

Special Issue

Computational Fluid Dynamics Simulations for Wind Turbines

Message from the Guest Editors

Computational fluid dynamics (CFD) is a powerful tool to predict numerically liquid and gas flows in many industrial applications. Wind energy is a natural application of CFD where air flows around wind turbines and generates renewable energy by rotating the turbine blades. Wind energy includes multiple scales of fluid flow phenomena, i.e., from the aerodynamics of turbine blades and wakes generated up to microclimate and atmospheric boundary layer weather conditions. Furthermore, different scales interact as atmospheric flows define wind conditions at a wind-farm scale and further down to a turbine scale. CFD can be integrated with optimization algorithms in the search for optimal shape design or optimal control. Model-based optimization examples include, e.g., optimal design of blade geometry and micro-siting in complex terrain.

Guest Editors

Prof. Dr. Jari Hämäläinen

Lappeenranta-Lahti University of Technology (LUT), Lappeenranta Campus, Skinnarilankatu 34, FI-53850 Lappeenranta, Finland

Dr. Jordi Pallares

Departament d'Enginyeria Mecànica, Universitat Rovira i Virgili, 43003 Tarragona, Spain

Deadline for manuscript submissions

closed (5 November 2021)



Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



mdpi.com/si/58519

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

[mdpi.com/journal/
energies](https://mdpi.com/journal/energies)





Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



[mdpi.com/journal/
energies](https://mdpi.com/journal/energies)



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)