduate Education for Particle Science and Technology .....                    | 32(4),262 |
| Graduate Programs, Ranking .....  | 33(1),72  |
| Graduate School, Getting the Most Out of .....                                  | 33(4),258 |
| Graduate Student Symposium, A Multi-University .....                            | 32(4),266 |
| Graduate Students, A Structured Interview for<br>Selection of .....             | 31(4),210 |
| Graphics, How to Lie with Engineering .....                                     | 33(4),304 |
| Green Square Manufacturing Game, The .....                                      | 33(2),166 |

## H

|   |           |
|---|-----------|
| Heat and Mass Transfer with Microwave Drying,<br>Demonstrating Simultaneous .....           | 33(1),46  |
| <i>Heat Exchange, Engineering Flow and</i> .....  | 34(4),343 |
| Heat of Solids, A Simple Method for Determining<br>the Specific .....                       | 32(3),190 |
| Heat-Transfer Laboratory Class, Two Simple<br>Experiments for the Fluid-Mechanics and ..... | 33(3),226 |
| Heat Pump, Application of a: A Feasibility Study .....                                      | 34(1),68  |
| Heavy Metals in Wastewater by Electrochemical<br>Treatment, Removal of .....                | 33(2),172 |
| Higher-Order Thinking in the Unit Operations<br>Laboratory .....                            | 32(2),146 |
| Honors in the Major Program, The .....  | 34(4),356 |
| Human Societies: A Curious Application of<br>Thermodynamics .....                           | 32(3),230 |
| Humanities, Chemical Engineering and the Other .....  | 32(1),14  |
| Hydrodynamic Models, Simulation of Reaction<br>Kinetics Using .....                         | 35(3),194 |

## I

|  |           |
|--|-----------|
| Ideal Reactors, Animal Guts as .....   | 32(1),24  |
| Industrial Experience in a Laboratory Course, Providing ..                               | 31(2),130 |
| Industrial Pollution Prevention, Process Integration and ..                              | 31(4),242 |
| Information, Practical Tips for Gathering .....  | 32(1),68  |
| Information Technology and ChE Education .....   | 34(4),290 |
| Integration of Early Engineering Education,<br>Experiments with .....                    | 33(3),204 |
| Internationalizing Practical ChE Education: The M.I.T.<br>Practice School in Japan ..... | 33(2),162 |
| Internet, Graduate Bridging and Continuing Education<br>Using the .....                  | 35(4),230 |
| Internship, A Quality-Driven Process Design .....  | 31(2),100 |
| Internship a Learning Experience, Make Summer .....                                      | 32(1),48  |
| Interview for Selection of Graduate Students,<br>A Structured .....                      | 31(4),210 |
| Intranet in ChE Instruction, Using the .....   | 31(2),110 |
| Introducing Process Safety into ChE Education<br>and Research .....                      | 33(3),198 |
| Introducing Students to Basic ChE Concepts: Four<br>Simple Experiments .....             | 33(3),190 |
| Introductory ChE Course for First-Year Students, A .....                                 | 32(1),52  |
| Investigative Project for Secondary School Students,<br>A ChE .....                      | 31(2),138 |
| Ion Exchange Chromatography Laboratory: Experimentation<br>and Numerical Modeling .....  | 31(1),26  |
| Isopropyl Alcohol, Acetone Production from .....   | 33(3),210 |

## J

|   |           |
|---|-----------|
| Japan, The M.I.T. Practice School in:<br>Internationalizing Practical ChE Education ..... | 33(2),162 |
| Java, Using Object-Oriented Programming<br>Methodologies and .....                        | 35(3),202 |
| Job Club, The .....   | 31(1),44  |
| Joint Chemical/Electrical Engineering Course in<br>Advanced Digital Process Control ..... | 33(1),62  |

## K

|   |           |
|---|-----------|
| Kelvin Equation, On the Complete .....  | 35(4),274 |
| Kinetics and Reactor Design Courses, Important<br>Concepts in Undergraduate ..... | 33(2),138 |
| Kinetics Using Equivalent Hydrodynamic Models,<br>Simulation of Reaction .....    | 35(3),194 |

## L

|   |           |
|---|-----------|
| Laboratory, Vapor-Liquid Equilibria in the Undergraduate                                    | 34(1),74  |
| Laboratory Class, Two Simple Experiments for the<br>Fluid-Mechanics and Heat-Transfer ..... | 33(3),226 |
| Laboratory Course, Getting the Most Out of a .....  | 32(3),184 |
| Laboratory Course, Providing Industrial Experience in a                                     | 31(2),130 |
| Laboratory Course on Advanced ChE Experiments,<br>A Novel .....                             | 31(4),260 |
| Laboratory for Gaseous Diffusion through<br>Permeable Solids .....                          | 34(2),172 |
| Laboratory Incorporating EC 2000 Criteria,<br>An Introductory .....                         | 34(1),80  |
| Laboratory Experiment, A Feed-Effluent Heat<br>Exchanger/Reactor Dynamic Control .....      | 34(1),56  |
| Laboratory Experiment in Biochemical Engineering .....                                      | 33(1),54  |
| Laboratory-Scale Tubular Reactor, Rate<br>Measurement with a .....                          | 33(3),238 |
| Laplace Transforms in Transient Transport<br>Problems, Simple Uses of .....                 | 35(4),238 |
| Laplace Transforms, Use of the Residue Theorem to<br>Invert .....                           | 35(1),22  |
| Learning, Student Motivation, Attitude, and Approach to                                     | 35(1),62  |
| Learning in ChE, Computer-Mediated Collaborative .....                                      | 33(3),250 |

### Learning in Industry

|  |           |
|--|-----------|
| Co-Op Student Contribution to Chemical Process<br>Development at Dupont Merck .....    | 31(1),68  |
| Cooperative Education: Link Between Industry<br>and Engineers .....                    | 35(1),58  |
| Introducing Graduate Students to the Industrial<br>Perspective .....                   | 31(3),188 |
| Experience Factor, The: Internships Through the<br>Eyes of Students and Industry ..... | 32(2),152 |
| What is Inside that Black Box, How Does It Work? .                                     | 32(4),306 |

|   |           |
|---|-----------|
| Leblanc Soda Process: A Gothic Tale for<br>Freshman Engineers ..... | 32(2),132 |
|---|-----------|

|                                    |  |
|------------------------------------|--|
| <i>Letters to the Editor</i> ..... | 31(1),25;(3),177; 32(1),13;(2),113;<br>..... 33(2),141; (3),189; 34(1),65,88)167,(3)245,251,282;<br>..... 35(2),107; (3),207 |
|------------------------------------|--|

|   |           |
|---|-----------|
| Lie with Engineering Graphics, How to .....             | 33(4),304 |
| Life Sciences in a New Vision of ChE, Chemistry and ... | 35(4),248 |

