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DESCRIPTION

Chemosphere is an international journal designed for the publication of original communications and review articles. As a multidisciplinary journal, *Chemosphere* offers broad and impactful dissemination of investigations related to all aspects of environmental science and engineering.

Chemosphere will publish:

- Original communications (research papers) describing important new discoveries or further developments in important fields of investigation related to the environment and human health
- Reviews, mainly of new developing areas of environmental science
- Discussion papers
- Letters to the editor
- Short communications
- Special themed issues on relevant topics.

All papers should demonstrate a high level of novelty, originality and uniqueness. The following sections and subject fields are included:

Environmental Chemistry (including Persistent Organic Pollutants and Dioxins)

This section will publish manuscripts dealing with fundamental processes in the environment that are related to the behavior, fate and alteration of organic and inorganic contaminants of environmental concern. This section focuses on the dynamics of contaminants in environmental compartments such as water, soil, sediment, organisms, dust and air their interactions with the biosphere. This section also includes all scientific aspects of persistent organic pollutants (POPs), including exposure studies in the environment and people, toxicology, epidemiologic investigations, risk assessment and processes that generate or attenuate these pollutants. Only studies that are of significance to an international audience, including case studies of particular global interest, or lend themselves to interpretation at the global level should be submitted. Papers on climate change are not considered.

Specific topics of interest include:

- Emerging contaminants, such as pharmaceuticals, pesticides, flame retardants, other industrial chemicals, POPs, endocrine disruptors, etc.
- Trace metals, organometals, metalloids and radionuclides
- Environmental fate studies including transport, biodegradation, bio-accumulation and/or deposition, atmospheric (photo)chemical processes, hydrolysis, adsorption/desorption

- Transformation and mineralisation of chemicals, e.g. by bio- and photo degradation, redox processes and hydrolysis
- Soil and water chemistry focused on interaction, degradation and speciation aspects of environmental contaminants
- Novel environmental analytical methods including case studies
- Development and application of environmental modelling and quantitative structure-activity relationships to study fate and environmental dynamics
- Monitoring studies presenting new strategies, report of novel contaminants, findings or interpretations of general interest for an international readership.
- Non-target and suspect screening (e.g. effect-directed analysis)
- Marine toxins

Toxicology and Risk Assessment

The section on Environmental Toxicology and Risk Assessment covers all aspects of toxicology, i.e., the science of adverse effects of chemicals and toxic substances on living organisms including humans, and the scientific assessment of the risk that such adverse effects may occur.

Specific topics of interest include:

- Adverse effects of chemicals in environmental, aquatic and terrestrial, organisms
- Epidemiological studies on effects of chemicals in humans
- Biochemical studies related to mechanisms of adverse effects
- Toxicokinetics and metabolic studies on chemicals related to adverse effects
- Development and validation of testing methods based on living organisms or biological materials
- Effects of nanoparticles, nanocomposites and microplastics in the environment
- Endocrine disruption
- High-throughput screening
- Mechanistic toxicology
- Fish toxicology
- DNA and protein adducts
- In vitro assays and omics techniques
- Phytotoxicity

Treatment and Remediation

This section focuses on technologies that manage and/or reduce environmental contaminants, including reuse and recycling processes. The technology must be beyond a basic laboratory study or have obvious implications for current or potential treatment or remediation technologies. As an example, manuscripts focusing on fundamental (bio)adsorption studies or metal extraction by plant species should be submitted to a more suitable journal. The results of studies of a routine nature should not be submitted for review. For example, for oxidation processes, the intermediates and/or the extent of mineralization of the targeted compound(s) and wastes must be quantified in addition to target compound attenuation.

Specific topics that are encouraged for publication include:

- Advanced water and wastewater treatment processes and sludge management
- Remediation (including phytoremediation) employing novel strategies, findings, or interpretations
- Hazardous waste industrial chemicals
- Hydraulic fracturing and produced water
- Electrochemical methods for water and solids treatment
- Nanotechnology
- Advanced oxidation processes
- Photolysis and photocatalysis
- Natural treatment systems (riverbank filtration, aquifer recharge and recovery)
- Characterization and fate of natural and effluent organic matter

Not considered are studies that focus on the synthesis of new materials to be used in waste water purification or remediation. Studies focusing on the removal of single contaminants are often less competitive for publication in *Chemosphere*.

AUDIENCE

Environmental scientists, chemical engineers, biologists, toxicologists.

