



## Advances of Mathematical Modeling in Fluid Mechanics

Guest Editor:

**Prof. Dr. Alejandro Zacarías**

Sección de Estudios de Posgrado  
e Investigación, ESIME  
Azcapotzalco, Instituto  
Politécnico Nacional, Av. de Las  
Granjas No. 682, Col. Santa  
Catarina, Mexico City 02250,  
Mexico

Deadline for manuscript  
submissions:

**closed (30 September 2024)**

### Message from the Guest Editor

Dear Colleagues,

The mathematical modeling of fluid mechanics has great relevance, mainly due to the multiple applications of statics and fluid flow in the process industry. Although advances in experimental techniques make it possible to predict fluid flow in some applications, experimental methods cannot reveal in detail all the physical mechanisms behind fluid flow. Therefore, it is necessary to develop modeling and simulation techniques to better understand the physics of fluid flow. Mathematical modeling and simulation are useful for obtaining detailed information that cannot be revealed from experiments, as well as for examining the effect of various physical parameters on fluid flow behavior. This Special Issue focuses on the recent advances of mathematical modeling in fluid mechanics, emphasizing its recent developments and its use in many industrial and academic applications. We welcome papers on new modeling techniques that address the key issues and difficulties inherent in simulating fluid mechanics.





an Open Access Journal by MDPI

## Editor-in-Chief

### **Prof. Dr. Humberto Bustince**

Department of Statistics,  
Computer Science and  
Mathematics, Public University of  
Navarra, 31006 Pamplona, Spain

## Message from the Editor-in-Chief

*Axioms* is dedicated to the foundations (structure and axiomatic basis, in particular) of mathematical theories, not only from a crisp or strictly classical sense, but also from a fuzzy and generalized sense. This includes the more innovative current scientific trends, devoted to discover and solve new challenging problems. The prime goal of *Axioms* is to publish first-class, original research articles under an open access policy with minimal fees for the authors. We would be pleased to welcome you as one of our authors.

## Author Benefits

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

**High visibility:** indexed within SCIE (Web of Science), dblp, and other databases.

**Journal Rank:** JCR - Q1 (Mathematics, Applied)

## Contact Us

---

*Axioms* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/axioms](http://mdpi.com/journal/axioms)  
[axioms@mdpi.com](mailto:axioms@mdpi.com)  
[X@Axioms\\_MDPI](https://twitter.com/Axioms_MDPI)