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Contaminant Transport Modeling in Aquatic Environments

Guest Editors:

Dr. Jun Song Kim
Department of Civil and Environmental Engineering, Hankyong National University, Anseong-si, Republic of Korea

Dr. Dong-Kyun Kim
International Center for Water Security & Management (i-WSSM), Hwaseong-si, Republic of Korea

Dr. Donghae Baek
Korea Environment Institute, Sejong, Republic of Korea

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Message from the Guest Editors

Dear Colleagues,

The fate and transport of contaminants can generally be analyzed via the advection–dispersion–reaction process. In natural water bodies such as rivers and streams, however, the dispersive behavior of contaminants cannot be adequately explained using conventional advection–dispersion models due to vegetation, dead zones, and flow recirculation around structures, which delay transport and thereby induce non-Fickian mixing. Also, flow exchange at water–sediment interfaces, known as hyporheic flow, exerts significant control on non-Fickian transport. Water quality substances undergo reactions depending upon surrounding environmental conditions, leading to changes in their concentrations.

This Special Issue welcomes contributions related to the modeling and prediction of diverse water quality issues like harmful algal bloom, eutrophication, microplastics, suspended sediments, and accidental pollution spills with not only the development of advanced mathematical and numerical models but also machine-learning- and remote-sensing-based models.

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Editor-in-Chief

Dr. Jean-Luc PROBST
Laboratory of Functional Ecology and Environment, Centre National de la Recherche Scientifique (CNRS), University of Toulouse, Campus ENSAT, Auzeville Tolosane, France

Message from the Editor-in-Chief

In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

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Contact Us

Water Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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mdpi.com/journal/water
water@mdpi.com
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