CHEMICAL ENGINEERING JOURNAL
An International Journal of Research and Development

AUTHOR INFORMATION PACK

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DESCRIPTION

The *Chemical Engineering Journal* focuses upon three aspects of chemical engineering: chemical reaction engineering, environmental chemical engineering, and materials synthesis and processing.

The *Chemical Engineering Journal* is an international research journal and invites contributions of original and novel fundamental research. The journal aims to provide an international forum for the presentation of original fundamental research, interpretative reviews and discussion of new developments in chemical engineering. Papers which describe novel theory and its application to practice are welcome, as are those which illustrate the transfer of techniques from other disciplines. Reports of carefully executed experimental work, which is soundly interpreted are also welcome. The overall focus is on original and rigorous research results which have generic significance.

Within the *Chemical Engineering Journal*, the Environmental Chemical Engineering section presents papers dealing with emerging topics in environmental chemical and process engineering, including pollution control, separation processes, advanced oxidation processes, adsorption of contaminants, resources recovery, waste-to-energy, environmental nanotechnology and bioprocesses, CO2 capture and utilization, and micro(nano) plastic detection and remediation.

Within the *Chemical Engineering Journal*, the Chemical Reaction Engineering section presents papers on a wide range of topics including reaction kinetics, simulation and optimization of different types of reactors, unsteady-state reactors, multiphase reactors, and process intensification including fundamental investigations of the processes of heat, mass and momentum transfer that take place along with chemical reactions. Innovative research works addressing critical areas of reactor engineering (e.g. novel reactor designs and materials, reactor safety and environmental issues), and emerging reactor technologies (e.g. membrane reactors, chromatographic reactors, unconventional fluidized bed reactors, electrochemical reactors, micro-reactors, photoreactors, fuel-cells, enzymatic reactors, etc.) are particularly welcome. Submissions based entirely on e.g., numerical simulations with commercial CFD codes without novel experimental validation; novel sensing devices without a component of reaction engineering; theoretical mathematics; combustion in the context of energy conversion; or straightforward bioreactor applications (bacteria or animal cells) are highly discouraged, as these will find better fit in other existent journals.

Within the *Chemical Engineering Journal*, the Novel Materials for Energy and Advanced Applications section presents papers dealing with different aspects of the preparation and characterization of advanced materials designed for specific applications. This section represents the evolution of the highly successful Materials Synthesis and Processing section whose scope has...
been redefined to emphasize the design and application of materials in a number of fields, with energy (harvesting, storage, utilization) occupying a prominent but not exclusive role; manuscripts demonstrating applications of novel materials across multiple fields are welcomed. Manuscripts describing novel methods of synthesis as well as the processes used to obtain materials with different morphologies and/or modify the surface and structural properties of those materials will be considered provided the manuscript is written from a chemical engineering point of view. Manuscripts dealing with micro- and nano-structured materials and/or describing the preparation of composite and hybrid materials with advanced properites are particularly welcome. Given the applied character of the CEJ, we will consider manuscripts where specific applications are demonstrated for the materials synthesized.

Comments and Proposals: We are interested in receiving comments/feedback on this and our other journals and welcome publication proposals for books, electronic products, new journals and co-operation for existing journals.

AUDIENCE

Chemical and Process Engineers, Applied Chemists and Product Engineers, Biochemical Engineers and Biotechnologists.

IMPACT FACTOR

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Dionysios Dionysiou, University of Cincinnati, Cincinnati, Ohio, United States
Advanced oxidation technologies for water treatment, drinking water treatment and purification, water quality, treatment, reuse, and monitoring, sustainable water processes, physicochemical phenomena on particle-water interfaces, transition-metal oxidation and reverse electron transfer reactions, destruction of biological toxins in water, environmental nanotechnology, Remediation, Environmental catalysis.

Guy Marin, Ghent University, Gent, Belgium
chemical kinetics; heterogeneous catalysis; (petro)chemical processes, polymerization, reactor design and modelling, reactor scale-up, crude oil refining, natural gas valorisation, renewables

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catalytic reaction engineering, Functional nanomaterials, ((electro)chemical) energy storage

Dimitris Kondarides, University of Patras Department of Chemical Engineering, Patras, Greece
Heterogeneous catalysis and photocatalysis. Developmnt and evaluation of catalytic materials and processes for environmental and energy-related applications

Nuno Reis, University of Bath, Bath, United Kingdom
micro-reactor technology, fluid mechanics, CFDs, gas-liquid mixing, multiphase reactors, process intensification, biological reactors, biofuels

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Biological processes for water recycling and reuse, Resource recovery, Membrane technology for water and energy, Environmental nanotechnology

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Bioinspired functional surfaces with special wettability (superhydrophobicity/hydrophilicity), water-oil separation and purification, self-cleaning and antifogging coatings, photo(electro)catalysis, water splitting, functional membranes and fabrics, transparent multifunctional films, biomedical scaffolds, aerogel, sustainable chemical engineering processes, nanomaterials for environmental and energy-related applications

Urška Lavrenčič Štangar
heterogenous photocatalysis in water and air, AOPs, self-cleaning and antifogging surfaces, wet chemistry synthesis of materials, materials characterization

