Special Issue

Computational and Experimental Fluid Dynamics for Wind Energy

Message from the Guest Editor

Numerical simulation and computational fluid dynamics (CFD) play a pivotal role in advancing wind energy research, offering a virtual laboratory to analyze complex fluid flow phenomena around wind turbines. The significance lies in their ability to predict aerodynamic forces, assess turbine performance, and optimize designs without the need for extensive physical experiments. Numerical simulations provide insights into the intricate interactions between the atmosphere and wind turbine components, aiding in the development of more efficient and reliable wind energy systems.

This Special Issue aims to present the most recent advances, including methodologies and applications, related to numerical simulations and computational fluid dynamics in the field of wind energy. Topics of interest for publication include, but are not limited to, the following: advances in numerical methods for fluid dynamics, CFD of single turbine or wind farm flow dynamics, novel turbine blade design, advances in wind farm control, and interactions between atmospheric boundary layer flow and wind farms, among others.

Guest Editor

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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.

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