

The Development and Application of Environmental Fate and Exposure Models for Persistent and Mobile Chemicals

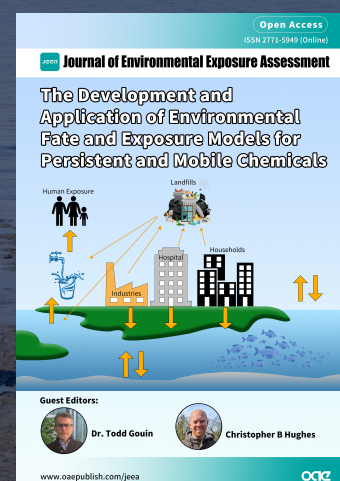
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Special Issue Introduction

Persistent and mobile (PM) chemicals may be hazardous to drinking water sources if released into the environment and have received significant attention recently as chemicals of concern. As a result, various regulatory agencies have initiated activities aimed at screening and prioritizing chemicals that may have properties consistent with persistence and mobility. A recent report by the German Environment Agency applied a specific set of criteria to 15469 REACH registered substances, of which 224 met the criteria for PM, although a significant number were identified as having insufficient data to make a conclusion.

While screening chemicals based on a select number of properties represents one approach towards identifying PM chemicals, evaluating their exposure and the associated risk is an important component in the management and regulation of chemicals used in commerce. An important challenge, in the instance of PM chemicals, is that many of these chemicals tend to have properties outside the applicability domain of both environmental fate models and test systems. As an example, mobility is screened based on the relative magnitude of the organic-carbon water partition coefficient, which assumes that the sorption mechanism of the chemical is largely influenced by its interactions with organic carbon. However, this may not always be the case, such as for ionizable and polar organics, for which interactions with other components of soils may prove to be more or less important.

Over the last number of years, there have been a number of developments in environmental fate and exposure models that have worked towards expanding the applicability domain to better estimate the environmental fate and transport of more challenging chemical substances. It is envisioned that such developments can be used to better support the assessment of exposure to PM chemicals in drinking water.

This Special Issue, entitled "The Development and Application of Environmental Fate and Exposure Models for Persistent and Mobile Chemicals", will focus on the development and application of models to characterize and quantify the impact of emission sources, the environmental fate and mobility of PM chemicals in the environment with an emphasis on estimating exposure in drinking water. Potential topics include:

- Analytical and methodological advances in PM identification and measurement;
- Occurrence, temporal and spatial distribution of PM chemicals in waters used as drinking water sources;
- Development and application of environmental fate and exposure models for PM chemicals;
- Development and application of physiologically-based pharmacokinetic models used to estimate the fate and distribution of PM chemicals in humans;
- Risk characterisation of PM chemicals.

We cordially invite all scholars and researchers in these fields to submit your contributions (i.e., original research papers, review articles, commentaries, and editorials) for publication in this Special Issue.

