Special Issue

Neurotoxicity, Immunotoxicity, and Metabolic Dysfunction of Plastic Pollution in Freshwater and Marine Species

Message from the Guest Editors

The focus of research has been on the fate, distribution. and toxicity of micro- and nanoplastics in invertebrate and vertebrate species, and several studies have quantified plastics in various tissues of aquatic species. Biological responses to plastic exposure can include oxidative stress, immune dysfunction, metabolic disruption, and other endpoints of toxicity. This Special Issue will highlight plastic toxicity research conducted in aguatic animal species, with a special emphasis on their neurotoxicology and behavioral effects. Original contributions and reviews that investigate the potentially toxic outcomes of plastic exposure and their additives in invertebrates and vertebrates inhabiting freshwater and marine environments are encouraged. This Special Issue also welcomes any submission focusing on neuronal endpoints in aquatic animal models, in order to better understand how plastic contamination impacts the central nervous system and neurological health. Studies leveraging molecular approaches to discern the mechanisms of neurotoxicity underlying plastics, such as transcriptomics, proteomics, metabolomics, or lipidomics, are encouraged.

Guest Editors

Prof. Dr. Christopher J. Martyniuk

Center for Environmental and Human Toxicology, Department of Physiological Sciences, University of Florida, 2187 Mowry Rd. Bldg. 471, P.O. Box 110885, Gainesville, FL 32611, USA

Dr. Xuefang Liang

School of Ecology and Environment, Inner Mongolia University, Hohhot 010021, China

Deadline for manuscript submissions

31 March 2026



Toxics

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/159987

Toxics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
toxics@mdpi.com

mdpi.com/journal/toxics





Toxics

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 6.4
Indexed in PubMed



About the Journal

Message from the Editor-in-Chief

Toxics (ISSN 2305-6304) is an international, peer-reviewed, open access journal which provides an advanced forum for studies related to all aspects of toxic chemicals and materials. We aim to publish high quality work that furthers our understanding of the exposure, effects, and risks of chemicals and materials in humans and the natural environment as well as approaches to assess and/or manage the toxicological and ecotoxicological risks of chemicals and materials. Please consider publishing in *Toxics* when preparing your next paper.

Editor-in-Chief

Dr. Demetrio Raldúa

Department Environmental Chemistry, IDAEA-CSIC, Jordi Girona 18, 08034 Barcelona, Spain

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Embase, CAPlus / SciFinder, AGRIS, and other databases.

Journal Rank:

JCR - Q1 (Toxicology) / CiteScore - Q1 (Chemical Health and Safety)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.1 days after submission; acceptance to publication is undertaken in 1.9 days (median values for papers published in this journal in the first half of 2025).

