DESCRIPTION

Environmental Pollution is an international peer-reviewed journal that publishes high quality research papers and review articles about all aspects of environmental pollution and its effects on ecosystems and human health. The journal welcomes high-quality process-oriented and hypothesis-based submissions that report results from original and novel research and contribute new knowledge to help address problems related to environmental pollution at a regional or global scale.

Subject areas include, but are not limited to:
- Sources and occurrences of pollutants that are clearly defined and measured in environmental compartments, food and food-related items, and human bodies;
- Interlinks between contaminant exposure and biological, ecological, and human health effects, including those of climate change;
- Contaminants of emerging concerns (including but not limited to antibiotic resistant microorganisms or genes, microplastics/nanoplastics, electronic wastes, light, and noise) and/or their biological, ecological, or human health effects;
- Laboratory and field studies on the remediation/mitigation of environmental pollution via new techniques and with clear links to biological, ecological, or human health effects;
- Modeling of pollution processes, patterns, or trends that is of clear environmental and/or human health interest;
- New techniques that measure and examine environmental occurrences, transport, behavior, and effects of pollutants within the environment or the laboratory, provided that they can be clearly used to address problems related to regional or global environmental compartments.

Papers focusing on the following areas are likely to be returned to the authors without review:
- Routine surveys or monitoring programs primarily of local or regional interest;
- Descriptions of well-known contaminants, such as legacy pollutants, in yet another location;
- Studies relating to waste treatment that do not have specific relevance to pollution within the environment;
- Synthesis/fabrication of new materials solely for remediation and/or mitigation of pollution without any direct environmental relevance;
- Nitrogen or phosphorus deposition or biogeochemical processes with little or no relation to environmental consequences and/or climate change;
- Studies on eutrophication and secondary pollution by eutrophication without illuminating their governing mechanisms and factors.
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AUDIENCE

Pollution research workers including chemists, toxicologists, environmentalists, conservationists, botanists, marine scientists, ecologists, biologists.

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ABSTRACTING AND INDEXING

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Biological effects, environmental chemicals, infectious diseases, climate change, veterinary science, wildlife medicine, predatory mammals, raptorial birds, sea birds, fish, internal organs, reproductive organs, histopathology, morphology, skeletal system, bone density, immune system, endocrinology, PBPK modelling, blood biochemistry, implantation of PTT satellite transmitters, immobilization.

Eddy Zeng, Jinan University, Guangzhou, China
Persistent organic pollutants; Bioaccumulation; Human exposure; Health risk assessment; Inter-compartmental diffusion flux; Passive sampling; Wet and dry deposition

Special Issue Editor
Jörg Rinklebe, University of Wuppertal, Wuppertal, Germany

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

Wen Chen, Sun Yat-Sen University, Guangzhou, China
Environmental Toxicology; Chemical Carcinogenesis; Epigenetic Regulation; Biomarkers

Payam Dadvand, Barcelona Institute for Global Health, Barcelona, Spain
Epidemiological studies on the health effects of environmental factors.

Maria Cristina Fossi, University of Siena, Siena, Italy
Marine Pollution; Persistent Organic Contaminants; Aquatic Toxicology; Microplastic; Plastic, Marine Litter; Ecotoxicological biomarkers; Marine Mammals; Large marine vertebrates; Endocrine disruptors.

Sarah Harmon, University of South Carolina Aiken, Aiken, South Carolina, United States
Aquatic toxicology; Water pollution; Heavy metals toxicity; Fecal coliform pollution; Mercury toxicity.

Markus Hauck, University of Freiburg Faculty of Environment and Natural Resources, Freiburg, Germany
Global change ecology; Climate warming; Eutrophication; Acidic deposition; Heavy metals in terrestrial ecosystems; Land use; Lichen biology; Forest ecology

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

Klaus Kümmerer, Leuphana University of Lüneburg Institute for Sustainable and Environmental Chemistry, Lüneburg, Germany
Sustainable Chemistry, Green Chemistry, Green and Sustainable Pharmacy, Resources, Benign by Design, Environmental Chemistry, Time and sustainability

Bernd Nowack, Empa Technology and Society Laboratory, St Gallen, Switzerland
Nanomaterials, nanoparticles, microplastics, soil pollution, environmental risk assessment, life cycle assessment, chelating agents

Yong Sik Ok, Korea University, Korea Biochar Research Center, Chuncheon, Korea, Republic of
Biochar, Resilience, Soil remediation, Biomass, Bioenergy

Jörg Rinklebe, University of Wuppertal, Wuppertal, Germany
Soils, sediments, waters, plants, and their pollutions (in particular trace elements and nutrients) and linked biogeochemical issues with a special focus in redox chemistry; Remediation of soils and soil microbiology.

