Science of the Total Environment is an international multi-disciplinary journal for publication of original research on the total environment, which includes the atmosphere, hydrosphere, biosphere, lithosphere, and anthroposphere.

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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

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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

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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

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Human exposure; Exposure assessment; Human health effects; Biomarkers; Food safety; Biomonitoring; Indoor pollution; Emerging contaminants; Legacy contaminants; Wastewater epidemiology

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Water quality; Water pollution; Water reuse; Water treatment; Stormwater pollutant processes; Integrated Water Resources Management; Water infrastructure resilience; climate change adaptation

**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

**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

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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

**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, Institute of Research on Terrestrial Ecosystems, National Research Council, Sesto Fiorentino, Florence, 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
Green chemistry/engineering; Soil/sediment remediation; Engineered biochar; Waste valorization; Resource recovery; Wastewater/stormwater treatment; Catalytic conversion/degradation; Pollutant transport; Environmental pollution | Sustainable urban development, urban wastes, contaminated land and water, waste management (food, wood, plastic agro, sludge), green remediation, wastewater treatment.

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
Constructed and natural wetlands; Plant nutrient uptake; Heavy metals in macrophytes; Macrophyte biomass and production; Eutrophication

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, Kogens 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, Nanjing, China

Warish Ahmed, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Land and Water Flagship, Dutton Park, Australia

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

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

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 Metsovian Polytechnic, Athens, Greece
Expertise in Waste management; Environmental monitoring and Risk assessment; Life cycle analysis; Soil and Groundwater decontamination; Geochemical/Thermodynamic modelling; Environmental economics

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 of Siena, Siena, Italy

Jayanta Kumar Biswas, University of Kalyani, Kalyani, India
Environmental pollution; Water and soil contamination; Biomonitoring; Toxic metal(loid)s; Ecotoxicology; Bioremediation; Environmental microbiology; Ecological engineering; Ecotechnology; Nanobiotechnology; Wastewater treatment

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**, School of Medicine, IISPV, Lab. Toxicology and Environmental Health, Universitat Rovira i Virgili, Reus, Catalonia, Spain  
Environmental health; Risk assessment; Persistent organic pollutants; Metals; Food contaminants; Toxicology

**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 García**, University of Cantabria, Santander, Spain  
Life Cycle Assessment; Circular Economy; Water-Energy-Food Nexus; Bioeconomy; Industrial Ecology

**Jorge Gardea-Torreda**, 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

**Andrew Gray**, University of California Riverside, Riverside, California, United States
Sediment transport; Hydrology; Water quality; Plastic pollution; Watershed sediment dynamics; Sedimentology; Paleoenvironmental analysis

**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

**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
Biogeochemical Cycling of Nutrients and Environmental Contaminants; Catchment Water Quality; Land Degradation; Climate Change Impacts on Soil Processes; Emerging Contaminants

**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**, Tecnologico de Monterrey, School of Engineering and Sciences, Monterey, 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

**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

**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

**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
Microbial biofilms; Biocaltalysis for biosynthesis; Biodegradation of cultural heritages; Microbial electrochemistry; Extracellular electron transfer; Bacterial syntrophy; Environmental microbiology; Fermentation engineering; Biofuel & biomass; Food microbiology and processing; Microbial ecology

**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
Applied and environmental microbiology; Freshwater microbiology; Drinking water and wastewater; Microorganisms; Pathogens; Biofilms; Antibiotic resistance; Water quality; Water pollution; Food safety; Monitoring

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

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 Martínez 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
Biotechnology, bioengineering, materials for water treatment, photocatalysi, Fenton, adsorption

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 Deptament of Soil Science and Agricultural Chemistry, Lugo, Spain
Diffuse pollution; Emerging pollutants; Sorption and desorption; Waste recycling; Water treatment systems

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

Fernando Pacheco-Torgal, University of Minho School of Engineering, Guimaraes, Portugal
Ec-efficient construction and building materials; Construction and demolition wastes; Geopolymers; Waste recycling; Durability; Mechanical properties; Alkali-activated cement-based binders; Concrete nanotechnology

Krishna Pagilla, University of Nevada Reno, Department of Civil and Environmental Engineering, Reno, United States

Xiangliang Pan, Zhejiang University of Technology, College of Environment, Zhejiang, China
Microplastics; Antibiotic resistance genes; Remediation; Ecotoxicology