Logbooks in Undergrad Classes, The Effective Use of ... 33(3),222

### **Low-Cost Experiments in Mass Transfer**

|   |            |
|---|------------|
| Part 3. Mass Transfer in a Bubble Column .....  | 32(2),138  |
| Part 4. Measuring Axial Dispersion in a<br>Bubble Column .....                            | 32(3), 198 |
| Part 5. Desorption of Ammonia from a Liquid Jet ..  | 33(4),328  |
| Part 6. Determination of Vapor Diffusion<br>Coefficient .....                             | 34(2),158  |
| Part 7. Natural Convection Mass Transfer on a<br>Vertical Cylinder with Sealed Ends ..... | 34(4),310  |
| Part 8. Absorption of Carbon Dioxide<br>from a Single Bubble .....                        | 35(3),198  |

## **M**

|   |           |
|---|-----------|
| Major Program, The Honors in the .....  | 34(4),356 |
| Making Successful Oral Presentations: A Guide .....   | 31(1),52  |
| Manufacturing Game, The Green Square .....  | 33(2),166 |
| Maple, Solving Differential Equations with .....  | 34(4),328 |
| Mass Transfer (see <i>Low-Cost Experiments in...</i> )  |           |
| Mass Transfer, A Simple Experiment for .....  | 32(2),142 |
| Mass Transfer Across a Porous Membrane,<br>Single-Component .....   | 32(4),286 |
| Mass Transfer and Axial Dispersion in a Reciprocating-Plate<br>Liquid Extraction Column: Unit Ops Lab ..... | 32(3),202 |
| Mass Transfer Experiment Using Nanofiltration<br>Membranes .....  | 34(2),264 |
| Materials Balancing, ASTuTE: Computer-Aided<br>Teaching of .....  | 34(2),258 |
| Materials Design, A ChE Graduate Course in .....  | 33(4),262 |
| Materials Processing, Combustion Synthesis and .....  | 31(4),228 |
| Mathcad, A Case Study of the Use of: Use of<br>Computational Tools in Engineering Education .....           | 31(3),180 |
| <i>Mathematical Methods in Chemical Engineering</i> .....   | 32(3),189 |
| Mathematical Modelers, Helping Students<br>Become Better .....  | 31(4),254 |
| Mathematical Power Tools: Maple, Mathematica,<br>MATLAB, and Excel .....                                    | 32(2),156 |
| MATLAB/Simulink for Data Acquisition, Using .....   | 35(4),286 |
| Matter Converted to Energy in Reactions? Is .....   | 34(2),168 |
| Maxwell-Stefan Experiment, A .....  | 34(1),90  |
| Medical Surveillance and the Undergraduate Thesis .....   | 33(1),50  |
| Memoriam: Sami Selim .....  | 35(1),45  |
| Microelectronics Processing, A Web-Based Course in<br>the Fundamentals of .....                             | 34(4),350 |
| Microwave Drying, Demonstrating Simultaneous<br>Heat and Mass Transfer with .....                           | 33(1),46  |
| Miniaturization into the ChE Curriculum,<br>Incorporating Chemical Process .....                            | 34(4),316 |
| Modelers, Helping Students Become Better<br>Mathematical .....  | 31(4),254 |
| Modeling into the ChE Curriculum, Incorporating<br>Molecular .....  | 34(2),162 |
| Modeling to ChE Undergrads, Teaching PDE-Based .....  | 34(2),146 |
| Mole and Its Use in ChE, Understanding of the .....   | 33(4),332 |
| Molecular Modeling into the ChE Curriculum,<br>Incorporating .....  | 34(2),162 |
| Motivation, Attitude, and Approach to Learning, Student   | 35(1),62  |
| <i>Multimedia Fluid Mechanics</i> .....   | 35(2),95  |

## **N**

|  |           |
|--|-----------|
| Nanofiltration Membrane, Mass Transfer<br>Experiment Using .....                             | 34(2),264 |
| Network Process Control Laboratory .....   | 32(4),314 |
| Non-Adiabatic Container Filling and Emptying .....   | 33(1),26  |
| <i>Numerical Computation in Science and Engineering</i> .....                                | 33(1),11  |
| Numerical Simulation, Introducing Process Control<br>Concepts to Senior Students Using ..... | 33(4),310 |

## **O**

|   |           |
|---|-----------|
| Optics, An Experiment in Applied .....  | 32(3),174 |
| Oral and Written Communication Skills,<br>Development of .....                                    | 31(2),116 |
| Oral Presentations, Making Successful: A Guide .....  | 31(1),52  |
| Outcomes Assessment: An Unstable Process? .....   | 33(2),116 |
| Outcomes Assessment: Its Time has Come .....  | 33(2),102 |
| Outcomes Assessment: Opportunity on the<br>Wings of Danger .....                                  | 33(2),106 |
| Outcomes Assessment Methods .....   | 32(2),128 |
| Oxygen From Air to Water, Developing the Best<br>Correlation for Estimating the Transfer of ..... | 35(2),134 |

## **P**

|   |           |
|---|-----------|
| Packed-Column Design from a Plate-Column<br>Perspective, Teaching .....                             | 32(4),302 |
| Particle Dynamics in Fluidization and<br>Fluid-Particle Systems .....                               | 34(1),40  |
| Particle Science and Technology, Grad Education for ....  | 32(4),262 |
| Particle Science and Technology<br>Educational Initiatives .....                                    | 32(2),122 |
| Particle Technology, A Survey Course in .....   | 33(4),266 |
| Particle Technology, Industrial Perspective<br>on Teaching .....                                    | 32(2),98  |
| Particle Technology, Undergraduate Teaching in<br>Solids Processing and .....                       | 32(2),118 |
| Particle Technology Concentration at NJIT .....   | 32(2),102 |
| Particle Technology on CD .....   | 33(4),282 |
| PDE-Based Modeling to ChE Undergraduates, Teaching  | 34(2),146 |
| Peer Review in the Undergraduate Laboratory, Using ....   | 32(3),194 |
| Peng-Robinson Equation of State: Thermodynamic<br>Properties Involving Derivatives, Using the ..... | 35(2),112 |
| Petroleum Design Course in a Petroleum Town,<br>Designing a .....                                   | 33(4),322 |
| <i>Phase Equilibria: Measurement and Computation</i> .....  | 32(4),277 |
| Phase Partitioning and Transport of Environmental<br>Contaminants, Experiments Illustrating .....   | 32(1),40  |
| Phenomena-Oriented Environment for Teaching<br>Process Modeling, A .....                            | 33(4),292 |
| Pitzer-Lee-Kesler-Teja (PLKT) Strategy, The .....   | 35(1),68  |
| Pneumatic Transport and Solid Processing Studies .....  | 32(2),114 |
| Pollutants and Colloids, Column Transport<br>Experiments for Dissolved .....                        | 35(3),222 |
| Pollution Prevention, Process Integration and Industrial  | 31(4),242 |
| Pollution Prevention Course that Helps Meet<br>EC 2000 Objectives .....                             | 34(2),272 |
| Pollution Prevention Through Process Integration,<br>Educational Tools for .....                    | 32(4),246 |
| Polymerization Reaction Engineering, Innovative<br>Ways to Teach .....                              | 32(1),62  |

