



## Lecture No. 49

**Czech Society for Mechanics  
and Institute of Thermomechanics, CAS**

invite you to a lecture and discussion within  
the lecture series **Institute of Thermomechanics Seminar**

### **Developments in Fluid-Structure Interaction Modeling and Analysis**

given by

**Prof. K. C. Park**

Center for Aerospace Structures, and Department of Aerospace Engineering Sciences  
University of Colorado, Boulder

The talk offers some recent developments in modeling, analysis and some applications of external and internal fluid-structure interaction (FSI) problems, largely based on the speaker's experience. We begin by reviewing classical internal flow characterizing sloshing and its interaction with the liquid containers. We then introduce the origin of a staggered solution procedures to tackle external FSI solution tracing back to the 1970s. We introduce a modern continuum mechanics-based formulation of incompressible and/or nearly incompressible flows interacting structures. Finally, we discuss some improvements in approximate modeling of external acoustic-structure interaction problems by the boundary element method and its computational performance.

**The lecture will be held on Friday, June 1, 2018 at 10:00 in the building  
of the Institute of Thermodynamics (lecture room B), Dolejšková 5, 182 00 Prague 8**