Science of the Total Environment is an international multi-disciplinary journal for publication of novel, hypothesis-driven and high-impact research on the total environment, which interfaces the atmosphere, lithosphere, hydrosphere, biosphere, and anthroposphere.

STOTEN’s Aims & Scope has been updated - we invite contributions of original and high quality interdisciplinary environmental research papers of broad impact. Studies significantly advancing fundamental understanding and that focus on the interconnection of multiple spheres will be given primary consideration. Field studies have preferences, while papers describing laboratory experiments must demonstrate significant advances in methodology or mechanistic understanding with a clear connection to the environment. Descriptive, repetitive, incremental or regional-scale studies with limited novelty will not be considered.

1) Subject areas may include, but are not limited to:
- Air quality, atmospheric conditions, and human health outcomes
- Atmospheric biogeochemistry
- Ecosystem services and life cycle assessment
- Ecotoxicology and risk assessment
- Environmental impacts of climate change, agriculture, forestry, and land uses
- Environmental impacts of waste or wastewater treatment
- Environmental remediation of soil and groundwater
- Global change-induced extreme events and environmental impacts
- Groundwater hydrogeochemistry and modeling
- Nanomaterials, microplastics, and other emerging contaminants
- Novel contaminant (bio)monitoring and risk assessment approaches
- Remote sensing and big data applications in multiple spheres
- Stress ecology in marine, freshwater, and terrestrial ecosystems
- Trace metals and organics in biogeochemical cycles
- Water quality and security
- Critical reviews or Discussion on current or emerging topics
- Fast-track submissions (less than 2 weeks): Ground-breaking discoveries with immediate impact

2) Types of submissions not to be considered:
- Papers not contributing significant new knowledge to the field of study
• Disciplinary studies with limited environmental relevance
• Local or regional scale case studies lacking international relevance
• Soil or plant science studies without environmental implications
• Laboratory batch experiments without an application component, e.g., batch sorption experiments, preparation, and evaluation of sorbents or catalysts for contaminant removal
• Manuscripts that are primarily data reports without a substantial hypothesis, e.g., monitoring of common contaminants
• Modelling studies without calibration and data validation
• Toxicology and ecotoxicology studies testing single chemicals in bench-scale assays
• Human health studies with limited duration or chemical exposure data
• Method development papers on common contaminants
• Bibliometric analysis-based papers

AUDIENCE

Environmental Scientists, Environmental Toxicologists, Ecologists, Chemical/Environmental Engineers, Environmental Health Scientists and Epidemiologists, Risk Scientists, Environmental Science Managers and Administrators.

IMPACT FACTOR

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ABSTRACTING AND INDEXING

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CSA Technology Research Database
Current Contents - Agriculture, Biology & Environmental Sciences
Biology & Environmental Sciences
Environmental Periodicals Bibliography
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EDITORIAL BOARD

Co-Editors-in-Chief
Damià Barceló, Institute of Environmental Assessment and Water Research, Barcelona, Spain
Environmental analysis; Water and soil quality; Organic mass spectrometry; Emerging organic contaminants; Nanomaterials; Biosensors for: Analysis, Fate and Risk of Emerging Pollutants such as Pharmaceuticals and Nanomaterials in the Environment Water Pollution Control and Protection Bridging analytical chemistry with ecotoxicology- toxicity identification; Evaluation techniques used: GC and LC tandem MS, biosensors, sample preparation, automated on-line techniques for water analysis environmental samples (water, including marine waters, sediments soils, biota samples)
Jay Gan, University of California Riverside, Riverside, California, United States
Organic Contaminants; Pesticides; Emerging Contaminants; Adsorption; Transformation; Mitigation; Water Quality; Aquatic Toxicology; Remediation; Water Reuse

Special Issues Editor
Elena Paoletti, Research Institute on Terrestrial Ecosystems National Research Council Florence Branch, Italy
Plant health; Plant ecophysiology; Forests; Climate stressors; Air pollution impacts on terrestrial ecosystems; BVOC; Ground-level ozone
Paola Verlicchi, University of Ferrara, Ferrara, Italy
Water treatment; Wastewater treatments; Reuse of reclaimed water; Occurrence and removal of pharmaceuticals from (waste)water; Hospital effluent management and treatment; Petrochemical wastewater treatment; Environmental risk assessment

**Associate Editors**

**Lotfi Aleya,** Chrono-environment, Besancon, France
Harmful algae, microbiology, protistology, Medicine, Toxicology

**Julian Blasco,** Institute of Marine Science of Andalucia, Puerto Real, Spain
Metals, Pharmaceuticals, Nanoparticles, Pollution, Ecotoxicology, Risk assessment, Seawater, Sediment

**Baoliang Chen,** Zhejiang University, Hangzhou, China
Soil pollution control and remediation; Traditional and novel functional materials and environmental applications (biochar, graphene, biosorbent, and organoclay); Sorption and reactions of organic and inorganic contaminants with natural and synthesised media; Novel membrane and pollutant abatement

**Jianmin Chen,** Fudan University Department of Environmental Science and Engineering, Shanghai, China
Gaseous and particulate air monitoring and chemistry (particularly urban), Secondary aerosol, Haze formation and fog chemistry, Human toxicity of atmospheric particulates, Aerosols and climate impacts

**Frederic Coulon,** Cranfield University, Cranfield, Bedfordshire, United Kingdom
Environmental Pollution and Remediation, Water-Soil-Waste System Engineering and Modelling, Risk Management, Environmental Biotechnology, Analytical chemistry, Environmental Sciences & Ecology, Polar environments, Bioaerosols, Hazardous waste management

**Adrian Covaci,** University of Antwerp Toxicological Centre, Wilrijk, Belgium
Human exposure; Exposure assessment; Human health effects; Biomarkers; Food safety; Biomonitoring; Indoor pollution; Emerging contaminants; Legacy contaminants; Wastewater epidemiology

**Martin Drews,** Technical University of Denmark Department of Environmental Engineering, Kongens Lyngby, Denmark
Climate modelling; regional climate; hydrological and hydrodynamic modelling; climate and weather extremes; statistical methods; machine learning; remote sensing; water-energy-food nexus; decision-making frameworks; risk assessment; climate change adaptation; emergency preparedness; climate services for insurance, agriculture, energy, water and health sectors; marine, coastal, and urban environments; developing countries