|  |           |
|--|-----------|
| Porous Membrane, Single-Component Mass<br>Transfer Across a .....                                  | 32(4),286 |
| Portfolios to Assess a ChE Program, Using .....  | 33(2),110 |
| Postgraduate Environmental Engineering Program .....   | 32(4),250 |
| Practice School in Japan, The M.I.T.:  |           |
| Internationalizing Practical ChE Education .....   | 33(2),162 |
| Principles for Teaching, Guiding .....   | 34(4),344 |
| Problem-Solving Skills, Assessing: Part 1. The<br>Context for Assessment .....                     | 35(4),300 |
| Problem-Solving Skills in Engineering Design,<br>Teaching Creative .....                           | 33(2),150 |
| Process Analysis: An Electronic Version .....  | 33(1),40  |
| Process Control, A Joint Chemical/Electrical<br>Engineering Course in Advanced Digital .....       | 33(1),62  |
| Process Control, A Motivational Introduction to .....  | 31(1),58  |
| Process Control, Experimental Projects in Teaching .....   | 32(4),254 |
| Process Control, Undergrad: Clarification of<br>Concepts .....                                     | 35(2),148 |
| Process Control Concepts to Senior Students<br>Using Numerical Simulation, Introducing .....       | 33(4),310 |
| Process Control Course, Case Study Projects<br>in an Undergraduate .....                           | 32(3),214 |
| Process Control Development, An Integrated Real-Time<br>Computing Environment for Advanced .....   | 35(3),172 |
| Process Control Education, A Training Simulator for<br>Computer-Aided .....                        | 34(2),252 |
| Process Control Laboratory, Network .....  | 32(4),314 |
| Process Design, An Integrated Course and Design<br>Project in Chemical .....                       | 31(2),94  |
| Process Design Elements in the Unit Ops Lab,<br>Introducing .....                                  | 33(1),66  |
| Process Design Internship, A Quality-Driven .....  | 31(2),100 |
| Process Dynamics Experiment, A Simple .....  | 31(1),64  |
| Process Flexibility, Introduction to: Recycle Loop<br>with Reactor .....                           | 32(3),224 |
| Process Integration and Industrial Pollution Prevention .  | 31(4),242 |
| Process Laboratory Course, Electrochemical<br>Engineering in the .....                             | 35(1),74  |
| Process Modeling, A Phenomena-Oriented<br>Environment for Teaching .....                           | 33(4),292 |
| Process Safety in the Curriculum: Explosion Prevention   | 32(4),270 |
| Process Safety into ChE Education and Research,<br>Integrating .....                               | 33(3),198 |
| Process Safety Principles, Experiments to<br>Demonstrate Chemical .....                            | 35(1),36  |
| Process Simulation, A Course in: Using Object-Oriented<br>Programming Methodologies and Java ..... | 35(3),202 |
| Process Simulators, Anomalous Results from .....   | 31(1),46  |
| Product Design, Chemical .....   | 35(4),280 |
| Professional Development, A Seminar Course on .....  | 32(3),234 |
| Professional Engineering, Effective<br>Communication for .....                                     | 34(2),234 |
| Psychological Theories in Engineering Education, Some  | 35(3),212 |
| Publication Rate Profile on Citation Statistics,<br>The Effect of .....                            | 35(1),32  |

## Q

|   |           |
|---|-----------|
| Quantifying the "Curve" .....                         | 32(3),238 |
| Questioning Work for You, How to Make .....           | 31(2),134 |
| Quizzes, Anonymous: An Effective Feedback Mechanism . | 31(1),56  |

Fall 2001

## R

### Random Thoughts

|   |           |
|---|-----------|
| All in a Day's Work .....   | 34(1),66  |
| Alumni Speak, The .....   | 34(2),238 |
| Brief History of <i>Elementary Principles of Chemical<br/>Processes</i> , A .....         | 35(3),180 |
| FAQS .....  | 33(1),32  |
| FAQS II .....   | 33(4),276 |
| FAQS III: Groupwork in Distance Learning .....  | 35(2),102 |
| FAQS IV: Dealing with Student Background<br>Deficiencies and Low Student Motivation ..... | 35(4),266 |
| Impostors Everywhere .....  | 31(4),220 |
| It Takes One to Know One .....  | 31(1),32  |
| Meet Your Students: 7. Dave, Martha, and Roberto .  | 31(2),106 |
| Memo: To Students Who are Disappointed<br>with Their Last Text Grade .....                | 33(2),136 |
| New Faculty Member, The .....   | 32(3),206 |
| Night Someone Slipped the Truth Serum in<br>the Punch Bowl, The .....                     | 32(4),278 |
| Objectively Speaking .....  | 31(3),178 |
| Scholarship of Teaching, The .....  | 34(2),144 |
| Ships Passing in the Night .....  | 32(1),46  |
| Speaking of Education II .....  | 33(3),196 |
| Technology a Friend or Foe of Learning? Is .....  | 34(4),326 |
| Truth in Advertising .....  | 35(1),25  |

|  |           |
|--|-----------|
| Ranking Grad Programs: Alternative Measures of Quality   | 33(1),72  |
| Rapid Determination of Vapor-Liquid Equilibria .....   | 31(1),34  |
| Rate Measurement with a Lab-Scale Tubular Reactor ....   | 33(3),238 |
| Reaction Kinetics Using Equivalent Hydrodynamic<br>Models, Simulation of .....   | 35(3),194 |
| Reactor, Rate Measurement with a Lab-Scale Tubular ...   | 33(3),238 |
| Reactor Design Courses, Important Concepts in<br>Undergraduate Kinetics and .....                                      | 33(2),138 |
| Reactors, Animal Guts as Ideal .....   | 32(1),24  |
| Real-Time Computing Environment for Advanced<br>Process Control Development, An Integrated .....                       | 35(3),172 |
| Recycle Loop with Reactor: Introduction to<br>Process Flexibility .....  | 32(3),224 |
| Regulatory Compliance, Teaching Biotech<br>Manufacturing Facility Design and .....                                     | 35(3),188 |
| Refrigeration Cycle, Analysis and Simulation of<br>Solar-Powered .....   | 35(1),26  |
| Relative Volatilities Cannot be Assumed to be Constant,What<br>to do if: Differential-Algebraic Equations Systems .... | 31(2),86  |
| Research, Integrating Process Safety into ChE<br>Education and .....   | 33(3),198 |
| Research, On the Nature and Conduct of Technical .....   | 31(4),222 |
| Research Methods, A Graduate Course in .....   | 35(4),236 |

