## Special Issue

## Recent Advances in Hydro-Mechanical Turbines: Powering the Future

### Message from the Guest Editors

The power sector is responsible for 40% of global carbon emissions, making it the single largest contributor to global warming. The low-carbon transformation process of the power industry is crucial to the realization of human society producing net zero carbon emissions in the future. In order to ensure the consumption of new energy with strong volatility, the importance of hydropower as the basic power supply in future power systems will increase, while the most promising energy storage facility-pumped storage projects will also effectively smooth out the fluctuations in renewable energy, ensuring the stability of the power grid. This Special Issue aims to present and disseminate the most recent advances related to the theory, design, modeling, application, control, and condition monitoring of all types of Hydro-Mechanical Turbines. Topics of interest for publication include, but are not limited to, the followina:

- Recent advances in hydro turbines
- Electric motor/generator technology for hydro turbine units
- Optimization design method for hydraulic machinery
- Recent advances in modeling methods

#### **Guest Editors**

Dr. Yexiang Xiao

State Key Laboratory of Hydroscience and Engineering, Department of Energy and Power Engineering, Tsinghua University, Beijing 100084, China

Prof. Dr. Ruofu Xiao

College of Water Resources and Civil Engineering, China Agricultural University, Beijing 100083, China

### Deadline for manuscript submissions

closed (24 October 2025)



# **Energies**

an Open Access Journal by MDPI

Impact Factor 3.2 CiteScore 7.3



mdpi.com/si/192566

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

mdpi.com/journal/ energies





# **Energies**

an Open Access Journal by MDPI

Impact Factor 3.2 CiteScore 7.3



### **About the Journal**

### Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

### Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

### **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, RePEc, Inspec, CAPlus / SciFinder, and other databases.

### Journal Rank:

CiteScore - Q1 (Control and Optimization)