**Kuishuang Feng,** University of Maryland at College Park, Department of Geographical Sciences, College Park, Maryland, United States
Carbon Accounting, Climate Mitigation, Sustainable Consumption and Production, Environmental Input-output Analysis, Virtual Water Flow Analysis

**Xinbin Feng,** Institute of Geochemistry Chinese Academy of Sciences, Guiyang, China
Mercury biogeochemical cycling in the environment and its health impact, Mercury stable isotope geochemistry and remediation of mercury contaminated lands, Cd, Pb, As and Sb biogeochemical cycling in the environment

**Yucheng Feng,** Auburn University Department of Crop Soil and Environmental Sciences, Auburn, Alabama, United States
Groundwater geology; Groundwater geochemistry; Surface water chemistry; Water quality; Water pollution; Water management; Water planning

**Pingqing Fu,** Tianjin University, Tianjin, China
Organic aerosols; Atmospheric chemistry; Isotopes of atmospheric aerosols; Fog water; Ice-core organics; Dissolved organic matter; Biomarkers

**Ashantha Goonetilleke,** Queensland University of Technology, Brisbane, Queensland, Australia

**Mae Sexauer Gustin,** University of Nevada Reno, Reno, Nevada, United States
Biogeochemical cycling of mercury, metals, and isotopes; Air pollution

**Henner Hollert,** Goethe University Frankfurt Faculty 15 Bio Sciences, Frankfurt, Germany
Bioanalytical environmental toxicology; Aquatic toxicology; Triad (Weight of evidence) approaches; Effect directed analysis; Sediments; In-situ investigations and monitoring; In-vitro bioassays; Waste- and ground water investigations (advanced wastewater treatment); Ecology

**Philip Hopke,** University of Rochester, Rochester, New York, United States
Biogeochemical cycling of mercury, metals, and isotopes; Air pollution

**Deyi Hou,** Tsinghua University, Beijing, China
Sustainability assessment; Life cycle assessment; Environmental footprint analysis; Risk management; Contaminated soil and groundwater remediation; Heavy metal contamination; Biochar production and application; Green synthesis of environmental functional materials; Fate and transport of volatile organic compounds in porous media

**Ching-Hua Huang**, Georgia Institute of Technology, Atlanta, Georgia, United States
Environmental chemistry; Water quality; Physicochemical treatment processes; Drinking water quality; Wastewater reuse; Contaminants of emerging concern; Reaction kinetics and mechanism

**Wei Huang**, Peking University, Beijing, China
Exposure assessment; Environmental epidemiology; Health intervention

**G. Darrel Jenerette**, University of California Riverside, Riverside, California, United States
Land use/ land cover; Carbon and nitrogen cycling; Ecohydrology; Drylands; Urbanization; Spatial analysis; Remote sensing

**Pavlos Kassomenos**, University of Ioannina, Department of Physics, Laboratory of Meteorology, Ioannina, Greece
Air pollution, Meteorology, Environmental health, Climate change, Particulates, Ozone, Bioaerosols, Dust transportation, Vehicle emissions, Noise

**Ewa Korzeniewska**, University of Warmia and Mazury in Olsztyn, Olsztyn, Poland
Air pollution quality and human health; Contaminant (bio)monitoring and assessment; Ecotoxicology and risk assessment; Environmental management and policy; Human health risk assessment and management; Waste and water treatment; Antibiotic resistance; Biogas production

**Dimitra Lambropoulou**, Aristotle University of Thessaloniki, Thessaloniki, Greece
Emerging Contaminants, Organic Pollutants, Transformation Products, Environmental fate, Sample preparation and analysis, Advanced mass spectrometry techniques, Environmental monitoring and risk assessment, water quality, Treatment processes for water and wastewaters

**Christian Herrera Lameli**, Bernardo O’Higgins University, Santiago, Chile
Hydrogeology; Groundwater geochemistry; Isotope hydrogeology; Surface water – groundwater interactions; Remote sensing in groundwater; Climate change

**Jurgen Mahlknecht**, Technological and Higher Education Institute of Monterrey, Monterrey, Mexico
Groundwater chemistry, Isotope hydrology, Groundwater flow, Groundwater management, Groundwater pollution, Groundwater planning, Urban groundwater, Surface water chemistry, Groundwater policy

**Lidia Morawska**, Queensland University of Technology, Brisbane, Queensland, Australia
Air pollution; Air quality; Indoor air pollution; Exposure assessment; Contaminated particulates; VOC; anthropogenic; Characterization; Automotive; Apportionment; Pollution transport; Monitoring: Analytical

**Huu Hao Ngo**, University of Technology Sydney School of Civil and Environmental Engineering, Broadway, New South Wales, Australia
Water and wastewater treatment and reuse technologies, Alternative water resources, Water management and impact assessment, Solid waste management, Specific green technologies, Water – waste – energy nexus, Greenhouse gas emission control and minimisation

**Jose Julio Ortega-Calvo**, Institute of Natural Resources and Agrobiology of Sevilla Agrochemistry Environmental Microbiology and Soil Conservation, Sevilla, Spain
Biodegradation and biotransformation of organic pollutants in soils and sediments; Bioremediation; Environmental microbiology; Bioavailability and persistence; Risk assessment

**Wei Ouyang**, Beijing Normal University, Beijing, China
Water environment and climate risk, Watershed environment management, Non-point source modeling and control, Diffuse pollution assessment

**Fernando Pacheco**, University of Tras-os-Montes and Alto Douro, Vila Real, Portugal
Hydrologic models coupled with weathering algorithms, especially in areas with significant anthropogenic pressure; multivariate statistical and environmental analyses of surface and groundwater databases, with focus on the prevention of surface and groundwater contamination; land degradation and management, as well as the negative impacts of inadequate land uses on soil erosion, surface and groundwater quality; water security issues, such as conjunctive use of surface and groundwater sources in public water supply systems, or the attenuation of hydrologic extremes (floods, droughts) through implementation of detention basins and decentralized rainwater harvesting systems in catchments.

