

Minisymposium Title

Numerical Methods for Fluid Structure Interaction

Description

Fluid-structure interaction (FSI) has been an important research field in mechanics with significant and diverse applications in engineering. Since FSI involves multi-physics and even multi-scale nowadays, it has been a challenging problem to analyze. In theoretical studies, numerical simulations have been commonly adopted for investigation of FSI. Numerous numerical methods have been proposed to study FSI. For example, ALE and immersed boundary methods are both well-known approaches for simulations of FSI starting from the early years. Cut-cell and meshless methods were also proposed for FSI study in past decades. This mini-symposium will focus on the state-of-the-art numerical approaches for exploring FSI since plenty of engineering problems like, just name a few, estimating performance of a wind turbine, drag reduction of vehicles, energy harvesting from FSI, vortex-induced vibration (VIV), continuously require new algorithms in this field to modify computing efficiency and resolve harder and harder problems encountered today. Contributions on the developments of new algorithms, modifications of old ones and up-to-date application examples and findings are welcome in this mini-symposium.

Lead Organizer:

Prof. Tzyy-Leng Horng, Department of Applied Mathematics, Feng-Chia University,
TAIWAN

Email: tlhorng@math.fcu.edu.tw

Co-organizers:

Prof. Ming-Jyh Chern, Department of Mechanical Engineering, National Taiwan
University of Science and Technology, TAIWAN

Email: mjchern@mail.ntust.edu.tw

Prof. Chuan-Chieh Liao, Department of Mechanical Engineering, Chung Yuan
Christian University, TAIWAN

Email: calin@pme.nthu.edu.tw

Prof. Chin-Cheng Wang, Department of Mechanical Engineering, Yuan-Zhi University,
TAIWAN

Email: ccwang@saturn.yzu.edu.tw