Special Issue

Data-Driven Modeling and Applications for Flow, Heat Transfer, and Combustion

Message from the Guest Editors

Data-driven methodologies have become a crucial tool for understanding flow dynamics, heat transfer phenomena, and reacting flows across various domains of applications. This Special Issue explores computational approaches and experimental diagnoses combined with machine learning methods for single- and multi-phase flows, heat and mass transfer processes, and reacting flows, with applications pertinent to combustion engines, turbomachinery, and power generation systems. We invite original research articles, review articles, and technical notes that contribute to the advancement of knowledge in this interdisciplinary field. Topics include, but are not limited to, the following:

- Data-driven turbulence modeling and closures;
- Data-driven models for turbulence/chemistry interaction;
- Data-driven models for mass and heat transfer processes;
- Machine learning for combustion chemistry acceleration;
- Machine learning for fluid dynamics data analysis;
- Machine learning for flow control and detection.

Guest Editors

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Deadline for manuscript submissions

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You are invited to contribute either a research article or a comprehensive review for consideration and publication in *Processes* (ISSN 2227-9717). *Processes* is published in open access format – research articles, reviews, and other content are released on the internet immediately after acceptance. The scientific community and the general public have unlimited, free access to the content. As an open access journal, *Processes* is supported by the authors and their institutes through the payment of article processing charges (APCs) for accepted papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

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