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Jacob de Boer, Dept. Environment and Health, Vrije Universiteit Amsterdam, De Boelelaan 1087, 1081 HV, Amsterdam, Netherlands

Non-dl-POPs, FRs, levels, trends, analytical methods, food chain accumulation, interlab studies, biomonitoring, fate, exposure, fish, shellfish toxins

Shane Snyder, University of Arizona, 1133 E. James E. Rogers Way, Harshbarger 108, Tucson, Arizona, 85721-0011, USA

Drinking water, hydraulic fracturing, produced water, water treatment processes (particularly advanced oxidation), use of cellular bioassays for characterizing complex mixtures of contaminants

Special Issues Editor

Derek Muir, Environment Canada, National Water Research Institute (NWRI), 867 Lakeshore Road, Burlington, L7R 4A6, Ontario, Canada

Environmental chemistry, biogeochemistry, bioaccumulation, persistent organic pollutants, chemicals of emerging concern, chemical inventories, mercury, polycyclic aromatic compounds, Arctic, marine mammals, fish

Associate Editors

Environmental Chemistry

Xinde Cao, Shanghai Jiao Tong University, Shanghai, China

Soil remediation, contaminant removal from water, flue gas, metal speciation, metals in soil, bioavailability and human health, arsenic, phosphate, development, application of solid waste-derived environmentally functional materials, biochar, recycling, groundwater

Ralf Ebinghaus, Helmholtz-Zentrum Geesthacht, Geesthacht, Germany

PM2.5, air pollution, organic and inorganic contaminants, mercury, POPs, emerging contaminants, marine environment, polar environment, atmosphere

Petra Krystek, Vrije Universiteit Amsterdam, Amsterdam, Netherlands

trace elements, speciation, nanomaterials, environment, health, exposure, (hyphenated) analytical techniques, method development, validation

Klaus Kümmerer, Leuphana Universität Lüneburg, Lüneburg, Germany

Sources and fate of organic chemicals in the aquatic environment including waste water, especially pharmaceuticals, pesticides, QSARs, chemoinformatics, green chemistry, sustainable chemistry, sustainable pharmacy

Martine Leermakers, Vrije Universiteit Brussel (VUB), Bruxelles, Belgium

Trace metals, organometals, metalloids, radionuclides, analytical techniques, geochemical cycling, metals and human health, gel diffusion techniques, for in situ trace metal speciation DGT (diffusive gradients in thin films) and DET (diffusive equilibrium in thin films), mining

Keith Maruya, Southern California Coastal Water Research Project, Costa Mesa, California, USA

Sources, fate, effects of emerging contaminants, natural organohalogenes, aquatic ecosystems, bioanalytical tools, passive samplers, POPs, HOCs, contaminated sediments, recycled water

Patryk Oleszczuk, University of Maria Skłodowska-Curie, Poland

Biochar; organic contaminants; heavy metals; polycyclic aromatic hydrocarbons; nanoparticles; sewage sludge; ecotoxicology; remediation

Myrto Petreas, California Environmental Protection Agency, Berkeley, California, USA

Levels, trends, dl-POPs, BFRs, analytical methods, bioaccumulation, biomonitoring, exposure assessment, emission, production, generation

Andreas Sjödin, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, USA

Human health; Analytical methods; DI- and non-dl-POPs

Yeomin Yoon, University of South Carolina, Columbia, South Carolina, USA

Water treatment; Membrane filtration; Adsorption; Sonodegradation; Oxidation; Micropollutants; Nanotechnology

Toxicology and Risk Assessment

Tamara Galloway, University of Exeter, Exeter, England, UK

Nanopolymers and nanocomposites, microplastics as marine pollutants, ecotoxicology, adaptation, oil fracking and drilling, human biomonitoring

Andreas Gies, German Environment Agency, Berlin, Germany

Bioassays, human biomonitoring, ecotoxicology, epidemiology, indoor air, oil fracking and drilling

Jian-Ying Hu, Peking University, Beijing, China

Bioassays, human biomonitoring, effects of EDCs on reproduction and development, health risk assessment, ecological risk assessment, Biomagnification in aqueous food-web, epidemiology, and drinking water quality.

James Lazorchak, National Exposure Research Laboratory, Cincinnati, Ohio, USA

Effect of EDCs on fish populations, estrogenicity of WWTP discharge, gene expression, toxicity effects on a population, invasive toxic algae DNA and protein adducts, impact of coal, mineral, gas and oil extraction, pharmaceuticals, water quality criteria

Frederic Leusch, Griffith University, Southport, Queensland, Australia

Endocrine disruptors, hormones, pharmaceuticals, personal care products, in vitro assays, water quality, recycled water, omics, phytotoxicity

David Volz, University of California at Riverside, Riverside, California, USA

Fish toxicology; hepatotoxicity; cardiovascular toxicity; neurotoxicity; early life-stage toxicity; pesticides; high-volume chemicals; flame retardants; chemicals policy and regulation; human and ecological risk assessment; high-throughput screening; mechanistic toxicology;

