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Coupled CFD Problems with Moving Boundaries and Interfaces

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Deadline for manuscript submissions:
closed (31 August 2019)

Message from the Guest Editors

The development of powerful techniques for solving coupled problems involving flows with moving boundaries and interfaces has been an important research area in Computational Fluid Dynamics over past two decades. This has been motivated by the fact that a wide range of engineering problems involve moving boundaries. Particularly, this is the case for the CFD problems that contain free surfaces and/or various phases (fluid–gas, fluid–solid, gas–solid). Despite the fact that the main classes of approaches for modeling the evolution of boundaries/interfaces are established (Level Set, Volume-of-Fluid, Lagrangian interface tracking), their application to many problems of industrial interest remains challenging. Often, their application to "real-life" cases requires additional "ingredients" in order to ensure their proper functionality.

The aim of this Special Issue is to collect papers where coupled problems of industrial interest characterized by the presence of moving boundaries are solved. This issue also aims at highlighting and discussing the limitations of the existing methodologies when applied to real-life problems.

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Message from the Editorial Board

Mathematical and Computational Applications (*MCA*) is devoted to the dissemination of original research in the field of engineering, natural sciences and social sciences where mathematical and/or computational techniques are necessary for solving specific problems. The aim of the journal is to provide a medium by which a wide range of experience can be exchanged among researchers from diverse fields such as engineering (electrical, mechanical, civil, industrial, aeronautical, nuclear, etc.), natural sciences (physics, mathematics, chemistry, biology, etc.) and social sciences (administrative sciences, economics, political sciences, etc.).

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