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ADVANCED NUMERICAL MODELS FOR INDUSTRIAL APPLICATIONS BASED ON THE OPENFOAM LIBRARY

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ABSTRACT

The OpenFOAM library is nowadays the leading free, open-source software for computational fluid dynamics and is widely used in many research and development projects carried on in a variety of industrial sectors (including automotive, aerospace, naval, chemical and energy).

This Invited Session aims at gathering academic and industrial experiences in which the OpenFOAM library has been used as computational core in the development of numerical models applied to different industrial applications.

The invited talks will cover different numerical methodologies including reduced order modeling, multiphysics coupling, immersed boundary method, shape and topology optimization, as well as a wide range of CFD application featuring complex phenomena such as fluid-structure interaction, aero-acoustics, turbulence and free-surface.