Yeomin Yoon, University of South Carolina, Columbia, South Carolina, USA

Water treatment; Membrane filtration; Adsorption; Sonodegradation; Oxidation; Micropollutants; Nanotechnology

Treatment and Remediation

Enric Brillas, University of Barcelona, Barcelona, Spain

Non-dl-POPs, FRs, levels, trends, analytical methods, food chain accumulation, interlab studies, biomonitoring, fate, exposure, fish, shellfish toxins

Teresa J. Cutright, University of Akron, Akron

bioremediation, phytoremediation, environmental engineering

Jun Huang, Tsinghua University, Beijing, China

DAOP (advanced oxidation process), photolysis/photocatalysis, mechanochemical destruction (MCD), alternative to POPs, PPCPs removal

Min Jang, Kwangwoon University, South Korea

Water treatment, nanotechnology, geochemistry, drinking water, adsorption, oxidation, ultrasound, mine reclamation

Hyunook Kim, University of Seoul, Dongdaemun-Gu, Seoul, South Korea

Biological removal of organic compounds, nutrient removal, analysis and degradation of trace organics, odorants from water/wastewater

Tsair-Fuh Lin, National Cheng Kung University, Tainan, Taiwan

identification, treatment, and process modeling relevant to cyanobacteria, taste and odor compounds and cyanotoxins present in reservoirs and water treatment plants; monitoring and treatment of arsenic and chlorinated hydrocarbons in ground water

Yu Liu, Nanyang Technological University, Singapore, Singapore

Anaerobic degradation, nutrient recovery

William Mitch, Stanford University, Stanford, California, USA

Environmental organic chemistry, disinfection byproduct formation mechanisms, nitrosamines, other research interests include the formation of nitrosamines formed by the reaction of NO_x with amines used to capture CO₂ from power plants, the effect of halides on the natural (i.e., sunlight) or engineered (i.e., advanced oxidation) photodegradation of contaminants, and the reductive transformation of contaminants sorbed to black carbons.

Adalberto Noyola, National Autonomous University of Mexico, Mexico City, Mexico

Biological wastewater treatment, anaerobic process for wastewater and sludge treatment, biological nitrogen removal, biofiltration of odorous gases, control of GHG emissions from wastewater treatment facilities

Yeomin Yoon, University of South Carolina, Columbia, South Carolina, USA

Water treatment; Membrane filtration; Adsorption; Sonodegradation; Oxidation; Micropollutants; Nanotechnology

Chang-Ping Yu, National Taiwan University, Taipei, Taiwan

Environmental biotechnology, environmental microbiology, biodegradation, microbial electrochemical technology, biological wastewater treatment, bioremediation

Xiangru Zhang, Hong Kong University of Science & Technology, Hong Kong, China

Water treatment, drinking water, emerging compounds, disinfection byproducts

Editorial Board

Joan Albaigés, Barcelona, Spain

organic geochemistry, persistent organic pollutants, oil pollution, organic pollution monitoring

Mari Asami, Saitama, Japan

water quality

Georg Becher, Oslo, Norway

Assessment of Human Exposure to Organic Pollutants and Toxicants

Henk Bouwman, Potchefstroom, South Africa

dioxins, DDT, POPs

Heechul Choi, Gwangju, The Republic of Korea

nano, water, remediation

Bella Chu, College Station, Texas, USA

Biodegradation, Bioremediation, Endocrine-disrupting compounds, Emerging contaminants, Bioenergy and value-added products.

Simonetta Corsolini, Siena, Italy

Legacy and emergent POPs, environmental monitoring, bioaccumulation, distribution in abiotic and biotic compartments, POPs in polar ecosystem, POPs in tropical ecosystem, toxicity risk assessment, gaschromatography, ecology, penguins and seabirds, marine trophic webs, turtles, sharks, Ecotoxicology

Cynthia de Wit, Stockholm, Sweden

POPs, Arctic, indoor air, dust

Shinya Echigo, Kyoto, Japan

disinfection by-products, fate of micropollutants in the aquatic environment and water treatment processes, ozonation, advanced oxidation

Loretta Fernandez, Boston, Massachusetts, USA

environmental organic chemistry, contaminated sediment, fate and transport modeling, persistent organic pollutants, passive sampling

Heidelore Fiedler, Örebro, Sweden

Tom Harner, Toronto, , Ontario, Canada

Persistent Organic Pollutants and their environmental fate, transport and passive sampling methods

Rachel Ann Hauser Davis, Rio de Janeiro, Brazil

ecotoxicology, bioassays, proteomics, metallomics, metal contamination, biomarkers, metallothionein, oxidative stress, analytical techniques, POPs, enzymes, PAH, biomonitoring, bioaccumulation, HPLC-ICP-MS, ICP-MS, protein and DNA electrophoresis, fish, mussels, marine mammals, in vitro assays