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Angeliki Lemonidou, Aristotle University of Thessaloniki, Thessaloniki, Greece
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**Yiu Fai Tsang**, The Education University of Hong Kong, New Territories, Hong Kong

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Carbon Capture, Negative Emissions, Combustion, Adsorption, Membrane Separations

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Nanoarchitectured materials; Nanoporous materials; Inorganic materials chemistry; Inorganic synthetic chemistry; Energy and environmental applications

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Membrane, Drinking water treatment; Water reuse; Advanced oxidation; Desalination

**Jun Ma**, Harbin Institute of Technology School of Municipal and Environmental Engineering, Haerbin, China

**Dionisis Mantzavinos**, University of Patras Department of Chemical Engineering, Patras, Greece

Environmental catalysis; wastewater engineering; advanced oxidation processes; biological processes; process integration; reaction engineering; emerging micro-pollutants; waste valorization
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Nanotechnology, Green Chemistry, Water Research, Polymer Chemistry, Materials Chemistry

Alexander Orlov, Stony Brook University, Stony Brook, New York, United States
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Advanced oxidation technologies (AOTs), Functional materials for environmental application, Electrocatalysis, Photocatalysis, Membrane separation

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Water resource recovery, Wastewater treatment, Microbial electrochemistry, Functional membranes

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Cyclic adsorption/reaction processes, Perfume Engineering, Lignin valorization, CO2 capture and utilization, Modeling and simulation

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Photo-inactivation, Agricultural photocatalysis, H2 production, Hydrothermal method, Microwave synthesis

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Separation Processes, Solvent Extraction, Ion Exchange

Andreas Seidel-Morgenstern, Otto von Guericke University, Magdeburg, Germany
Reaction Engineering, Forced Dynamic Operation, Chromatography, Crystallization

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AOPs; nanomaterials; green chemistry; catalysis

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Advanced oxidation processes, Radical chemistry, Computational chemistry, Environmental modelling

Xing-Gui Zhou, East China University of Science and Technology, Shanghai, China
GUIDE FOR AUTHORS

INTRODUCTION

Submission of Papers Manuscripts should be submitted to one of the following section Editors as defined in the journal Aims & Scope and according to the Editor's specialties. If you are unsure about to whom you should submit a manuscript, please submit it to any Editor in the appropriate section.

Environmental Chemical Engineering:

Stephen Allen: Adsorption (liquid and gas); Ion exchange; Water treatment (physico/chemical methods); Air/gas treatment, NOx control, CO2 capture; Constructed wetlands and reed beds for water treatment; Agricultural wastes (liquid and solid); Solid waste treatment and bioconversion; Sustainable development or processes

Tejraj Aminabhavi: Environmental membrane filtration processes; Emerging pollutant separation and solid-waste minimization; Environmental pollution abatement; Effluent or influent treatment by electrocoagulation and membrane distillation; Toxic metal separation and recovery; Acid/flue gas separation; Desulfurization

Dionysios (Dion) Dionysiou: Advanced oxidation processes/technologies (AOPs/AOTs); Photocatalysis; Environmental catalysis; Membranes processes; Electrooxidation, electrochemical methods; Particle separation; Separation processes; Environmental nanotechnology (focus on environmental remediation, environmental sensing)

Chemical Reaction Engineering:

Guy B. Marin: Chemical kinetics; heterogeneous catalysis; (petro)chemical processes, polymerization, reactor design and modelling, reactor scale-up, crude oil refining, natural gas valorisation, renewables

Nuno M. Reis: Micro-reactor technology, fluid mechanics, CFDs, gas-liquid mixing, multiphase reactors, process intensification, biological reactors, biofuels

King Yeung: Heterogeneous catalysis (including environmental catalysis, photocatalysis and enzyme), novel and hybrid reactor system, miniature flow reactor and microreactor, green and fine chemistry

Novel Materials for Energy and Advanced Applications:

Todd Hoare: Functional polymers and polymer nanocomposites; biomaterials and materials for biomedical applications; superhydrophobic/superwetting materials; flame retardant materials; corrosion inhibiting materials; novel encapsulation methods and applications

Dimitris I. Kondarides: Materials for energy storage devices (primary and secondary batteries; supercapacitors); materials for solar energy conversion and storage (photo(electro)catalytic water splitting, CO2 reduction, nitrogen fixation; dye-sensitized solar cells); energetic materials; electromagnetic wave absorbing materials; luminescent materials and phosphors

Reviews and Perspectives:

Jesus Santamaria: Submissions on Review Articles and Perspectives will be handled by Professor Santamaria.

Types of papers

The editors make every effort to ensure that manuscripts are fairly and independently reviewed. Submissions which describe novel theory and its application to practice are welcome, as are those which illustrate the transfer of techniques from other disciplines. Reports of carefully executed experimental work which is soundly interpreted are also
welcome. Manuscripts of routine studies, however, presenting experimental data but without any significant new interpretation or novelty, or that are very specific and applied in their scope, will be rejected by the editors as "lacking in novel content".

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