

FLUID-STRUCTURE INTERACTION IN INTERFACE AND MOVING BOUNDARY PROBLEMS

*Christian Peco*¹ and Koji Nishiguchi² and Tomohiro Sawada³ and Naoto Mitsume⁴*

¹The Pennsylvania State University

²Nagoya University

³National Institute of Advanced Industrial Science and Technology (AIST)

⁴University of Tsukuba

MINISYMPOSIUM

Fluid-structure interaction (FSI) development is fundamental in the analysis of boundary and interface problems in science and engineering. This mini-symposium welcomes topics that overcome relevant challenges in the field and advance the feasibility of simulation-driven applications involving interfaces. Works on complex behavior at the interface in biological, mechanical, aeronautical, and civil engineering FSI applications are encouraged. Contributions in the scope of this gathering include, but are not restricted to, novel computational frameworks, new discretization and high-order approaches, theoretical developments, phase-field and advanced interface capturing techniques, coupling strategies, Eulerian and arbitrary Lagrangian-Eulerian (ALE) hydrocodes, and high-performance computing. Presentations focusing on thorough methodology comparison and implementation details of new algorithms and methods are relevant to this meeting. Recent trends in Machine Learning techniques for accelerating interface FSI problems in engineering are also of interest in this mini-symposium. We aim to bring together experts from academia and industry to foster a collaborative environment of exchange and discovery and discuss the most recent advances and research directions in FSI.