Philip Smith, TEXAS TECH UNIVERSITY, Lubbock, Texas, United States
Ecotoxicology, ecological risk assessment, wildlife toxicology.

Admir Crésô Targino, Federal Technological University of Parana Department of Physics, Londrina, Brazil
Air pollution in urban environments, Personal exposure to air pollutants, Urban climate, Aerosol measurement instrumention, Short-lived climate pollutants, Long-range atmospheric transport

Wen-Xiong Wang, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong
Metals, Ecotoxicology, Pollution, Biogeochemistry, Nanotoxicology

Charles Wong, Southern California Coastal Water Research Project, Costa Mesa, California, United States
Environmental organic chemistry, persistent organic chemicals, pharmaceuticals and personal care products, metabolites and transformation products, environmental/analytical chemistry, passive samplers, wastewater, ecotoxicology, bioaccumulation and food web interactions.

Baoshan Xing, University of Massachusetts Amherst Stockbridge School of Agriculture, Amherst, Massachusetts, United States
Engineered Nanoparticles; Organic Contaminants; Biochar; Soil Organic Matter; Sorption Of Organic Chemicals; nano/microplastic particles

Editorial Board

Dula Amarasiriwardena, Hampshire College, Amherst, Massachusetts, United States
Metal Pollution, environmental trace metal determination (ICP-MS, LA-ICP-MS), metal chemical speciation, toxic metals in soils, tissue level, elemental bioimaging, nanoparticles in environment, environmental remediation-metals, humic substances in the environment.

Lian-Jun Bao, Jinan University, Guangzhou, China
E-waste, flame retardants, organic chemicals, PAHs, microplastics.

Allen Barker, University of Massachusetts Amherst Department of Plant Soil and Insect Sciences, Amherst, Massachusetts, United States

Nigel Bell, Imperial College London, London, United Kingdom
Effects of air pollution on managed and natural ecosystems; radioecology; waste management.

Man Yu Bon, The Education University of Hong Kong, New Territories, Hong Kong
Persistent toxic substances; Soil contamination; Environmental pollution of electronic waste; Health risk assessments; Recycling of food waste

Juergen Burkhardt, University of Bonn, Germany
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

Alessandra De Marco, ENEA Casaccia Research Centre, Santa Maria di Galeria, Italy
Impacts of air pollution on vegetation, with particular interest on ozone and nitrogen deposition; climate change and air pollution interactions and their synergistic impacts on ecosystems; integrated assessment modelling for evaluating impacts of policies and measures to reduce air pollution; nitrogen cycle and nitrogen budget and their importance in agricultural field

Jean-Pierre Desforges, Aarhus University, Aarhus, Denmark
Marine mammals, immunotoxicity, ecologic modeling, population dynamics

Marisa Domingos, Brazilian Association of Environmental Mutagenesis and Genomics, Monte Alegre,Ribeirão Preto, Brazil
Environmental pollution and climatic change effects on natural vegetation, particularly in the tropics and subtropics, air-plant-soil interactions in polluted terrestrial ecosystems, physiologic, metabolic, structural/ultrastructural markers of increased plant tolerance against air pollutants and other environmental stressors, disturbances on nutrient dynamics in polluted terrestrial ecosystems, physiognomic/landscape disturbances in polluted terrestrial ecosystems, the search of innovative biomonitoring technics for evaluating risks posed by air pollutant, ozone, nitrogen and sulfur oxides, particulate matter, fluorine, trace metals, polycyclic aromatic hydrocarbons

**Paulo Renato Dorneles**, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

Ecology of pollutant exposure, sustainable and safe fisheries; mercury pollution, marine mammals

**Zafar Fatmi**, Aga Khan University, Karachi, Pakistan

Environmental epidemiology; air pollution; cognitive effects of air pollution; risk assessment, health effects of heavy metals

