



CHEMICAL ENGINEERING RESEARCH AND DESIGN

Publication of the Institution of Chemical Engineers

AUTHOR INFORMATION PACK

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DESCRIPTION

ChERD aims to be the principal international journal for publication of high quality, original papers in **chemical engineering**.

Papers showing how research results can be used in **chemical engineering design**, and accounts of experimental or theoretical research work bringing new perspectives to established principles, highlighting unsolved problems or indicating directions for future research, are particularly welcome. Contributions that deal with new developments in plant or processes and that can be given quantitative expression are encouraged. The journal is especially interested in papers that extend the boundaries of traditional chemical engineering.

The journal publishes regular special issues focusing on specific topics, and issues dedicated to selected papers from major conferences.

Core topic areas:

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- Hydrodynamics, heat and mass transfer in separation equipment
- Physical properties and thermodynamic models/methods
- Process design, operation and intensification
- Process equipment characterisation
- Process modelling, simulation and optimisation

Fluid flow

- All aspects of fluid flow in chemical and/or process vessels

Heat and mass transfer

- Mechanisms of heat and mass transfer
- Multicomponent mass transfer
- Simulation of heat and mass transfer processes
- Simultaneous heat and mass transfer

Materials processing and product development

- Fundamental properties of interest to processing of materials
- Injection moulding of materials
- In-line measurement and control of material processes
- Morphological development processes
- Pre-processing, shaping, multi-layering and finishing of final product form
- Product design based on chemical engineering tools
- Structure-function relationships in products and relevant systems
- Tailoring chemical products and materials for end-use applications

Particle technology

- Crystallisation and precipitation
- Design of particulate systems and processes
- Formation and synthesis of particulates
- Kinetics of particulate processes
- Measurement and characterisation of particulate systems
- Processing, handling and storage of powders and dispersions
- Product formulation and rheology

Pharmaceutical engineering

- Design, modelling, operation and control of pharmaceutical (bio)reactors, unit operators and process systems used in the production of (bio)pharmaceuticals
- Application of process analytical technology in pharmaceutical product and process design and characterisation
- Pharmacokinetic and pharmacodynamic modelling
- Design, characterisation and modelling of drug delivery systems

Process systems engineering

- Information modelling and analysis
- Process design and integration
- Process modelling, simulation and optimization
- Process operations and control
- Techno-economic analysis

Reaction engineering

- Catalysis engineering
- Process intensification
- Reaction kinetics
- Reactive flows
- Reactor development, modelling and scale-up

Separation processes

- Absorption science and technology
- Green processes
- Intensification and integration of separation processes
- Molecular separation: membranes, chromatography
- Phase separation: clarification, flocculation, microfiltration
- Reactive separation processes: hybrid and novel separation techniques
- Separation by phase change

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Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2010. The art of writing a scientific article. *J. Sci. Commun.* 163, 51–59.

Reference to a book:

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