Recent Advances in Computational Methods in Fluid Dynamics and Applications, Volume II

Guest Editor:

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Message from the Guest Editor

With nearly five decades of development, there have been tremendous advancements in the basic building blocks of computational fluid dynamics (CFD), namely, geometry modeling and mesh generation, numerical algorithms for the solution of fluid dynamics equations, and turbulence modeling. A large number of proprietary and commercial CFD codes have been developed that are now routinely used in all industrial applications involving fluid flow. Nevertheless, new advances continue to emerge in all building blocks of CFD. In this Special Issue, papers are invited from researchers on higher-order spatial and temporal numerical schemes, entropy stable schemes, gas-kinetic schemes, algorithms for overset meshes and adaptive meshes, parallel algorithms, analysis of algorithms, uncertainty quantifications, verification and validation, large data and machine learning algorithms, and other advanced topics. Papers are also invited on wall-modeled and wall-resolved methods for DES, LES, and DNS, as well as new turbulence models for RANS. Papers on large-scale CFD computations using advanced algorithms are especially welcome.

Special Issue

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Message from the Editor-in-Chief

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