

Special Issue

Machine Learning and Numerical Modeling in Sustainable Energy and Environmental Applications

Message from the Guest Editors

This Special Issue welcomes original research articles, reviews, methodological developments, case studies, and benchmarking analyses that address, but are not limited to, the following topics:

- Machine learning and deep learning models for energy and environment applications;
- Hybrid approaches combining artificial intelligence with numerical simulations and physics-based models;
- Computational Fluid Dynamics (CFD) and multi-physics models coupled with data-driven methods;
- Remote sensing applications for environmental monitoring and renewable energy assessment;
- Satellite and ground-based data integration using machine learning and numerical modeling;
- Solar, wind, biomass and other renewable energies forecasting, resource assessment, and optimization;
- Green hydrogen systems, smart grid integration, and sustainable process design;
- Air and water quantity and/or quality prediction, environmental risk assessment, and climate-related modeling;
- Uncertainty quantification, interpretability, and transferability in AI-enhanced models.

Guest Editors

Prof. Dr. Paulo Rocha

Mechanical Engineering Department, Technology Center, Federal University of Ceará, Fortaleza 60020-181, CE, Brazil

Prof. Dr. Matheus Pereira Porto

Department of Mechanical Engineering, Federal University of Minas Gerais (UFMG), Belo Horizonte 31270-901, MG, Brazil

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

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About the Journal

Message from the Editor-in-Chief

Environmental issues are quickly becoming central political, economic and academic topics of the twenty-first century. A large number of modern challenges are directly or indirectly caused by complex interactions between environmental issues. Such issues require interdisciplinary research, knowledge and insights to understand and, ultimately, for solutions to be found. Through the journal *Environments*, we strive to create a platform for meaningful discourse by accepting contributions from a wide range of fields. We sincerely hope you will consider publishing your distinguished work in this highly-accessible, peer-reviewed journal.

Editor-in-Chief

Prof. Dr. Sergio Ulgiati

1. Department of Science and Technology, Parthenope University of Naples, Centro Direzionale, Isola C4, 80143 Napoli, Italy
2. School of Environment, State Key Joint Laboratory of Environment Simulation and Pollution Control, Beijing Normal University, No. 19 Xijiekouwai Street, Beijing 100875, China

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.6 days after submission; acceptance to publication is undertaken in 3.5 days (median values for papers published in this journal in the first half of 2026).