**Elena Paoletti**, Research Institute on Terrestrial Ecosystems National Research Council Florence Branch, Italy
Plant health; Plant ecophysiology; Forests; Climate stressors; Air pollution impacts on terrestrial ecosystems; BVOC; Ground-level ozone

**Paulo Alexandre da Silva Pereira**, Mykolas Romeris University, Institute of Public Administration, Vilnius, Lithuania
Soil degradation, Soil erosion, Soil processes, Forest Fires, Spatial Analysis, Mapping, Geostatistics, Ecosystem Services

**Yolanda Picó**, University of Valencia Faculty of Pharmacy, Burjassot, Spain

Media / Habitats, drinking water, water quality, water pollution, rivers, lakes, sediments, watersheds, soils, exposure assessment, human health effects, biomarkers, bioindicators, dietary exposure, food contamination, food safety, Human Health Effects, pesticides, endocrine disruptors, pharmaceutical residues, organics, analytical, surveys

**Charlotte Poschenrieder**, Autonomous University of Barcelona Faculty of Biosciences, Bellaterra, Spain

Plant-Environment Interactions, Plant-Soil Relationships, Salinity, Plant-Microbe Interactions, Plant Toxicology, Crop Production, Plant Natural Adaptation

**Sergi Sabater**, University of Girona, Girona, Spain

River and stream ecology; Biofilm ecology and ecotoxicology; Mediterranean; Water scarcity; Ecosystem functioning; Biodiversity; Conservation of rivers

**Scott C. Sheridan**, Kent State University, Kent, Ohio, United States

Human biometeorology, climate change, synoptic climatology, extreme temperature events

**Filip M.G. Tack**, Ghent University, Gent, Belgium

Heavy metals; Trace element biogeochemistry; Dredged materials; Soil and sediment remediation; Phytoremediation

**Kevin Thomas**, The University of Queensland Queensland Alliance for Environmental Health Sciences, Woolloongabba, Queensland, Australia

Contaminants of emerging concern; Non-target analysis; High resolution Mass Spectrometry; Microplastics; Biomonitoring

**Daniel Tsang**, The Hong Kong Polytechnic University Department of Civil and Environmental Engineering, Hong Kong, Hong Kong


**Paola Verlicchi**, University of Ferrara, Ferrara, Italy

Water treatment; Wastewater treatments; Reuse of reclaimed water; Occurrence and removal of pharmaceuticals from (waste)water; Hospital effluent management and treatment; Petrochemical wastewater treatment; Environmental risk assessment

**Jan Vymazal**, Czech University of Life Sciences Prague, Praha, Czech Republic

Fang Wang, Institute of Soil Science Chinese Academy of Sciences, Nanjing, China

Soil pollution and remediation, Persistent organic pollutants, Polycyclic aromatic compounds, Antibiotics, Antibiotic resistance, Phthalate ester, Emerging Contaminants, Biochar, Bioavailability, Biodegradation and biotransformation of organic pollutants, Biofilms, Signaling molecules, Analytical method, Environmental monitoring

**Daniel A. Wunderlin**, National University of Cordoba, Cordoba, Argentina

Tracing pollutants from their source to foods, Food Integrity, including the evaluation of bioactive compounds in foods, Studying links between food production and environmental pollution

**Daqiang YIN**, Tongji University School of Environmental Science and Engineering, Shanghai, China

Shuzhen Zhang, Chinese Academy of Sciences, Beijing, China

soil contamination, Sorption/desorption of organic contaminants, Bioaccumulation and transformation of organic contaminants in the terrestrial environment, Applications of synchrotron-based spectroscopy techniques in environmental chemistry, NOM analysis and effects on contaminant behaviors

**Yifeng Zhang**, Technical University of Denmark Department of Environmental Engineering, Kongens Lyngby, Denmark

Microbial electrochemistry; Biosynthesis; Gas and dark fermentation; Anaerobic digestion; Advanced oxidation process; Wastewater management and resources recovery; Bioremediation; (Bio)electrochemical sensors; Water desalination

**Editorial Board**

**Jésus R. Aboal Viñas**, University of Santiago de Compostela, Santiago de Compostela, Spain

Biomonitoring; Moss biomonitoring; Raptor biomonitoring; Algae biomonitoring; PAHs contamination; Heavy metal contamination; Cellular localization of metals; Hydrological fluxes of forest canopies

**Evgenios Agathokleous**, Nanjing University of Information Science and Technology School of Applied Meteorology, Nanjing, China

Adaptive response, air pollution biomonitoring, carbon dioxide (CO2) ecological effects and health, dose-response relationship, ecosphysiology, ecotoxicology, environmental change biology,
environmental health, hormesis, hormetic dose-response, linear-non-threshold (LNT) dose-response, no-observed-adverse-effect-level (NOAEL), organismic susceptibility, organism response to contaminants and pollutants, ozone (O3) impacts, photosynthesis, plant-insect interaction, plant-microbe interaction, preconditioning, priming, species tolerance, stress response

Warish Ahmed, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Land and Water Flagship, Dutton Park, Australia
Microbial source tracking, ARGs, Health risk, Wastewater microbiology, Water microbiology, Enteric viruses

Souhail R. Al-Abed, National Risk Management Research Laboratory, Cincinnati, Ohio, United States
Environmental implication and applications of nanomaterials; Sediment and water remediation; Contaminant (metals and organics) transformations in the environment; Reuse of materials in environmental applications

Abed Alaswad, Aston University School of Engineering and Applied Science, Birmingham, United Kingdom
Energy modelling, Bioenergy

Dong An, Fudan University Department of Environmental Science and Engineering, Shanghai, China
Water treatment, Wastewater treatment, Adsorption, Advanced oxidation, Reuse water

Alexandros G. Asimakopoulos, Norwegian University of Science and Technology, Trondheim, Norway
Takashi Azuma, Osaka University of Pharmaceutical Sciences Faculty of Pharmaceutical Sciences, Takatsuki, Japan
Pharmaceuticals and personal care products; Hospital effluent; Water environment; Sewage treatment plant; Occurrence and environmental fate; Water treatment system; Water management; Environmental science; Environmental hygiene; Public health

Roya Bahreini, University of California Riverside, Riverside, California, United States
Aerosol sources; Formation processes; Composition and microphysical properties; Direct and indirect effects on climate

Michael Bank, Institute of Marine Research, Bergen, Norway
Mercury, microplastics, ocean health, seafood safety, ecotoxicology, isotopic niches, Bayesian modeling, contaminants