Joop Hermens, Utrecht, Netherlands

toxicology, SPME fibers, mode of action, in vitro tests

Ron Hoogenboom, Wageningen, Netherlands

dioxins, PCBs, transfer, bioassay, PFASs, analysis, risk assessment, exposure assessment

Gwenaël Imfeld, Strasbourg, France
wetland biogeochemistry; microbial ecology; pollutant transfer; biodegradation; pesticides

Bjørn Jenssen, Trondheim, Norway
environmental chem

Susan Jobling, Uxbridge, England, UK

Roland Kallenborn, Aas, Norway
Arctic, emerging contaminants

Jong Seong Khim, Seoul, The Republic of Korea
metals in sediment

Jussi Kukkonen, Joensuu, Finland
fate, effects of chemicals, metals, sediment toxicity, nano

Marja Lamoree, Amsterdam, Netherlands
Analytical method development Exposure assessment Effect-Directed Analysis Suspect screening High throughput screening Non-target analysis Contaminant identification Human biomonitoring Water quality

Pim Leonards, Amsterdam, Netherlands
metabolomics, analytical chemistry, flame retardants, dust

Domen Lestan, Ljubljana, Slovenia
Soil washing, phytoextraction, immobilisation of toxic elements, metals in soil, metals bioavailability and bioaccessibility, soil functioning, soil ecosystem services

Xingfang Li, Edmonton, Alberta, Canada
Keywords: HPLC-MS, water disinfection byproducts, toxicology

Yongmei Li, Shanghai, China
NDMA and CEC Fate; wastewater treatment; phosphorus or carbon resource recovery

Heng Liang, Harbin, China
Membrane Technology

Gunilla Lindström, Örebro, Sweden
dioxins in humans

Lena Ma, Gainesville, Florida, USA
Soil pollutants and health, environmental transport and fate of pollutants, risk assessment and public health, waste treatment and disposal

Jean McLain, Tucson, Arizona, USA
Antibiotic resistance; Water quality; Indicator bacteria; Contaminant source tracking; Recycled wastewater

Xiang-Zhou Meng, Shanghai, China
persistent organic pollutants; wastewater; sewage sludge; soil; occurrence; fate; risk assessment

Hyo-Bang Moon, Ansan, The Republic of Korea
Persistent organic pollutant (POPs), Emerging contaminants, Environmental fate, Human exposure

Jochen Mueller, Brisbane, Queensland, Australia
emerging contaminants, dioxins

Junfeng Niu, Beijing, China
environmental technology

Pongsak Noophan, Bangkok, Thailand
biological treatment processes

Yong Sik Ok, Seoul, The Republic of Korea
Soil pollution; Soil remediation; Heavy metals in the environment; Waste management; Bioavailability of Emerging Contaminants; Bioenergy and value-added products; Biochar and soil organic matter; Phytoremediation.

Gerhard Rimkus, Hamburg, Germany
Synthetic fragrances and personal care products in the environment; Bioaccumulation and metabolism in biota like fish, seals, birds etc.; Bioaccumulation in human tissue/breast milk; Analysis of contaminants in biota and food samples; Residues and contaminants in food, EU food legislation.

Josep Rivera, Barcelona, Spain
dioxins

Paolo Roccaro, Catania, Italy
environmental engineering; water treatment and reuse; emerging contaminants; disinfection by-products.

Stephen Safe, College Station, Texas, USA
Biochemistry; Toxicology

Reyes Sierra-Alvarez, Tucson, USA
Biodegradation, biological treatment, bioremediation, microbial toxicity; engineered nanomaterials; nanotoxicity; metal-microbe interactions; wastewater treatment; metal bioremoval

Werner Tirlir, Bolzano, Italy

air pollution, dioxins

Daniel Tsang, Hong Kong, China

soil/sediment remediation, environmental chemistry, pollutant transport, wastewater treatment/
reclamation, resource recovery

Katrin Vorkamp, Roskilde, Denmark

Fate of organic pollutants in the environment; Persistent organic pollutants in the Arctic; New
contaminants (e.g. brominated flame retardants); Analytical methods in complex matrices

Jana Weiss, Uppsala, Sweden

analytical chemistry, human exposure, non-target screening, effect-directed analysis

Yu (Frank) Yang, Reno, Nevada, USA

the biogeochemical cycles of carbon/nitrogen, the reductive degradation of emergent organohalide,
fate and transport of engineering nano-materials in agricultural ecosystem and recover of energy/
nutrient from wastewater.

Zeyu Yang, Ottawa, Canada

sorption, desorption, degradation, transport, fate natur. matter

Minghui Zheng, Beijing, China

Persistent Organic Pollutants, Dioxins, Incineration, POPs Emission, POPs Monitoring

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PREPARATION

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References

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Divide the article into clearly defined sections.

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