Special Issue

Physical and Mathematical Fluid Mechanics

Message from the Guest Editor

Fluid mechanics has emerged as a basic concept for nearly every field of technology. Despite a well-developed mathematical theory and available commercial software codes, the computation of solutions of the governing equations of motion is still challenging, especially due to the nonlinearity involved, and there are still open questions regarding the underlying physics of fluid flow, especially with respect to the continuum hypothesis and thermodynamic local equilibrium. The aim of this Special Issue is to reference recent advances in the field of fluid mechanics both in terms of developing sophisticated mathematical methods for finding solutions of the equations of motion, on the one hand, and on novel approaches to the physical modeling beyond the continuum hypothesis and thermodynamic local equilibrium, on the other hand.

Keywords

- analytical and numerical methods
- variational calculus
- deterministic and stochastic approaches
- incompressible and compressible flow
- shock waves
- thermodynamic local equilibrium
- continuum hypothesis
- advanced mathematical methods

Guest Editor

Prof. Dr. Markus Scholle

Institute for Flow in Additively Manufactured Porous Media (ISAPS), Heilbronn University, Max-Planck-Straße 39, D-74081 Heilbronn, Germany

Deadline for manuscript submissions

closed (31 March 2020)

Water

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0

mdpi.com/si/27277

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

mdpi.com/journal/water

Water

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0

mdpi.com/journal/water

About the Journal

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.

Editor-in-Chief

Dr. Jean-Luc PROBST
Centre de Recherche sur la Biodiversité l'Environnement (CRBE) UMR CNRS/UPS/INPT/IRD, Centre National de la Recherche Scientifique (CNRS), University of Toulouse, Campus ENSAT, Auzeville Tolosane, Toulouse, France

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, GEOBASE, GeoRef, PubAg, AGRIS, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Water Resources) / CiteScore - Q1 (Aquatic Science)

MDPI