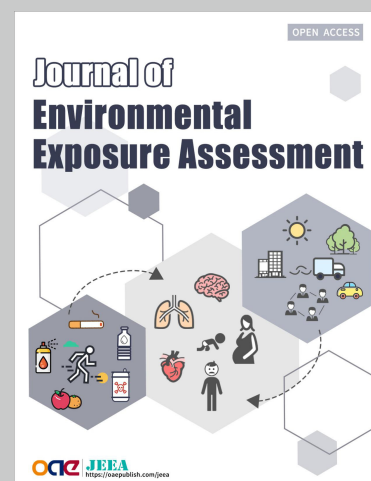
Submission deadline: 30 Sep 2023

Benefits to Authors

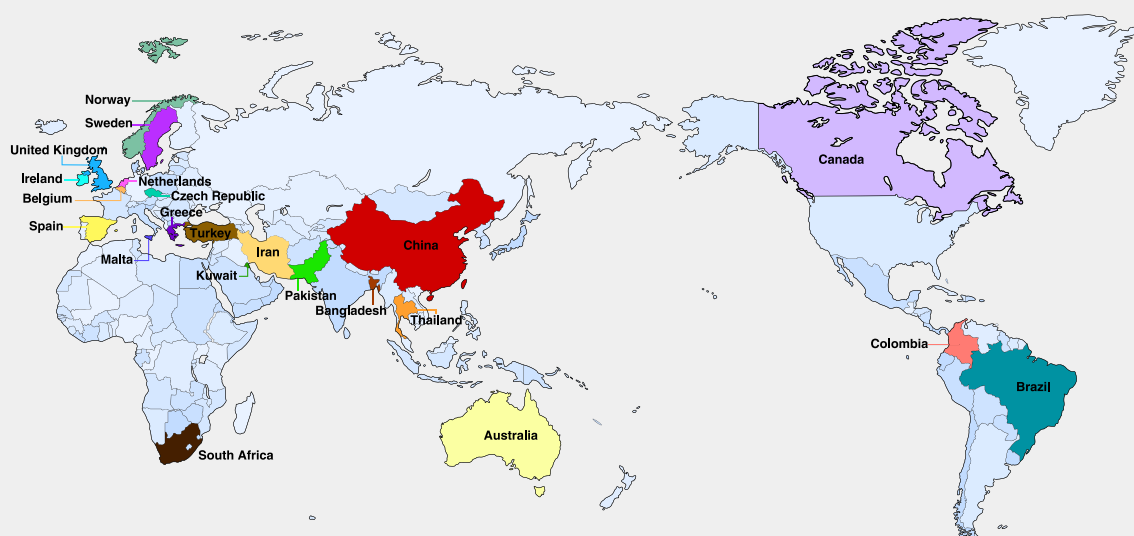
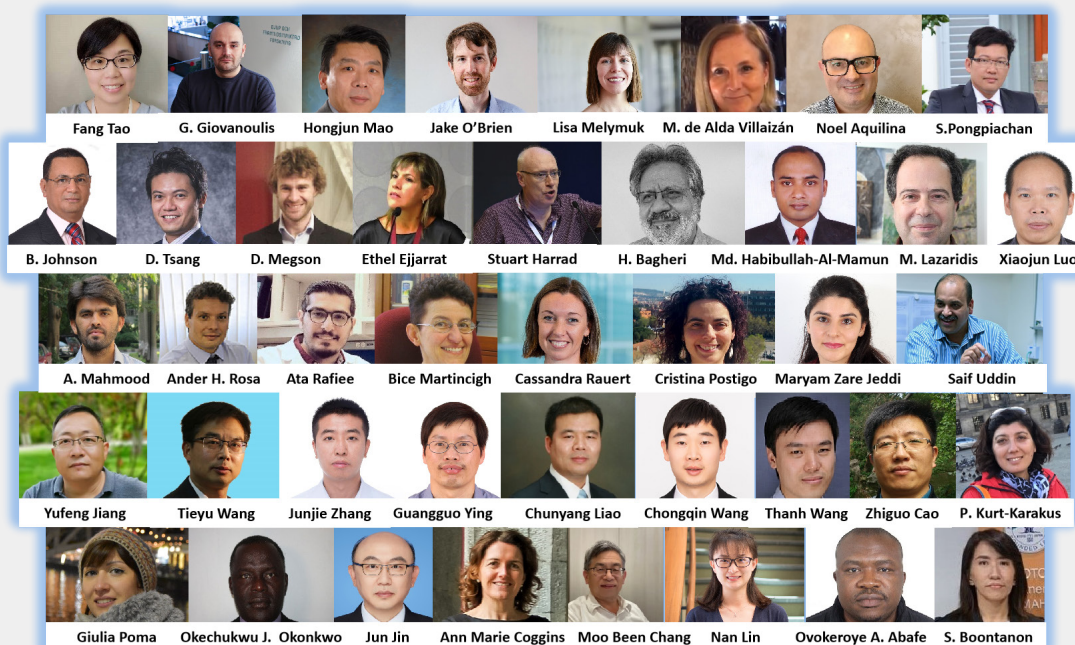
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Journal Introduction:

Journal of Environmental Exposure Assessment (JEEA) is an international peer-reviewed, open access journal. *JEEA* aims to be one of the preferred journals for publishing high-quality research by experts in this area. The journal is founded by OAE Publishing Inc., under the guidance of our Editor-in-Chief Professor Stuart Harrad (University of Birmingham, UK). *JEEA* was officially launched on July 28, 2021, and the first issue has been released online in January 2022. Looking forward to your attention and cooperation!



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