Carlos Barata, Institute of Environmental Assessment and Water Research, Barcelona, Spain
Analytical chemistry; Aquatic toxicology; Environmental risk assessment; Toxicogenomics

Roberto Bargagli, University of Siena, Siena, Italy
environmental biogeochemistry, active and passive biomonitoring of persistent contaminants in terrestrial and aquatic ecosystems

Georgios Bartzas, National Technical University of Athens - Zografou Campus, Zografos, Greece
Waste management, Environmental monitoring and Risk assessment, Life cycle analysis, Soil and Groundwater decontamination, Geochemical/Thermodynamic modelling, Heavy metals and metalloids

Ivan Bergier, Brazilian Agricultural Research Corporation Pantanal, CORUMBA, Brazil
Expertise in sustainable development, particularly in the following areas: environmental services, ecology and biogeochemistry of ecosystems and agroecosystems; Bioenergy; Biofuels; Biochar; Remote sensing; Electron microscopy; Applied to nanotechnology, electronics and automation; Climate change adaptation; Mitigation of greenhouse gases emissions

Rafael Bergillos, University of Cordoba, Cordoba, Spain
Coastal Engineering, Beach Morphodynamics, Coastal Flooding, Ocean Energy, River Deltas, Fluvial Processes, Fluvial Hydraulics, Management Strategies, Climate Change, Sustainable Development

Harald Biester, Braunschweig University of Technology, Braunschweig, Germany
Biogeochemical cycling of mercury and trace elements; Biogeochemistry of peatlands

Lubertus Bijlsma, University Jaume I, Research Institute for Pesticides and Water, Castillon, Spain
Liquid Chromatography Mass Spectrometry; Ion mobility; Water quality; Contaminants of emerging concern; Wastewater-based epidemiology.

Jayanta Kumar Biswas, University of Kalyani, Kalyani, India
Water and soil contamination, Remediation of contaminants, Ecotoxicology of metal(loids) and emerging contaminants, Bioremediation, Environmental microbiology, Ecological engineering, Ecotechnology, Nanobiotechnology, Wastewater treatment and resource recovery

Paul Bradley, US Geological Survey South Atlantic Water Science Center, Columbia, South Carolina, United States
Drinking Water Exposure; Water Quality; Environmental and Public Health; Contaminants of emerging concern; Pharmaceuticals; Water Reuse; Remediation; Environmental microbiology; Urban and Aquatic Ecology

Satinder Brar Kaur, INRS – Research Centre on Water Earth and the Environment, Quebec, Quebec, Canada
Wastewater; Wastewater sludge; Treatment; Emerging contaminants; Antibiotics; Fermentation; Value-added bioproducts, such as enzymes, organic acids, platform chemicals, biocontrol agents, biopesticides, butanol and biohydrogen

**Bryan W. Brooks**, Baylor University Department of Environmental Science, Waco, Texas, United States
Water Quality, Environmental and Aquatic Eco-Toxicology, Risk and Hazard Assessment, Comparative Pharmacology and Toxicology, Environmental Public Health, Harmful Algal Blooms, Green and Sustainable Chemistry, Urban and Aquatic Ecology, Water Reuse.

**Giorgio Buonanno**, University of Cassino and Southern Lazio, Cassino, Italy
10.020: Air pollution; 10.030: Air quality; 10.040: Indoor air pollution; 70.040: Clean technologies; 80.050: Incineration

**Joanna Burger**, Rutgers University Division of Life Sciences, Piscataway, New Jersey, United States
Eco-toxicology; Behaviour; Monitoring and assessment; Birds and reptiles

**Glòria Caminal Saperas**, Institute of Advanced Chemistry of Catalonia, Barcelona, Spain
Biochemical engineering; Environmental engineering (focused on biodegradation of pollutants by microorganisms or enzymes); Bioreactors; Immobilization; Kinetics

**Art Chappelka**, Auburn University, Auburn, Alabama, United States
Air pollution and global climate effects to terrestrial ecosystems; Native plant community responses (shifts in diversity) to air pollutants and global climate change; Plant-stress-air pollution/global climate change interactions; Urban ecology and ecosystem services

**Da Chen**, Jinan University, Guangzhou, China
Environmental chemistry; Analytical chemistry; Ecotoxicology; Persistent organic pollutants; Flame retardants; Pesticides; Mass spectrometry; Gas/liquid chromatography.

**Wei Chen**, Nankai University College of Environmental Science and Engineering, Jinnan District, Tianjin, China
Nanoparticles; Nanomaterials; Adsorption; Reactivity; Transport; Remediation; Groundwater; Soil; Organic contaminants

**Joaquín Cochero**, National Scientific and Technical Research Council, Buenos Aires, Argentina
Biofilm; Stream ecology; Biomonitoring; Urban streams; Citizen science

**Xinyi (Lizzy) Cui**, Nanjing University, Nanjing, China
Organics; Bioavailability

**Guido Del Moro**, Water Research Institute National Research Council Bari Branch, Bari, Italy
Novel processes for wastewater treatment, aerobic granular biomass technologies, integration of chemical oxidation and biological processes for industrial wastewater, advanced oxidation processes, electro-degradation processes, wastewater treatment modelling

**Andrea Di Guardo**, Environmental informatics, Milano, Italy
Environmental fate of pesticides, landscape impact assessment, risk assessment of veterinary pharmaceuticals; environmental decision support systems, air pollution, environmental modelling, software engineering for the environment

**José L. Domingo**, Rovira and Virgili University School of Medicine Laboratory of Toxicology and Environmental Health, Reus, Spain
Environmental health, Risk assessment, Persistent organic pollutants, Metals, Food contaminants, Toxicology

**Judith Z. Drexler**, US Geological Survey, Reston, Virginia, United States

**Ronald C. Estoque**, National Institute for Environmental Studies Center for Social and Environmental Systems Research, Ibaraki, Japan
GISScience and Remote Sensing, Land Change Science, Urban/Landscape Ecology, Sustainability Science, Climate Change Vulnerability/Risk/Adaptation

**Zhaozhong Feng**, Nanjing University of Information Science and Technology School of Applied Meteorology, Nanjing, China
Air pollutant; BVOCs; Crop growth; Forest health; N deposition; N use and allocation; Ozone pollution; Photosynthesis and C cycle; Water use efficiency; Urban environment and forestry

