

Special Issue

Methods and Applications of Fluid–Structure Interaction

Message from the Guest Editor

Fluid-structure interaction (FSI) is the interaction of some movable or deformable structure with internal or ambient fluid flow. Examples of such interaction are the rotation of wind turbines, the flight of birds and insects, the self-propulsion of fish, vibrations of structures in a stream, the movement of fluid in elastic tubes, etc. The interaction of fluid and structure is an important factor in the design of many engineering systems, such as automobiles, aircraft, spacecraft, engines, and bridges. Fluid–structure interaction problems are often too complex to solve analytically and so they have to be analyzed by means of experiments or numerical simulation. Research in the fields of computational fluid dynamics and computational structural dynamics is still ongoing but the maturity of these fields enables numerical simulation of fluid-structure interaction. This book will contain state-of-the-art contributions to these rapidly growing research areas. It will be of essential value to mathematicians, physicists, and engineers working in the fields of fluid-structure interaction as well as of related phenomena, and to researchers working in medicine and the life sciences.

Guest Editor

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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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