## S

|   |           |
|---|-----------|
| Safety in the Curriculum, Process: Explosion Prevention                 | 32(4),270 |
| Safety into a Unit Ops Laboratory Course, Incorporating                 | 32(3),178 |
| Safety into ChE Education and Research, Integrating ....                | 33(3),198 |
| Safety Principles, Experiments to Demonstrate<br>Chemical Process ..... | 35(1),36  |
| Secondary School Students, Investigative Project for ....               | 31(2),138 |
| Selectivity and All That, Yield, .....                                  | 34(4),320 |
| Semiconductor Simulation Tools, Instruction via                         |           |

|   |            |
|---|------------|
| Web-Based .....   | 32(4),242  |
| Seminar Course on Professional Development, A .....   | 32(3),234  |
| Senior-Level Capstone ChE Course, Evaluation of<br>Computer-Simulation Experiments in a .....         | 33(1),34   |
| <i>Separation Process Technology</i> .....  | 34(1),55   |
| Separations: Synergism Between Research and Teaching  | 31(4), 202 |
| Separations, Teaching; Why, What, When, and How? ....   | 35(3),168  |
| Sequential Batch Processing Experiment for<br>First-Year ChE Students .....                           | 33(3),216  |
| Stirred-Tank Heater, Dynamics of a .....  | 35(1),46   |
| Software Package for Capital Cost Estimation, A .....   | 33(3),254  |
| Solar-Powered Refrigeration Cycle, Analysis<br>and Simulation of a .....                              | 35(1),26   |
| Solid Processing Studies, Pneumatic Transport and .....   | 32(2),114  |
| Solids, A Simple Method for Determining the<br>Specific Heat of .....                                 | 32(3),190  |
| Solids Processing and Particle Technology,<br>Undergraduate Teaching .....                            | 32(2),118  |
| Solving Differential Equations with Maple .....   | 34(4),328  |
| Spiral Curriculum for Introductory Courses in<br>ChE, A Project-Based: Part 1. Curriculum Design .... | 34(2),222  |
| Spiral Curriculum for Introductory Courses in ChE,<br>A Project Based: Part 2. Implementation .....   | 34(4),296  |
| Spiral Curriculum for Introductory Courses in ChE,<br>A Project-Based: Part 3. Evaluation .....       | 35(2),140  |
| Stability Analysis Using Bode Plots, A Note on .....  | 35(3),208  |
| Statistics, Some Pitfalls with Citation .....   | 34(1),62   |
| Statistics and Probability, Use of Spreadsheets in Intro ..   | 31(3),194  |
| Statistics to ChE Students, Teaching .....  | 31(3),168  |
| Students to Basic ChE Concepts, Introducing .....   | 33(3),190  |
| Split-Range Control, Teaching Antiwindup, Bumpless<br>Transfer, and .....                             | 32(3),220  |
| Spreading the Word (About Chemical Engineering) .....   | 34(2),228  |
| Spreadsheets, Introductory Statistics and Probability ....  | 31(3),194  |
| Spreadsheets for Thermodynamics Instruction .....   | 31(1),18   |
| Survey Course in Particle Technology, A .....   | 33(4),266  |
| Symposium, A Multi-University Graduate Student .....  | 32(4),266  |
| Symposium at Carnegie Mellon, The Annual ChE .....  | 34(1),86   |
| System Selection on Compressible Flow Analysis,<br>Importance of .....                                | 32(4),308  |

## T

|   |           |
|---|-----------|
| Teaching, Efficient, Effective .....  | 35(2),92  |
| Teaching, Guiding Principles for .....  | 34(4),344 |
| Teaching, Helpful Hints for Effective .....   | 32(1),36  |
| Teaching, How to Involve Faculty in Effective .....   | 33(3),244 |
| Teaching and Learning, Three Trends in .....  | 32(4),296 |
| Teaching Biotech Manufacturing Facility Design and<br>Regulatory Compliance .....                         | 35(3),188 |
| Teaching Separations: Why, What, When, and How? ....  | 35(3),168 |
| Technical Understanding, Toward: Part 1. Brain<br>Structure and Function .....                            | 31(3),152 |
| Technical Understanding, Toward: Part 2. Elementary<br>Levels .....                                       | 31(4),214 |
| Technical Understanding, Toward: Part 3. Advanced<br>Levels .....   | 32(1),30  |
| Technical Understanding, Toward: Part 4. A General<br>Hierarchy Based on the Evolution of Cognition ..... | 34(1),48  |
| Technical Understanding, Toward: Part 5. General<br>Hierarchy Applied to Engineering Education .....      | 34(2),138 |

|  |           |
|--|-----------|
| Technical Research, On the Nature and Conduct of .....   | 31(4),222 |
| Temperature Profiles for Visualizing the Concentration-<br>Front Movement, Using In-Bed .....      | 35(2),122 |
| Thermodynamics, A Curious Application of: Human<br>Societies .....                                 | 32(3),230 |
| <i>Thermodynamics, Chemical Engineering</i> .....  | 32(3),223 |
| Thermodynamics Instruction, Spreadsheets for .....   | 31(1),18  |
| Thermodynamics Problem with Conflicting Solutions ..   | 34(4),366 |
| Tracer Input Experiments, Computer Simulation of .....   | 33(4),300 |
| Transport Phenomena, Who Was Who in .....  | 35(4),256 |
| Transport Problems When There is an Initial Steady<br>State, Linear Unsteady .....                 | 32(4),260 |
| Thermodynamic Properties Involving Derivatives:<br>Using the Peng-Robinson Equation of State ..... | 35(2),112 |
| Tubular Reactor, Rate Measurement with a Lab-Scale ...   | 33(3),238 |
| Turbulent Flow, A New Approach to Teaching .....   | 33(2),142 |

## U

|  |           |
|--|-----------|
| Undergrad Classes, The Effective Use of Logbooks in ....   | 33(3),222 |
| Undergraduate Laboratory, Using Peer Review in the ....  | 32(3),194 |
| Undergraduate Laboratory, Vapor-Liquid Equilibria in the   | 34(1),74  |
| Undergraduate Thesis, Medical Surveillance and the .....   | 33(1),50  |
| Unit Operations Lab: Mass Transfer and Axial Dispersion in<br>a Reciprocating-Plate Liquid Extraction Column ..... | 32(3),202 |
| Unit Operations Laboratory, A Supercritical Extraction<br>Experiment for the .....                                 | 35(2),96  |
| Unit Operations Laboratory, Computer Modeling in the ...   | 35(2),116 |
| Unit Operations Laboratory, Being Dynamic in the: A<br>Transient Fluidized-Bed Heat Transfer Experiment ..         | 31(2),120 |
| Unit Operations Lab, Higher-Order Thinking in the .....  | 32(2),146 |
| Unit Operations Lab, Introducing Process-Design<br>Elements in the .....   | 33(1),66  |
| Unit Operations Lab Course, Incorporating Safety into ..   | 32(3),178 |
| Universities...Why? .....  | 33(4),288 |
| Unsteady Transport Problems When There is an Initial<br>Steady State, Linear .....                                 | 32(4),260 |
| Using the Intranet in ChE Instruction .....  | 31(2),110 |

