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**FUNDAMENTALS  
PROCESS DESIGN & DEVELOPMENT  
PRODUCT RESEARCH & DEVELOPMENT**

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# INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH®

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## KINETICS, CATALYSIS, AND REACTION ENGINEERING

- |  |      |   |
|--|------|---|
| <p>Romuald M. Makouangou,<br/>Dimitri Y. Murzin,<br/>Anne E. Dauscher, and<br/>Raymonde A. Touroude*</p> | 1881 | Kinetics of Crotonaldehyde Hydrogenation over a Titania-Supported Platinum Catalyst   |
| <p>Ahmed Chehbouni, Jamal Chaouki,*<br/>Christophe Guy, and Danilo Klvana</p>                            | 1889 | Characterization of the Flow Transition between Bubbling and Turbulent Fluidization   |
| <p>Bing Joe Hwang</p>  | 1897 | Induction Model for the Heterogeneously-Catalyzed Liquid-Phase Oxidation of Aldehydes |

## PROCESS DESIGN AND CONTROL

- |  |      |  |
|--|------|--|
| <p>Michael A. Henson* and<br/>William J. Koros</p>                                     | 1901 | Multiloop Control of a Pilot-Scale Membrane System for Gas Separations                           |
| <p>Margarida F. Cardoso,<br/>Romualdo L. Salcedo,* and<br/>Sebastião F. de Azevedo</p> | 1908 | Nonequilibrium Simulated Annealing: A Faster Approach to Combinatorial Minimization              |
| <p>J. Fraser Forbes and<br/>Thomas E. Marlin*</p>                                      | 1919 | Model Accuracy for Economic Optimizing Controllers: The Bias Update Case                         |
| <p>Marianthi G. Ierapetritou and<br/>Efstratios N. Pistikopoulos*</p>                  | 1930 | Novel Optimization Approach of Stochastic Planning Models  |
| <p>Chung-cheng Han, Ruey-fu Shih, and<br/>Liang-sun Lee*</p>                           | 1943 | Quantifying Signed Directed Graphs with the Fuzzy Set for Fault Diagnosis Resolution Improvement |

## GENERAL RESEARCH

- |  |      |   |
|--|------|---|
| <p>Wen-Lu Weng, Jui-Tang Chen, and<br/>Ming-Jer Lee*</p>   | 1955 | High-Pressure Vapor-Liquid Equilibria for Mixtures Containing a Supercritical Fluid   |
| <p>Dwarkaprasad S. Chakravarty and<br/>Michael A. Matthews*</p>  | 1962 | An Equation-of-State-Based Reservoir Model Incorporating Continuous-Mixture Thermodynamics  |
| <p>Andrzej Wyczesany</p>   | 1971 | Nonstoichiometric Algorithm of Calculation of Simultaneous Chemical and Phase Equilibria. 2. High-Pressure Hydration of Propene to 2-Propanol |
| <p>Miloslav Hartman,* Otakar Trnka, and<br/>Karel Svoboda</p>  | 1979 | Free Settling of Nonspherical Particles   |
| <p>Debjeet Pradhan,<br/>Chang-keng Chen, and Maciej Radosz*</p>  | 1984 | Fractionation of Polystyrene with Supercritical Propane and Ethane: Characterization, Semibatch Solubility Experiments, and SAFT Simulations  |
| <p>Magnus Carlsson, Christine Habenicht,<br/>Lance C. Kam,<br/>Michael Jerry Antal, Jr.,*<br/>Nanying Bian,<br/>Rebecca J. Cunningham, and<br/>Maitland Jones, Jr.</p> | 1989 | Study of the Sequential Conversion of Citric to Itaconic to Methacrylic Acid in Near-Critical and Supercritical Water                         |
| <p>Stephen E. Silliman,*<br/>Candace C. Cady, and Karen Snyder</p>   | 1997 | Application of a UV-Curing Resin to Hydrodynamic Studies in Porous Media  |

- Fang-Yuan Jou, Frederick D. Otto, and Alan E. Mather\* 2002 Vapor-Liquid Equilibrium of Carbon Dioxide in Aqueous Mixtures of Monoethanolamine and Methyldiethanolamine
- Yi-Gui Li and Alan E. Mather\* 2006 Correlation and Prediction of the Solubility of Carbon Dioxide in a Mixed Alkanolamine Solution

## CORRELATIONS

- Stuart W. Churchill\* and Christina Chan 2016 Improved Correlating Equations for the Friction Factor for Fully Turbulent Flow in Round Tubes and between Identical Parallel Plates, both Smooth and Naturally Rough

## ADDITIONS AND CORRECTIONS

- Kathryn K. Nass 2020 Rational Solvent Selection for Cooling Crystallizations

■ Supplementary material for this paper is available separately (consult the masthead page for ordering information); all supplementary material except structure factor tables will also appear following the paper in the microfilm edition of this journal.

\* In papers with more than one author, the asterisk indicates the name of the author to whom inquiries about the paper should be addressed.

## ANNOUNCEMENT

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