**Bin Gao**, University of Florida, Gainesville, Florida, United States

Biochar, nanoparticles, environmental nanotechnology, contaminant fate and transport, organics

**Martin Hansen**, Aarhus University, Aarhus, Denmark

Hormone-disrupting chemicals, endocrine disruptors, organic pollutants, exposome, metabolome and proteome in animal studies

**Frank von Hippel**, Northern Arizona University, Flagstaff, Arizona, United States

Perchlorate, OC pesticides, PCBs, PBDEs, PFCs, toxic metals (mercury, manganese, copper, arsenic) Ecotoxicology research incorporates molecular (gene expression), organismal (endocrine disruption, developmental disruption, behavior), and ecological approaches (stable isotopes) to solve problems in conservation biology and environmental health. A critical component of several of my larger research projects is community-based participatory research (CBPR) with indigenous people.

**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

**Magali Houde**, Environment and Climate Change Canada, Downsview, Ontario, Canada

Aquatic ecotoxicology, organic pollutants, toxicogenomics, biological effects, zooplankton and fish, bioaccumulation, impacts of waste water treatment plant effluent, emerging flame retardants, polyfluoroalkyl substances, marine mammals

**Paul Jagals**, University of Queensland, Brisbane, Queensland, Australia

Environmental risk assessment and impact assessment, health-related water quality, waste and sanitation, translating environmental health research into policy and practice

**M.P. Jonathan**, National Polytechnic Institute, Ciudad de Mexico, Mexico

**Haider Khwaja**, New York State Department of Health, Albany, New York, United States

Air pollution, black carbon, particulate matter, Asian megacities, water contamination

**Chunyang Liao**, Yantai Institute of Coastal Zone Research, Yantai, China

Emerging organic contaminants, endocrine disrupting chemicals, pesticides, environmental analytical chemistry, environmental behavior and fate, bioavailability, toxicological effects, and risk assessment

**Daohui Lin**, Zhejiang University, Hangzhou, China

Nanomaterials; Ecotoxicity; Nanotoxicity; Bioavailability; Colloidal behavior; Sorption

**Rainer Lohmann**, University of Rhode Island Coastal Institute, Narragansett, Rhode Island, United States

Passive samplers, POPs, sorption, bioaccumulation, atmospheric chemistry, marine pollution, long-range transport, oceans, black carbon, organic geochemistry.

**Lisbeth Lopez-Carrillo**

Epidemiology, breast cancer, arsenic, persistent organic pollutants, diet.

**Stefano Loppi**, University of Siena, Siena, Italy

Air quality, Air pollution, Biomonitoring, Biodiversity, Heavy metals, Lichens, plants

**Michael Lydy**, Southern Illinois University Carbondale, Carbondale, Illinois, United States

Pesticides, toxic effects on aquatic systems, pyrethroid insecticides, bioavailability, desorption-based samplers, sediment-associated organic contaminants, honey bees declines.

**Melissa A. McKinney**, McGill University Department of Natural Resource Sciences, Sainte-Anne-De-Bellevue, Quebec, Canada

Ecological change, environmental stressors, wildlife toxicology, fish, land and marine mammals

**Denise Mitrano**, Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland

Water quality analysis, analytical method development, nanomaterials, microplastics (including nanoplastic, microplastic fibers), life cycle thinking

**Kunihiko Nakai**, Tohoku University, Sendai, Japan
Heavy metals, persistent organic pollutants, epidemiology, birth cohort studies, risk assessment/analysis, methylmercury, Minamata convention

**Willie Peijnenburg**, Leiden University Institute of Environmental Sciences, Leiden, Netherlands
Risk assessment; Ecological risk assessment; Environmental fate and effect assessment; Nanoparticles; Bioavailability; Metals; Organics; Quantitative structure-activity relationships (QSARs); Transformation of chemical substances; Biodegradation; Abiotic transformations

**Elijah J. Petersen**, National Institute of Standards and Technology, Cell Systems Science Group, Gaithersburg, Maryland, United States
Nanomaterials, carbon nanomaterials, standardization, nanoeotoxicity, carbon nanotubes.