## V

|   |           |
|---|-----------|
| Vapor Diffusion Coefficient, Determination of .....     | 34(2),158 |
| Vapor-Liquid Equilibria in the Undergraduate Laboratory | 34(1),74  |
| Vapor-Liquid Equilibria, Rapid Determination of .....   | 31(1),34  |
| Viscosity of Aqueous Glycerol Solutions, Experiments on | 33(3),232 |

## W

|   |           |
|---|-----------|
| Wastewater by Electrochemical Treatment, Removal<br>of Heavy Metals in .....    | 33(2),172 |
| Web-Based Course in the Fundamentals of<br>Microelectronics Processing, A ..... | 34(4),350 |
| Web-Based Semiconductor Simulation Tools,<br>Instruction via .....              | 32(4),242 |
| What Do You Want From Me? .....   | 31(1),60  |
| Written Communication Skills, Development of Oral and                           | 31(2),116 |

## Y

|   |           |
|---|-----------|
| Yeast Production, Choosing and Optimum Feedstock for .. | 31(1),22  |
| Yield, Selectivity, and All That .....                  | 34(4),320 |
| 21st Century, Engineering Education for the .....       | 31(3),166 |

## Author Index

### A

Abraham, Martin A. .... 34(2),272  
 Abu-Khalaf, Aziz M. 31(4),250: 32(3),184:  
 ..... 34(2),246  
 Adams, Prisella J. .... 34(1),8  
 Agrawal, Deepak ..... 33(3),254  
 Ahmed, Vian S. .... 34(2),258  
 Akgerman, A. .... 33(3),198  
 Alabart, Joan R. .... 33(3),244  
 Ali, Emad M. .... 34(2),246  
 Allen, Maurice ..... 32(2),156  
 Allen, R.M. .... 33(2),150  
 Alpay, E. .... 35(3),212  
 Aluko, Mobolaji E. .... 33(4),310  
 Alves, Manuel A. .... 33(3),226: 34(2),245  
 Amyotte, Paul R. .... 31(1),60  
 Anderson, Paul K. .... 34(2),168  
 Anderson, Thomas F. .... 31(1),2  
 Angus, John C. .... 33(1),72: 34(2),282  
 Anklam, Mark R. .... 31(1),26  
 Arce, Pedro E. .... 34(4),356  
 Aris, Rutherford ..... 35(3),158  
 Athony, R.G. .... 33(3),198  
 Ayers, Jerry B. .... 34(4),304

### B

Badino, Jr., Alberto Colli ..... 33(1),54  
 Baird, Malcolm H.I. 31(1),44: 32(2),138;198  
 ..... 33(4),328: 34(1),65;158: 35(3),198  
 Baldwin, Robert M. .... 32(2),146:  
 ..... 34(2),162;(4)310  
 ..... 35(1),45  
 Barat, R. .... 32(3),174  
 Barolo, Massimiliano ..... 32(4),280  
 Barsotti, D.A. .... 35(1),2  
 Beaudoin, Stephen P. .... 35(4),236  
 Beer, Eduard ..... 34(1),68  
 Bell, John T. .... 31(1),56  
 Bellamy, Lynn ..... 33(2),122  
 Bellner, Steven ..... 31(2),94  
 Beltrán, Maribel ..... 33(3),189  
 Bendrich, Guido ..... 32(1),84: 32(3),208  
 Bequette, B. Wayne ..... 32(3),214  
 Bhethanabotla, Venkat R. .... 31(1),34  
 Biegler, Lorenz ..... 33(2),90  
 Biernacki, Joseph J. .... 34(4),304  
 Bieszczad, Jerry ..... 33(4),292  
 Bird, R. Byron ..... 35(4),256  
 Birol, Gülnur ..... 35(2),128  
 Birol, İnanç ..... 35(2),128  
 Block, David E. .... 35(3),188  
 Bodner, George M. .... 33(1),34  
 Bonete, Pedro ..... 33(2),172;(4),300  
 Boosak, D. .... 34(2),240  
 Braatz, Richard D. .... 32(3),220  
 Bradburn, Tanya ..... 35(1),58  
 Bradley, Melissa J. .... 34(2),234

Brand, Jennifer I. .... 33(3),222  
 Brauner, Neima . 31(2),86: 35(1),32;(4)268  
 Brent, Rebecca . 31(1),32;(3),178: 34(1),66  
 Briedis, Daina ..... 33(2),128; 35(4),230  
 Brisk, Michael ..... 32(4),314  
 Brown, Wayne A. .... 35(2),134  
 Browning, Samuel ..... 34(4),346  
 Bunge, Annette L. .... 31(4),254  
 Buonopane, Ralph A. .... 31(3),166  
 Burrows, Veronica A. .... 35(4),236  
 Buttrey, D. .... 34(1),74

### C

Campbell, Bill ..... 32(2),152  
 Campbell, Scott W. .... 31(1),34: 32(4),277  
 Carlson, Eric D. .... 32(1),24  
 Carta, Giorgio ..... 31(4),242  
 Case, Jennifer M. .... 33(4),332  
 Caskey, Jerry ..... 33(2),96  
 Chaplin, Robin A. .... 31(2),130  
 Chase, Andrew ..... 31(2),80  
 Chase, George G. .... 32(2),118  
 Chen, Wei-Yin ..... 33(3),238  
 Chung, Jihchin ..... 31(1),68  
 Chung, Serena H. .... 32(3),220  
 Churchill, Stuart W. .... 31(3),158: 33(2),14  
 Çinar, Ali ..... 35(2),128  
 Clark, William M. .... 34(2),222;(4),296:  
 ..... 35(2),140  
 Cleotelis, II, Gregory A. .... 31(4),242  
 Collins, David ..... 34(4),346  
 Comparini, Lisa ..... 35(2),140  
 Conesa, J.A. .... 33(4),300: 34(2),284  
 Conlee, Thomas D. .... 32(4),318  
 Cook, Michael ..... 32(2),132  
 Cooper, Doug ..... 34(2),252  
 Coronas, Joaquín ..... 33(1),58  
 Counce, R.M. .... 31(2),100  
 Crowe, Cameron M. .... 35(4),300  
 Crowl, Dan ..... 34(1),88  
 Cruz, Paulo ..... 34(1),90: 35(2),122  
 Cussler, E.L. .... 33(1),12  
 Cutlip, Michael B. .... 35(4),268

### D

Dahm, Kevin D. .... 33(4),292  
 Dang, Sanjit Singh .... 32(4),242: 34(4),350  
 Daniel, Stephen R. .... 34(2),162  
 Darby, R. .... 33(3),198  
 Daubert, Thomas E. .... 32(3),223  
 Dave, Rajesh N. .... 32(2),102  
 Davies, Reg ..... 32(2),98  
 Davis, E. James ..... 32(3),189  
 Davis, Robert H. .... 32(1),36;(2),94  
 de Nevers, Noel ..... 33(1),26: 35(3),207  
 DeLancey, George B. .... 33(1),40