**Jose Angel Fernández**, University of Santiago de Compostela, Santiago de Compostela, Spain
Air pollution; Air quality; Water pollution; Rivers; Ecological effects; Bioavailability; Bioindicators; Aquatic toxicology; Heavy metals; Biomagnification; Bioaccumulation; Surveys; Moss; Biomonitoring; Western Europe

**Bo Gao**, China Institute of Water Resources and Hydropower Research, Beijing, China
Geochemistry of trace metals in environment; Water and sediment transport; Large-scale watershed management

**Alejandro García-Gil**, Geological and Mining Institute of Spain Geological Risks Processes and and Global Change, Zaragoza, Spain
Urban hydrogeology; Groundwater quality; Shallow geothermal exploitation impacts on water resources; Groundwater management; Hydrogeochemistry; River-groundwater interaction;
Groundwater flow and reactive transport numerical modelling; Groundwater microbiology; Emerging organic contaminants
Ruben Aldaco Garcia, University of Cantabria, Santander, Spain
Life Cycle Assessment; Circular Economy; Water-Energy-Food Nexus; Bioeconomy; Industrial Ecology.

Jorge Gardea-Torresdely, The University of Texas at El Paso, El Paso, Texas, United States
Applications of spectroscopy techniques in environmental chemistry; Phytoremediation; Novel methods for the bioproduction of nanoparticles; Development of analytical methods to detect nanomaterials; Study of the fate of nanoparticles in the environment; Applications of nanotechnology to clean water

Leobardo Manuel Gómez Oliván, Autonomous University of Mexico State, Toluca, Mexico
Aquatic toxicology, Fish toxicity, Emerging contaminants, Metals, Genotoxicity, Citotoxicity, Embryotoxicity, Teratogenesis, Oxidative stress, Biomarkers

Daren Gooddy, British Geological Survey - Wallingford Office, Wallingford, United Kingdom
Groundwater, Biogeochemical cycles, Residence time indicators

M Muthusamy Govarthanan, Kyungpook National University, Daegu, Korea, Republic of
Bioremediation and eco-toxicology of toxic heavy metal(loid)s, eco-technological remediation of toxic soil pollutants, environmental microbiology, plant-metal-microbe interactions, nano-biotechnology, nanoparticles synthesis and their applications, microbial community analysis, production of microbial metabolic products and its environmental application, and microplastics,

Andrew Gray, University of California Riverside, Riverside, California, United States
Sediment transport, Hydrology, Water quality, Plastic pollution, Watershed sediment dynamics,

John Gulliver, University of Leicester, Leicester, United Kingdom
Noise and air pollution exposure assessment; Air pollution monitoring; Dispersion modelling; Land use regression modelling; Geographical information systems; Geo-statistical techniques (Kriging etc.); Spatial analysis of environmental and health data; Geographical studies of environment and health; Health risk assessments

Ying Guo, New York State Department of Health, Albany, New York, United States
My research interests: (1) biomonitoring organic chemicals in human body, such as phthalates, PAHs, organophosphate pesticide and environmental phenols; (2) monitoring organic pollutants in environment, e.g., persistent organic pollutants; (3) Analytical method development for novel organic contaminants in various environmental matrix. Recently, I am working on Exposome to women with fertility problems.

Gary Hardiman, Queen's University Belfast, Belfast, United Kingdom
Computational biology; Epigenetics; Endocrine disruption; Systems biology; Biomarkers of exposure and human health risk assessment; Diagnostic tool development

Neil S. Harris, University of Alberta, Edmonton, Alberta, Canada
Expertise: cadmium, micronutrients, membrane transporters, trace metal uptake and translocation in plants

Tham Hoang, Loyola University Chicago, Chicago, Illinois, United States
Metal bioavailability and toxicity, Mixture toxicity, Pesticide toxicity, Microcosm studies, Water quality and pollution; Aquatic toxicology, Bioaccumulation of pollutants, Ecological risk assessment, Microplastics and environmental effects

Gerard Hoek, Utrecht University, Utrecht, Netherlands
Exposure assessment; Air pollution modelling; Environmental epidemiology

Patricia A. Holden, University of California Santa Barbara, Santa Barbara, California, United States
Water quality; Environmental microbiology; Fecal pollution, Biodegradation and bioremediation; Soil pollution and soil processes; Nanomaterials; Wastewater treatment; Biogeochemistry; Emerging contaminants; Hydrocarbons; Metals

Peter Hooda, Kingston University, Kingston Upon Thames, United Kingdom
Soil Science, Soil use and management, soil fertility, soil organic carbon management, soil contamination & remediation, degraded land restoration

Kiril Hristovski, Arizona State University - Polytechnic Campus, Mesa, Arizona, United States
Nanomaterials, Water/Wastewater Quality and Treatment, Solid and Hazardous Waste, Developing Countries

Hafiz M. N. Iqbal, Technological and Higher Education Institute of Monterrey, School of Engineering and Sciences, Monterrey, Mexico
Environmental Engineering; Bioengineering; Biomedical Engineering; Bioremediation; Emerging contaminants; Wastewater treatment; Biomaterials; Bio-catalysis; Enzymes; Enzyme-based pollutant degradation; Immobilization; Toxic heavy elements; Liquid and solid waste management; Valorization of agro-industrial wastes and by-products

Rong Ji, Nanjing University, Nanjing, China
Organics; Terrestrial; Biodegradation; Environmental process; Radiotracer

**Sunny Jiang**, University of California Irvine, Irvine, California, United States

Pathogens, Water treatment, Membrane fouling, Microbial water quality, Risk assessments, Water reuse, Virus, bacteria

**Wei Jiang**, Shandong University Environment Research Institute, Qingdao, China

Environmental risk of nanomaterials; Nano-bio interaction; Cell membrane damage; Cytotoxicity; Nanoparticle transport

**Weiying Jiang**, California Environmental Protection Agency, Sacramento, California, United States

Organics; Pesticides; Dust; Analytics

**Begoña Jiménez**, Spanish Scientific Research Council, Madrid, Spain

Persistent Organic Pollutants (POPs); Dioxins; PCBs; Fate of POPs; Contaminants of emerging concern; Organic pollutants in aquatic and terrestrial ecosystems; Bioindicators; Marine mammals; Air Pollution; Environmental chemistry; Monitoring

**Sarah Jovan**, USDA Forest Service Pacific Northwest Region, Portland, Oregon, United States

My greatest expertise is in using lichen community composition for monitoring and quantifying nitrogen pollutants. But I also work with lichen/moss tissue assays (for N, S, metals, PAHs), landscape-scale community-based gradient modeling more generally, and biomass modeling for ground-dwelling non-vascular communities in boreal and tundra systems.

