Special Issue

Applied Numerical Analysis and Computing in Mechanical Engineering

Message from the Guest Editors

This Special Issue aims to present recent advancements and cutting-edge research focused on computational methods and numerical analysis applied specifically to mechanical engineering problems. The scope encompasses the development, validation, and application of numerical techniques such as finite element analysis, computational fluid dynamics, boundary element methods, meshless methods, optimization algorithms, and machine learning-based numerical approaches. Papers exploring innovative solutions to challenging mechanical problems—including structural dynamics, thermal analysis, fluid mechanics, materials characterization, and design optimization are welcomed. Emphasis is placed on studies demonstrating novel methodologies, improvements in computational efficiency, and accuracy enhancement. Contributions highlighting practical engineering applications and the integration of computational methods with experimental validation are particularly encouraged. The Issue aims to foster interdisciplinary collaboration, pushing forward the frontiers of mechanical engineering through advanced computational strategies.

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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