**Anastasia K. Paschalidou**, Democritus University of Thrace Department of Forestry and Management of the Environment and Natural Resources, Orestiada, Greece
Air pollution meteorology; Urban meteorology; Dust transportation; Climate change; Environmental health / Environmental epidemiology; Biometeorology; Synoptic climatology; Dispersion Modeling; Air Quality Indices

**Momir Paunovic**, University of Belgrade, Belgrade, Serbia
Hydrobiology; Aquatic macroinvertebrates; Freshwater mollusks; Invasive aquatic species; Feeding of benthivorous fish; Functional analyses of aquatic ecosystems; Relation of aquatic biota and environmental variables; Bio-monitoring in freshwater; Genotoxicological investigations on aquatic organisms; Microbiology of freshwaters

**Alexandra Pavlidou**, Institute of Oceanography, Anavysos, Greece
Eutrophication and eutrophication indexes according to WFD and MSFD; Biogeochemical cycles and nutrient dynamics in marine environments (coastal and open sea)

**Jian Peng**, Peking University, Beijing, China

**Alexandre R. Péry**, Institute of Life and Environmental Sciences and Industries, Paris, France
Toxicokinetic modelling; Toxicodynamic modelling; Ecotoxicology; Mixtures; Integrated risk assessment

**Clemens Reimann**, Geological Survey of Norway, Trondheim, Norway
Geochemistry; Environmental Geochemistry; Biogeochemistry; Hydrogeochemistry; Regional Geochemistry; Geochemical mapping; Critical Zone Research; Soil chemistry

**Tiina Reponen**, University of Cincinnati, Cincinnati, Ohio, United States
Indoor air pollution; Exposure assessment; Bacteria; Fungi; Microorganisms; Microbiome; Biohazards; Monitoring

**Robert Risebrough**

**Anacleto Rizzo**, IRIDRA Srl, Florence, Italy
 Constructed Wetland; Nature-Based Solution for Wastewater Treatment; Sustainable Water Management; Sustainable Sanitation Modelling; Sustainable Urban Drainage Systems; Water Sensitive Urban Design; Low Impact Development; Green Infrastructure; Ecosystem Service

**Teresa Rocha-Santos**, University of Aveiro, Aveiro, Portugal
Micro(nano)plastic, Plastic, Microfibres, Organic contaminants, Marine monitoring, Environmental monitoring, Wastewater treatment, Biodegradation of microplastics, Sensors, Biosensors

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Ecotoxicology, Environmental Toxicology, Environmental Risk Assessment, Pesticides, Environmental Modeling

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**Mª Jesús Sánchez-Martín**, Institute for Natural Resources and Agrobiology of Salamanca, Salamanca, 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, Taiyuan, China
Environmental exposure and health risk of chemicals; Biological effect and toxic mechanism of environmental chemicals

**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

**Filippo Sgroi**, University of Palermo, Palermo, Italy

**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 biomonitors 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, Woolloongabba, 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, 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
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

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 Science, 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

Teng 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

Geographical Information System (GIS); Spatial analysis of environmental variables; Heavy metals; Organic carbon in soils/sediments; Precision Agriculture; E-Waste; Big Data in Environmental Sciences

Huichun 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

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
GUIDE FOR AUTHORS

INTRODUCTION

Aims and Scope

*Science of the Total Environment* is an international journal for publication of original research on the total environment, which includes the atmosphere, hydrosphere, biosphere, lithosphere, and anthroposphere.

The total environment is characterized where these five spheres overlap. Studies that focus on at least two or three of these will be given primary consideration. Papers reporting results from only one sphere will not be considered. Field studies are given priority over laboratory studies. The total environment is studied when data are collected and described from these five spheres. By definition total environment studies must be multidisciplinary.

Examples of data from the five spheres are given below:

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- Ecotoxicology and risk assessment
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- Environmental remediation
- Environmental sources, processes and global cycling
- Groundwater hydrogeochemistry and modeling
- Human health risk assessment and management
- Nanomaterials in the environment
- Noise in the environment
- Persistent organic pollutants
- Plant science and toxicology
- Remote sensing
- Stress ecology in marine, freshwater and terrestrial ecosystems
- Trace metals and organics in biogeochemical cycles
- Waste and water treatment

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