**Stergios Pirintsos**, University of Crete Voutes Campus, Iraklion, Crete, Greece
Biomonitoring of air pollution, trace elements and nitrogen using lichens, climate change issues and lichens, lichens and hydrogen production, lichen physiology and pollution, sensitivity issues of lichens, lichen diversity and vegetation in Mediterranean ecosystems.

**Hakan Pleijel**, University of Gothenburg, Gothenburg, Sweden
Ozone (effects on vegetation), carbon dioxide (effects on vegetation), urban ecology (especially air pollution in relation to vegetation), temporal and spatial variation in air pollution exposure, crops (especially effects of air pollutants on growth and nutrient content), deposition of air pollutants, weather and climate dependence of air pollution, climate change effects on crops.

**Markus Puschenreiter**, University of Natural Resources and Life Sciences Vienna, Wien, Austria
Heavy metals/trace elements in soils and plants, rhizosphere processes involved in metal/trace element acquisition, soil remediation technologies / phytoremediation

**Sabry M. Shaheen**, University of Wuppertal, Wuppertal, Germany
Heavy metals, trace elements, soil and environmental science, waste management, risk assessment.

**Richard Shore**, Centre for Ecology & Hydrology Lancaster Site, Lancaster, United Kingdom

**Stefania Squizzato**, University of Rochester, Rochester, New York, United States
Atmospheric Sciences, focusing on the identification of sources in different PM fractions, application of statistical tools to the study of air pollution, particulate matter sampling and analytical determination of inorganic composition using IC, ICP-OES and ICP-MS

**John Ssempebwa**, Makerere University, Kampala, Uganda
Environmental pollution, PAHs, water and sanitation, occupational health

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

**Jason Unrine**, University of Kentucky, Lexington, Kentucky, United States
Nanomaterials, metals, soils, contaminant fate, bioavailability, agriculture, ecosystem services, radionuclides, synchrotron methods

**John Ssempebwa**, Makerere University, Kampala, Uganda
Environmental pollution, PAHs, water and sanitation, occupational health

**Doris Vetterlein**, Helmholtz Centre for Environmental Research UFZ Department of Soil System Research, Halle, Germany
Courtney Waugh, Norwegian University of Science and Technology, Trondheim, Norway
Toxicology, disease and immunology of wild, captive and domestic animals

**Yanhong Wei**, Sun Yat-Sen University, Guangzhou, China
Persistent organic pollutants, zebrafish, cardiovascular toxicology, developmental toxicology, toxicity pathways

**Jason White**, Connecticut Agricultural Experiment Station, New Haven, Connecticut, United States
Nanotoxicology, food safety, bioremediation and phytoremediation.

**Paul Williams**, Chinese Academy of Sciences, Beijing, China
Toxic trace elements, 2D high-resolution chemical imaging, rhizosphere chemistry, soil-plant interactions, diffusive gradients in thin films (DGT), arsenic/selenium biogeochemistry, bioavailability of metals, human health impacts of arsenic, cadmium and lead, urban & sustainable agriculture, advanced analytical approaches for contaminant quantification, soil & water pollution.

**Feng Xiao**, University of North Dakota, Grand Forks, North Dakota, United States
Perfluorochemicals (PFCs) and perfluoroalkyl substances (PFASs); Perfluorooctanoate (PFOA) and perfluorooctane sulfonate (PFOS); Biochar, char, soot, black carbon, and activated carbon, absorption. water chemistry, drinking-water treatment, emerging contaminants and environmental monitoring, geographic Information system; exploratory data analysis; exposure assessment.

**Scott Young**, University of Nottingham, Nottingham, United Kingdom
Bioavailability, speciation and mobility of trace metals and radioisotopes in the environment and specifically with the geochemical controls over trace element deficiency and toxicity.
Yunjiang Yu, South China Institute of Environmental Science, Guangzhou, China
Environmental occurrence and fate of emerging contaminants, ecological toxicology of pollutants, risk assessment of chemicals

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

Fangjie Zhao, Nanjing Agricultural University, Nanjing, China
Biogeochemistry of trace elements, uptake and detoxification of heavy metals in plants, bioremediation.

Jian Zhao, Ocean University of China, Qingdao, China

Qing Zhao, Chinese Academy of Sciences, Beijing, China
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Introduction
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