Delgado, P. .... 32(3),174  
 Deshpande, Prasanna A. .... 35(3),222  
 DiBiasio, David ..... 33(2),116:  
 ..... 34(2),222;(4),296  
 ..... 35(2),140  
 Dickson, James M. .... 35(4),300  
 Dixon, Anthony G. .... 34(2),222;(4),296:  
 ..... 35(2),140  
 Donnelly, Anne E. .... 32(2),122;(4),262  
 Dorathy, Brian D. .... 35(1),36  
 Dorland, Dianne ..... 31(3),168  
 Dougherty, Danielle ..... 34(2),252  
 Doyle, III, Francis J. .... 33(4),270  
 Dranoff, Joshua S. .... 34(2),283;(4),362  
 Dubé, Marc A. .... 31(4),210  
 Duarte, Horacio A. .... 31(1),46  
 Dudek, David A. .... 33(2),154  
 Dufaud, Eric ..... 34(2),172

### E

Eakman, James ..... 31(2),94  
 Earl, W.B. .... 33(2),150  
 Edgar, Thomas F. .... 31(1),12: 34(4),290:  
 ..... 35(3),208  
 Edison, Thomas ..... 35(3),208  
 Edwards, David W. .... 34(2),258  
 Edwards, Louis L. .... 33(1),62  
 Edwards, Robert V. .... 33(1),72  
 Edwards, S.V. .... 31(2),100  
 El-Halwagi, Mahmoud M. .... 32(4),246  
 Elliott, Janet A.W. .... 35(4),274  
 Elmore, Bill B. .... 34(4),316  
 Ekechukwu, Kenneth N. .... 33(4),310  
 Ely, James F. 32(2),146: 34(2),162: 35(1),45  
 Epstein, Norman ..... 32(1),13  
 Erjavec, John J. .... 34(2),268  
 Estévez, L. Antonio ..... 33(1),66  
 Eubank, P.T. .... 33(3),198  
 Evans, G.M. .... 32(4),308  
 Expósito, Eduardo ..... 33(2),172;(4),300

### F

Falconer, John L. .... 33(2),138  
 Fan, Liang-Shih ..... 32(2),94: 34(1),40:  
 ..... 35(3),187  
 Farooq, Shamsuzzaman ..... 32(1),76  
 Farrell, Stephanie H. .... 35(4),296  
 Favre, Eric ..... 34(2),172  
 Feeley, Joseph J. .... 33(1),62  
 Felder, Richard M. .... 31(1),32;(2),106;  
 ..... (3),178;(4)220:  
 ..... 32(1),46;(2),126;(3)206;(4),278  
 ... 33(1),32;(2),136;(3),184,196;(4),276  
 ..... 34(1),14,16,26,66;(2)108,118,144;  
 ..... (3)198,208,238;(4),326:  
 ..... 35(1),25;(2)102;(3),157;(4)266



Fenton, James M. .... 33(2),166  
 Fenton, Suzanne S. .... 33(2),166  
 Finlayson, Bruce A. .... 31(1),26  
 Finol, Carlos ..... 33(1),58  
 Fischer, Ian S. .... 32(2),103  
 Flach, Lawrance ..... 33(2),158  
 Fogler, H. Scott ..... 35(4),290  
 Forbes, J. Fraser ..... 34(2),102  
 Fordon, Keith B. .... 31(4),236  
 Forrester, S.E. .... 32(4),308  
 Foss, Alan S. .... 33(4),292  
 Fraser, Duncan M. .... 33(3),190;(4)332  
 Fricke, A. Christian ..... 33(1),84  
 Furzer, Ian A. .... 33(1),50

## G

Gabbard, Ronald G. .... 35(2),96  
 Gallo-O'Toole, Sara ..... 31(1),44  
 Ganter, Susan L. .... 35(2),152  
 García-García, Vicente .. 33(2),172;(4),300  
 Garred, L.J. .... 32(2),138: 34(2),158  
 Gast, Alice P. .... 32(1),24  
 Gatzke, Edward P. .... 33(4), 270  
 Geurts, Kevin R. .... 33(4),292  
 Gilmour, I.A. .... 33(2),150  
 Giralt, Francesc ..... 33(3),244  
 Godiwalla, Shanaya ..... 32(4),306  
 Gomes, Vincent G. .... 33(3),204  
 Gómez, Amparo ..... 33(3),189  
 Gonzáles-García, José ... 33(2),172;(4),300  
 Goodeve, Peter J. .... 33(4),292  
 Gooding, Charles H. . 32(4),318: 33(3),178  
 Graham, Michael D. ... 32(1),29: 35(2),152  
 Grant, Ron ..... 33(3),178  
 Gray, Murray R. .... 31(1),22  
 Grau, Francesc X. .... 33(3),244  
 Grimberg, Stefan J. .... 32(1),40  
 Grossmann, Ignacio ..... 33(2),90: 34(1),62  
 Guedes de Carvalho, J.R. .... 33(3),226:  
 ..... 34(2),245  
 Gumpel, Damián ..... 32(2),152  
 Guzmán, Roberto ..... 31(2),124

## H

Haile, J.M. .... 31(3),152;(4),214: 32(1),30  
 ..... 33(4),288: 34(1),48,128  
 Hahn, Juergen ..... 35(3),208  
 Haj-Hariri, Hossein ..... 35(2),95  
 Hall, K.R. .... 33(3),198  
 Hamielec, Archie E. .... 32(1),62  
 Harb, J.N. .... 31(3),180: 32(1),52  
 Hariri, Hossein ..... 33(2),96  
 Hasan, Rashid A. .... 34(2),268  
 Hatton, Alan ..... 33(2),162  
 Hatzimanikatis, Vassily ..... 34(4),346  
 Helgardt, Klaus ..... 32(3),190: 34(2),228  
 Henda, Redhouane ..... 35(3),194  
 Henriquez, V. .... 32(2),142  
 Herrero, Joan ..... 33(3),244  
 Hesketh, Robert P. .... 33(4),316: 34(2),240

..... 35(4),296  
 Hestekin, Jamie A. .... 32(4),266  
 Hills, John H. .... 33(3),216  
 Hirt, Douglas E. .... 32(4),290  
 Hokka, Carlos Osamu ..... 33(1),54  
 Hollein, Helen C. .... 32(4),318  
 Holmes, J.M. .... 31(2),100  
 Howard, G. Michael ..... 31(1),2  
 Hunkeler, D. .... 35(2),91  
 Huvard, Gary S. .... 32(1),48: 33(2),138

## I

Inglés, Marina ..... 33(2),172;(4),300  
 Iniesta, Jesús ..... 33(2),172;(4),300  
 Iveson, Simon M. .... 34(4),338

## J

Jacob, Karl ..... 32(2),118  
 Jolls, Kenneth R. .... 32(2),113  
 Jones, A. .... 31(3),180  
 Jones, Frank J. .... 34(4),316  
 Jones, W.E. 31(3),172: 32(3),224: 33(3),216