**Anna Jurado**, TU Dresden, Dresden, Germany

Aquifer recharge quantification, Emerging organic contaminants, Greenhouse gases, Groundwater quality, Groundwater management, Urban groundwater, River-groundwater interaction, Managed aquifer recharge, Numerical modelling, Quantitative hydrogeology

**Athanasios Katsogiannis**, European Commission Joint Research Centre Ispra Sector, Ispra, Italy

Development and optimisation of analytical chemistry techniques and sampling methodologies to the source understanding; Occurrence and fate of organic contaminants in all environmental compartments, including indoor air, atmospheric air, soil, water and/or wastewater

**Nerantzis Kazakis**, Aristotle University of Thessaloniki, Thessaloniki, Greece

Groundwater modelling; Groundwater vulnerability; Hydrogeochemistry; Hydrogeophysics; Isotope hydrology; Water resources management; Floods; Climate change impacts on water resources; Managed Aquifer Recharge

**M.B. Kirkham**, Kansas State University Department of Agronomy, Manhattan, Kansas, United States

Soil-plant-water relations; Drought stress; Elevated carbon dioxide; Uptake of heavy metals by plants

**Charles Knapp**, University of Strathclyde, Glasgow, Scotland, United Kingdom

Microbial ecology; Bacteria; Microorganisms; Wastewater; Surface water; Nutrients; Eutrophication; Antibiotic resistance; Antimicrobial resistance; Molecular ecology

**Dana Kolpin**, US Geological Survey Central Midwest Water Science Center, Iowa City, Iowa, United States

Endocrine disruptors; Pharmaceutical residues; Non-point; Pollution transport; Chemical transport

**Prashant Kumar**, University of Surrey, Guildford, United Kingdom

Air quality and health; Airborne ultrafine and nanoparticles; Exposure assessment; Low-cost pollution sensing; Exhaust and non-exhaust emissions; Air pollution control; Grey-grey infrastructure interactions; Indoor air quality; Dispersion modelling; Urban nexus; Future cities/megacities

**Keisuke Kuroda**, Toyama Prefectural University, Imizu, Japan

Subsurface geochemistry and mitigation technologies of contaminants of emerging concern (CECs)

**James Lam**, The Education University of Hong Kong Department of Science and Environmental Studies, Hong Kong, Hong Kong

POPs, Emerging contaminants, Risk assessment

**Jae-Seong Lee**, Sungkyunkwan University College of Natural Science, Suwon, Korea, Republic of

Molecular ecotoxicology, comparative genomics, rotifers, copepods, killifish, oxidative stress, mechanistic toxicity, lipid metabolism, microplastics, emerging chemicals, ocean acidification

**Juying Li**, Shenzhen University, Shenzhen, China

Organics; Bioavailability; Isotopes; Analysis; Degradation; Soil-plant system; Transformation; Toxicity

**Shibin Li**, Syngenta Crop Protection LLC, Greensboro, North Carolina, United States

Environmental toxicology; Regulatory toxicology; Ecotoxicology; Exposure science; Risk assessment; Product safety

**Xiangkai Li**, Lanzhou University School Of Life Sciences, Lanzhou, China

Microbial heavy metal remediation, Heavy metal remediation genes, Synthetic biology for environment, Waste water treatment, Bio-energy.

**Zhao-Jun Li**, Chinese Academy of Agricultural Sciences Institute of Agricultural Resources and Regional Planning, Beijing, China

Antibiotics and related resistance genes in manure or environments; emerging contaminants; Heavy metal contamination; reuse of agricultural wastes.
Daohui Lin, Zhejiang University, Hangzhou, China
Nanomaterials; Ecotoxicity; Nanotoxicity; Bioavailability; Colloidal behavior; Sorption

Kunde Lin, Xiamen University, Xiamen, China
Organic contaminants; Active sampler

Xiaobo Liu, University of Hong Kong School of Biological Sciences, Hong Kong, Hong Kong
Applied Environmental Microbiology, Microbial Biofilms, Biodeterioration and Biocorrosion, Archaea, Microbial Electrocatatlysis, Biofuel and Bioenergy

Yangxian Liu, Jiangsu University, School of Energy and Power Engineering, Jiangsu, China
Air pollution remediation (e.g., SO2, NOx, Hg, H2S, CO2, etc.) using adsorption/catalytic/oxidation/absorption, Gas separation and purification technologies, Biochar/metal oxide catalysts/AOPS for gas treatment.

Manuel Esteban Lucas-Borja, University of Castilla-La Mancha, Ciudad Real, Spain
Forest Hydrology, Soil erosion, Forest fires, Forest Management, Mediterranean forest

Ralf Ludwig, Ludwig Maximilians University Munich, Munich, Germany
Hydrology; Water resources management; Climate change; Land use change; Extreme events; Modeling; Remote sensing

Rasha Maal-Bared, EPCOR, Edmonton, Alberta, Canada
Drinking water and wastewater, treatment processes, biosolids, biofilms, risk assessment, environmental persistence and control, engineered and plumbing systems, disinfection, public and occupational health

Sheila Macfie, Western University, London, Ontario, Canada
Metal toxicity in plants; Metal localization in plants; Rhizosphere chemistry

Konstantinos Makris, Cyprus University of Technology, Lemesos, Cyprus
Human exposome, environmental health, non-pharmacological trials, metabolomics

Sonia Manzo, ENEA Centro Ricerche Portici, Portici, Italy
Ecotoxicology, Nanomaterials, Aquatic environment, Seawater, Microalgae, Seaurchin, Risk assessment

Adriaan Albert Markus, Deltares, Delft, Netherlands
Water quality modelling; Numerical modelling and programming in various languages (notably Fortran, in relation to numerical modelling); Transport and fate of nanoparticles and microplastics in the aquatic environment

Antonio Martinez Cortizas, University of Santiago de Compostela, Faculty of Biology, Department of Edaphology and Agricultural Chemistry, Santiago de Compostela, Spain
Continental sediments and soils (lake sediments, peat, colluvium, soil) and marine sediments, mainly focused in the field of environmental geochemistry, dedicated to the understanding of the cycles of the elements, ecosystem process and Quaternary environmental changes.

