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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.

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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

- Fluid flow and mixing in process equipment
- Reactive flow
- Turbulent flow
- Microfluidics
- Multiphase flow
- Computational fluid dynamics
- Porous media flow
- Interfacial flows, coating & wetting phenomena
- Complex fluids
- Non-Newtonian fluids

- Flow visualization

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

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- 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

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- 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

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- 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

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- Information modelling and analysis
- Process design and integration
- Process modelling, simulation and optimization
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Reaction engineering

- Catalysis engineering
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- Reaction kinetics
- Reactive flows
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- Absorption science and technology
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