Special Issue

Advances in Computational Dynamics and Mechanical Engineering

Message from the Guest Editor

We are interested in papers addressing topics ranging from the novel application of existing mathematical tools in fluid dynamics to the development of novel numerical schemes to solve existing problems with the involvement of heat or mass transfer. This includes but is not limited to the following topics: (a) the use of standard numerical tools (e.g., finite difference, finite volume, finite element, meshless methods); (b) mass and energy conservation using new numerical methodologies, including their validation with benchmarking cases; (c) high-performance computing, including new parallel computing algorithms; (d) extendibility to dealing with more multiphysics phenomena such as magnetohydrodynamics (MHD), electrohydrodynamics (EHD), non-Newtonian flows, phase changes, nano-fluids, etc.; (e) the extension of the aforementioned methodologies to three-dimensional modeling and massively parallel computing in order to handle real-life problems; (f) mathematical modeling of multiphysics phenomena.

Guest Editor

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Deadline for manuscript submissions

closed (30 June 2025)

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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