Ioannis Matiatos, International Atomic Energy Agency, Vienna, Austria
Isotope hydrology; Water resources management; Hydrogeochemistry; Groundwater modeling; Applied statistical modeling; Climate change impact; Environmental monitoring; Water quality

Janine McCartney, HHC Services Inc, Lester, Pennsylvania, United States
Chemical Exposures, Toxic tort, Biomarkers, Industrial Hygiene, Employee chemical exposures and community chemical exposures, Safety Engineering, Arc Flash Analyses and Accidents, Electrical Safety, Falls, Equipment & Machinery, Human Factors, Accident Investigation/ Reconstruction, OSHA, Guarding, Construction, Industrial & Premises Accidents, Oil & Gas Extraction, Pipeline Safety and Refinery Safety, Lead and Electrocution

Thomas Meinelt, Leibniz Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany
Alternative treatments in aquaculture; Impact (and interaction) of humic substances on environment and animals.

Derek Muir, Environment and Climate Change Canada, Aquatic Contaminants Research Division, Burlington, Ontario, Canada
Environmental chemistry; Biogeochemistry; Bioaccumulation; Persistent organic pollutants; Chemicals of emerging concern; Chemical inventories; Mercury; Polycyclic aromatic compounds; Arctic; Marine mammals; Fish

Jacek Namieśnik, University of Gdansk, Gdansk, Poland
Environmental analytics and monitoring; Food analysis; QA/QC systems; Green analytical chemistry; Envirometrics

Howard S. Neufeld, Appalachian State University, Boone, North Carolina, United States
The effects of ozone on plants; The role of anthocyanins in vegetative tissues in plants; Climate change impacts on plants in the southern Appalachian mountains; Measuring plant gas exchange and plant water relations, using the Li-Cor 6400 and 6800 gas exchange systems, a Sperry hydraulic conductivity apparatus and Scholander pressure chamber, as well as a variety of other instrumentation (including leaf fluorescence meter) to monitor plant responses to environmental stresses
Hai Tran Nguyen, DuyTan University Institute of Fundamental Science and Application, Da Nang, Viet Nam
Adsorption; nanomaterial; water treatment; water pollution; waste management

Hong-Gang Ni, Peking University Shenzhen Graduate School, Nanshan, China
Organic pollutants (persistent organic pollutants and environmental molecular markers); Environmental model (process and impact); Human exposure and health risk.

Avelino Núñez-Delgado, University of Santiago de Compostela Department of Soil Science and Agricultural Chemistry, Lugo, Spain

David O’Connor, Tsinghua University, Beijing, China
Soil and groundwater pollution; Biochar; Microplastics (MPs); Green and sustainable solutions; Contaminated land remediation

Hong-Gang Ni, Peking University Shenzhen Graduate School, Nanshan, China
Organic pollutants (persistent organic pollutants and environmental molecular markers); Environmental model (process and impact); Human exposure and health risk.

Avelino Núñez-Delgado, University of Santiago de Compostela Department of Soil Science and Agricultural Chemistry, Lugo, Spain
Pesticides, soil, water, organic amendments; Adsorption, desorption, degradation, mobility; Soil and water contamination by pesticides and emerging pollutants; Behaviour of pesticides in soils; Influence of organic amendments

**Nan Sang**, Shanxi University, College of Environment and Resource, Research Center of Environment and Health, Taiyuan, China
Toxicology, Environmental exposure, Atmospheric pollutant, Neurotoxicity

**Ralf Bernhard Schäfer**, University of Koblenz-Landau Institute of Environmental Sciences, Landau, Germany
Water quality; Rivers; Ecological effects; Chemicals; Aquatic toxicology; Invertebrates; Microorganisms; Modelling; Statistics

**Jianwen She**, California Department of Public Health Immunization Branch, Richmond, California, United States
Environmental analysis; Persistent organic chemical analysis; Biomonitoring; Source apportionment; Non target analysis; Endocrine disruptors; Mass spectrometry

**Samendra Sherchan**, Tulane University, New Orleans, Louisiana, United States
Water quality, environmental microbiology, fecal pollution, harmful algal blooms, emerging contaminants, environmental monitoring, wastewater treatment, water pollution, water reuse, environmental health, climate change, antibiotic resistance, microbial risk assessment, microbiome, next-gen sequencing.

**Wei Shi**, Nanjing University, Nanjing, China
Environmental fate of emerging organic pollutants; Effect directed analysis based on instrumental analysis and bioassays

**Rui da Silva Coutinho**, University of the Azores, Ponta Delgada, Portugal
Hydrogeology, Volcanology, Natural Hazards, Water Resources Management, Environmental Geology.

**Andreas Skouloudis**

**Athanasios S. Stasinakis**, University of the Aegean Department of Environment, Mytilini, Greece
Wastewater treatment and reuse; Sludge management; Emerging contaminants; Aquatic pollution; Biodegradation; Ecotoxicity; Risk assessment

**Marianne Stuart**, British Geological Survey - Wallingford Office, Wallingford, United Kingdom
Groundwater pollution, Agrochemicals, Emerging contaminants in groundwater, Industrial contaminants in groundwater, Shale gas exploitation.

**Qian Sui**, East China University of Science and Technology, Shanghai, China
Pharmaceuticals and personal care products; Micro-plastics; Emerging contaminants; Analytical methods; Environmental behaviors; Source apportionment; Advanced oxidation processes; Treatment processes

**Piotr Szefer**, Medical University of Gdansk Faculty of Pharmacy and Laboratory Medicine, Gdansk, Poland
Biomagnification of major and minor elements along the sequential trophic levels of the marine biosphere; Bioavailability of metallic pollutants to benthic organisms as potential biomonitor in relation to the adjacent sediments and sea water; Analytical and chemometric assessment of food quality

**Phong Thai**, The University of Queensland Queensland Alliance for Environmental Health Sciences, Woolloomooloo, Queensland, Australia
Wastewater analysis; Sewer-based epidemiology; Air quality monitoring; Air pollution epidemiology; Environmental monitoring

**Maria Concetta Tomei**, Water Research Institute National Research Council, Roma, Italy
Processes and Technologies for Urban and Industrial Wastewater Treatment, Modelling and Control of Biological Processes, Removal of Xenobiotic Compounds, Membrane bioreactors, Sludge Treatment, Soil Bioremediation

**Meiping Tong**, Peking University College of Environmental Science and Engineering, Beijing, China
Transport of nanoparticles, bacteria, microplastics in natural and engineered systems; Heteroaggregation of colloids; Toxicity of nanomaterials; Bacterial disinfection; Organic pollutant degradation; Heavy metal removal.