## K

Kandas, Angelo W. .... 33(2),162  
 Karim, Nazmul ..... 31(3),146  
 Kasko, A. .... 32(3),174  
 Kauffman, Kenneth J. .... 31(2),134  
 Keffer, David J. .... 35(2),116  
 King, Julia A. .... 32(3),178  
 Kline, L. .... 34(2),240  
 Klinzing, George ..... 32(2),114  
 Knox, Dana E. .... 35(2),96  
 Ko, Edmond I. .... 32(3),234  
 Koenig, Andree ..... 31(1),22  
 Kolaczyk, Anne ..... 32(1),2  
 Konak, A.R., ..... 31(1),40  
 Koros, William J. .... 35(2),86  
 Koulouris, Alexandros ..... 33(4),292  
 Kourtis, Theodora ..... 35(4),300  
 Krantz, William B. .... 34(2),216  
 Kresta, Suzanne M. .... 31(1),22  
 Kwon, Kyung ..... 33(3),232

## L

Lacks, Daniel J. .... 32(4),302  
 Lamb, Fiona M. .... 34(2),258  
 Langrish, Timothy A.G. .... 33(3),204  
 Lawrence, Shawn ..... 34(4),346  
 Lee, Carolyn W.T. .... 34(4),344  
 Lee, James H. van der ..... 35(3),172  
 Lee, Kelvin H. .... 34(4),346  
 Lennox, Barry ..... 32(4),314  
 LeVan, Douglas ..... 31(4),242  
 Lira, Carl T. .... 35(4),230  
 Lísal, Martin ..... 35(1),68  
 Lodge, Keith B. .... 34(1),94: 34(2),178  
 Lombardo, Stephen J. .... 34(2),154  
 Loney, N.W. .... 35(1),22

Ludlow, Douglas K. .... 31(2),116  
 Luke, Jonathan ..... 32(2),102  
 Luke, June ..... 32(3),202  
 Lusvardi, V. .... 34(1),74  
 Luyben, William L. .... 34(1),56: 35(3),182

## M

MacGregor, John F. .... 31(1),44  
 Mackenzie, J.G. .... 33(2),150  
 Macias-Machin, A. .... 32(2),142  
 Mackenzie, Judith G. .... 32(2),156  
 Maclean, W. Dan ..... 32(1),72  
 Magalhães, Fernão D. .... 35(2),122  
 Mahoney, Donald P. .... 34(2),278  
 Mannan, M.S. .... 33(3),198  
 Marcilla, Antonio ..... 33(3),189  
 Marrero, T.R. .... 31(4),249: 33(1),39  
 Martín-Gullón, Ignacio ..... 34(2),284  
 Matijasević, Ljubica ..... 34(1),68  
 Matthes, Raymond A. .... 34(4),350  
 Meadows, Edward S. .... 33(4),270  
 Medir, Magda ..... 33(3),244  
 Mendes, Adélio ..... 34(1),90: 35(2),122  
 McCallum, Christine L. .... 33(1),66  
 McCormick, Alon V. .... 35(3),158  
 McNeill, Barry ..... 33(2),122  
 Mich, Jennifer L. .... 35(1),36  
 Miller, Ronald L. .... 31(4),254:  
 ..... 32(2),146: 33(2),110  
 Missen, Ronald W. .... 34(4),320:  
 ..... 35(1),68;(2),109  
 Mitchell, Brian S. .... 31(3),194: 33(4),262  
 Mirarefi, A.A. .... 35(4),244  
 Mohammad, A. Wahab ..... 34(2),264  
 Montesinos, Rosa Ma. .... 31(2),124  
 Montiel, Vicente ..... 33(2),172;(4),300  
 Mooers, Jamisue A. .... 35(1),36  
 Müller, Erich A. .... 32(3),230: 34(4),366:  
 ..... 35(2),110  
 Munson-McGee, Stuart H. .... 34(1),80  
 Murhammer, David W. .... 35(1),36  
 Myers, Kevin . 31(2),120;(2),142: 33(1),46

## N

Nabours, Nick ..... 31(2),94  
 Nappi, J. .... 32(3),174  
 Natarajan, Venkatesh ..... 32(3),214  
 Natori, Yukikazu ..... 33(2),162  
 Nelson, Jr., Ralph D. .... 32(2),98  
 Neoh, K.G. .... 32(4),250: 35(4),244  
 Newell, Heidi L. .... 34(2),268  
 Newell, James A. .... 31(2),116: 32(3),194:  
 ..... 34(2),268: 35(2),104;(4)296  
 Nirdosh, I. .... 31(1),52: 32(2),138;198:  
 ..... 33(4),328  
 ..... 34(2),158;(4),310: 35(3),198  
 Noriega, Juan A ..... 31(2),124

## O

O'Connell, John P. .... 31(4),222

O'Connor, Andrea J. .... 33(2),162  
 Olds, Barbara M. .... 32(2),146; 33(2),110  
 Olsen, Donald G. .... 35(3),172  
 Oreovicz, Frank S. .... 34(2),98  
 Ottino, J.M. .... 34(4),362  
 Owens, Thomas C. .... 34(2),268

**P**

Palanki, Srinivas ..... 31(1),64  
 Palazogul, A. .... 35(1),46  
 Pallerla, Sammaiah ..... 33(3),232  
 Papadopoulos, Kyriakos D. .... 32(4),260;  
 ..... 35(4),238  
 Penlidis, Alexander ..... 32(1),62  
 Perilloux, C.J. .... 31(2),100  
 Peterson, James N. .... 33(1),11  
 Pfeffer, Robert ..... 32(2),102  
 Pinto, A.M. .... 34(2),245  
 Pinto, M.F.R. .... 33(3),226  
 Podmore, C.A. .... 31(3),146  
 Power, Timothy D. .... 34(1),86  
 Powers, Susan E. .... 32(1),40  
 Prausnitz, J.M. .... 32(1),14  
 Prasad, Vinay ..... 32(3),214  
 Pratt, Ronald M. .... 33(4),278; 35(2),112  
 Prausnitz, Mark R. .... 32(1),20; 34(2),234  
 Price, Jesse W. .... 32(4),254  
 Price, John M. .... 32(1),58  
 Priore, Brian ..... 31(2),120  
 Proctor, Stan ..... 33(2),104  
 Prud'homme, Robert K. .... 31(1),26  
 Pugsley, Todd S. .... 32(3),208