**Ashley Townsend**, University of Tasmania, Hobart, Australia
Environmental analysis; Geochemistry; Oceanography; Marine and Antarctic science; Materials science; Human health areas

**Ngoc Han Tran**, National University of Singapore, Singapore
Environmental analytical chemistry, Emerging contaminants, Transformation of emerging contaminants, High-resolution mass spectrometry for targeted and non-target analyses, Occurrence and fate of emerging contaminants

**Richard Van Curen**, University of California Davis, Davis, California, United States
Aerosol Science, atmospheric pollution, climate science, atmospheric modeling

**Yongshan Wan**, United States Environmental Protection Agency Center for Environmental Measurement and Modeling Gulf Ecosystem Measurement and Modeling Division, Gulf Breeze, Florida, United States
Peng Wang, Chinese Academy of Sciences, Beijing, China

Qilin Wang, University of Technology Sydney Faculty of Engineering and Information Technology, Sydney, New South Wales, Australia

Biological wastewater treatment; Anaerobic digestion; Sludge treatment; Nutrient removal; Process modelling of biological wastewater treatment; Greenhouse gas production; Algae; Biochar; Bioenergy and value-added products; Aerobic digestion

Wei (Vivienne) Wang, Zhejiang University, Hangzhou, China

Radio-isotopic tracing and photographing; Pesticides; Organic pollutants; Bioavailability; Degradation; Metabolism: chemical analysis

Xiaoping Wang, Chinese Academy of Sciences, Beijing, China

Global cycling of POPs; Mechanism of long range atmospheric transport; POPs accumulation in polar region; Risk assessment of POPs, Brown carbon; Emerging contaminants; Tibet Plateau

Yixiang Wang, Zhejiang A and F University College of Environment and Resources, Hangzhou, China

Greenhouse gases, forests, forest management, Spatial Analysis, climate change

Shaun Watmough, Trent University, Peterborough, Ontario, Canada

Ecosystem biogeochemistry; ecological impact of trace metals; ecosystem acidification; air pollution impacts on ecosystems

Jianming Xue, Plant and Food Research Lincoln, Christchurch, New Zealand

Biowaste and wastewater reuse, Emerging contaminants in biowaste and soil, Fate and transport of contaminants in terrestrial ecosystems, Antibiotic pollution and remediation, Biochar for environmental management, Plant uptake and translocation of contaminants, Plant-soil-microbe interactions, Phytoremediation of contaminated soils and water, Biowaste management and climate change

Ishwar Chandra Yadav, Tokyo University of Agriculture and Technology Graduate School of Agriculture Research Division of International Environmental and Agricultural Scienc, Tokyo, Japan

Persistent organic pollutants; Brominated and phosphate flame retardants; Heavy metal pollution; Aerosols; South Asia; PM2.5; Solid waste; E-waste; Himalayas

Kun Yang, Zhejiang University, Hangzhou, China

Organics, adsorption, organic matter

Yi Yang, East China Normal University, School of Geographical Sciences; State Key Laboratory of Estuarine and Coastal Research, Shanghai, China

Nanoparticles, Behavior, Incidental, POPs, ARGs ,

Samantha Ying, University of California Riverside, Riverside, California, United States

Trace elements; Soil; Biogeochemistry ; Redox processes; X-ray spectroscopy

Jing You, Jinan University, Guangzhou, China

Organics; Ecotoxicology; Bioavailability; Sediment; Pesticides

Massimo Zacchini, National Research Council, Roma, Italy

Paul Zeng, Syracuse University, Syracuse, New York, United States

Occurrence and fate of organic micro-pollutants; Formation and control of disinfection by-products

Chaosheng Zhang, National University of Ireland Galway, Galway, Ireland

GIS and Environmental Geochemistry

Hui Chun Zhang, Case Western Reserve University Department of Civil Engineering, Cleveland, Ohio, United States

Oxidation, Reduction, Adsorption, Predictive Modeling, Emerging Contaminants

Xiaowei Zhang, Nanjing University, Nanjing, China

Ecotoxicology, Toxicogenomics, Ecogenomics, Endocrine disrupting chemicals, Effect based analysis, Adverse Outcome Pathways Biomonitoring, Biodiversity, Ecosystem Functions.

Yong Zhang, Xiamen University, Xiamen, China

PAHs; Organic matter; Marine environments

J. Jian Zhao, Ocean University of China, Qingdao, China

Bing Song Zheng, Zhejiang Agriculture and Forestry University, Human Resource Department, Hangzhou, Zhejiang, China

Plant-Environment Interactions; Forests; Heavy metals; Bioenergy; Environment stress; Plant ecophysiology

Hussein Znad, Curtin University, Perth, Western Australia, Australia

Microalgae & algal environmental applications; Wastewater/Air polluted treatment; Ad/Bio-sorbent development for heavy and rear earth metals; Optical functionalized nano-materials for detecting and removing metals from aqueous solution; Photo/catalyst development; Advanced Oxidation Processes (Photo-Fenton, Ozone, UV/Solar, ZnO/TiO

AUTHOR INFORMATION PACK 8 Sep 2020 www.elsevier.com/locate/scitotenv 13
GUIDE FOR AUTHORS

INTRODUCTION

Aims and Scope

Science of the Total Environment is an international multi-disciplinary journal for publication of novel, hypothesis-driven and high-impact research on the total environment, which interfaces the atmosphere, lithosphere, hydrosphere, biosphere, and anthroposphere.

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• Global change-induced extreme events and environmental impacts
• Groundwater hydrogeochemistry and modeling
• Nanomaterials, microplastics, and other emerging contaminants
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