**R**

Rajagopalan, Raj ..... 32(2),122; 33(4),258  
 Ranade, Saidas ..... 32(1),68  
 Rao, N.V. Rama ..... 34(1),65  
 Rao, Ramesh R. .... 32(3),214  
 Ravi, R. .... 35(2),148  
 Reimer, R.A. .... 31(2),100  
 Rhinehart, R. Russell ... 31(3),188; 34(1),2;  
 ..... 35(1),50  
 Rhodes, Martin J. .... 33(4),282  
 Ricker, Lawrence ..... 32(3),202; 35(4),286  
 Riggs, James B. .... 31(3),188  
 Rockstraw, David A. .... 31(2),94  
 Rodríguez, J.M. .... 32(2),142  
 Rogers, Gloria ..... 33(2),106  
 Romagnoli, J.A. .... 35(1),46  
 Rosato, Anthony D. .... 32(2),102  
 Rosner, Daniel E. .... 31(4),228; 32(1),82  
 Rothberg, Steve J. .... 34(2),258  
 Rowley, R.L. .... 31(3),180  
 Roy, Sanjeev ..... 33(3),232  
 Rugarcia, Armando ..... 34(1),16,26;  
 ..... (2)108,118; (3)198,208  
 Ruíz, Arturo ..... 31(2),124  
 Ruthven, Douglas M. . 31(2),80; 32(2),113;  
 ..... 34(2),167  
 Ryan, Jr., James E. .... 31(4),242

**S**

Sadeq, Jafar ..... 31(1),46  
 Sampath, Vishak ..... 31(1),64  
 Sandler, Stanley I. .... 31(1),18  
 Sarkari, Marazban ..... 32(4),266  
 Sauer, Sharon G. .... 34(4),356  
 Schruben, Dale L. .... 32(2),113  
 Schultz, Brian D. .... 33(1),72  
 Seagrave, Dick ..... 33(2),104  
 Sedahmed, G.H. .... 34(4),310  
 Senkan, Selim M. .... 31(4),236  
 Serth, Robert W. .... 31(1),46  
 Schott, Kevin D. .... 32(3),214  
 Shacham, Mordechai ..... 31(2),86;  
 ..... 35(1),32;(4)268  
 Shaeiwitz, Joseph A. .... 32(2),128;  
 ..... 33(2),102;(3),210; 35(4),280  
 Shallcross, David ..... 35(1),8  
 Shama, Gilbert ..... 32(3),190; 34(2),228  
 Shallcross, David C. .... 31(2),138  
 Shanley, Edward S. .... 35(3),220  
 Sheardown, Heather ..... 35(4),300  
 Shemilt, Leslie M. .... 31(1),44  
 Sheppard, Charles M. .... 32(4),270  
 Shinnar, Reuel ..... 35(3),162  
 Shonnard, David R. .... 35(3),222  
 Sinclair, Jennifer L. . 32(2),108; 33(4),266  
 Siurana, Amparo Gómez ..... 34(2),251  
 Skliar, Mikhail ..... 32(4),254  
 Slater, C. Stewart ..... 32(4),318; 33(4),316  
 ..... 35(4),296  
 Sloan, E. Dendy ..... 35(1),45  
 Smith, William R. .... 34(4),320;  
 ..... 35(1),68;(2),108  
 Soares, João B.P. .... 32(1),62  
 Solen, Kenneth A. .... 32(1),52  
 Sommerfeld, Jude T. ... 32(3),238; 35(1),26  
 Spicer, Thomas O. .... 35(2),109  
 Spriggs, H. Dennis .... 31(4),242; 32(4),246  
 Stadtherr, Mark A ..... 32(4),268  
 Stanforth, R.R. .... 32(4),250  
 Steidle, Cheri C. .... 33(1),46  
 Stephanopoulos, George .. 33(2),90;(3),292  
 Sternberg, P.K. .... 31(2),116; 34(2),268  
 Stice, James E. .... 34(1),16,26;(2)108,118  
 ..... (3)198,208,  
 Subramanian, Venkat R. .... 34(4),328  
 Summers, Melissa A. .... 32(4),266  
 Sureshkumar, G.K. .... 35(1),80  
 Svrcek, W.Y. .... 33(4),322; 34(2),278;  
 ..... 35(3),172

**T**

Talbot, Jan B. .... 35(1),74  
 Tan, R.B.H. .... 35(4),244  
 Tardos, Gabriel I. .... 34(1),89  
 Taveira, Pedro ..... 34(1),90  
 Taylor, David G. .... 33(3),250; 35(3),202  
 Teja, Aryn S. .... 32(2),88  
 Tejada, Armando ..... 31(2),124

Takoudis, Christos G. 32(4),242; 34(4),350  
 Tardos, Gabriel I. .... 34(4),343  
 Thompson, Karsten E. .... 34(2),146  
 Tian, Kong S. .... 32(2),113  
 Tien, C. .... 32(4),250  
 Ting, Y.P. .... 32(4),250  
 Toghiani, Rebecca K. .... 32(2),82  
 Turton, Richard ..... 33(3),210; 35(4),280  
 Tyler, Christopher A. .... 32(4),254

**V**

Vadigepalli,Rajanikanth ..... 33(4),270  
 Vanderlick, Kyle ..... 31(1),8  
 Varde, Neelesh ..... 35(4),290  
 Varma, Arvind ..... 35(1),14  
 Vasudevan, P.T. .... 33(3),254  
 Venerus, David C. .... 35(2),110  
 Vesilind, P. Aarne ..... 33(4),304  
 Vincentm, Louis Marie ..... 34(2),172  
 Vincitore, Antonio M. .... 31(4),236  
 Vivaldo-Lima, Eduardo ..... 35(1),62

**W**

Wankat, Phillip C. .... 31(4), 202; 32(1),13;  
 ..... 34(1),55;(2),98; 35(2),92;(3),168  
 Wanke, Sieghard E. .... 34(2),102  
 Warren, Matthew M. .... 35(1),36  
 Way, J. Douglas ..... 34(2),162  
 Weiss, Alvin H. .... 34(2),186  
 Westmoreland, Phillip R. .... 35(4),248  
 Whitacre, Shawn ..... 31(2),120  
 Whitaker, Stephen ..... 33(1),18; 35(1),46  
 White, Ralph E. .... 34(4),328  
 White, Scott R. .... 33(1),34  
 Whitmyre, G. .... 34(1),74  
 Wilding, W.V. .... 31(3),180  
 Willey, Ronald J. .... 32(1),58; 33(3),216;  
 35(3),220  
 Wilson, J.A. .... 31(3),172; 32(3),224;  
 ..... 33(3),216  
 Woo, Wilbur W. .... 31(1),58  
 Wood, Philip E. .... 31(1),44; 35(4),300  
 Woods, Donald R. .... 31(1),44; 32(4),296;  
 ..... 34(1),16,26;(2),108,118;  
 ..... 35(4),300  
 Worden, R. Mark ..... 35(4),230  
 Wrenn, S. .... 34(1),74

**Y**

Yarranton, H.W. .... 33(4),322  
 Yeomans, Haydeé ..... 31(2),124  
 Yin, K. Karen ..... 31(3),168  
 Young, Brent R. .... 34(2),278; 35(3),172

**Z**

Zaki, M.M. .... 34(4),310  
 Ziemer, Katherine S. .... 32(4),266  
 Zinatelli, Marna ..... 31(4),210  
 Zuba, Leonard P. .... 32(4),266  
 Zukoski, C.F. .... 35(4),244