



# MINI-SYMPOSIUM

## SIMULATION AND OPTIMIZATION OF FLUID FLOW, HEAT AND MASS TRANSFER

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**Keywords:** Numerical computation, symbolic computation, optimization

**Abstract** *The minisymposium aims at providing a forum for presentation and discussion of scientific results concerning both numerical and optimization problems specific to fluid flow, heat and mass transfer in science and engineering. Topics of this mini-symposium include, but are not limited to, numerical methods and applications related to:*

- *Multidimensional fluid flows, heat and mass transfer;*
- *Multi-phase fluid flow problems;*
- *Free surface, environmental and geophysical flows;*
- *Shock waves, combustion and explosions;*
- *Biological fluid flows;*
- *Porous media;*
- *Renewable and non-renewable energies;*
- *Microfluidics and nanofluidics;*
- *Fluid-structure interaction;*
- *Multiphysics involving fluid flow and heat transfer;*
- *Model order reduction;*
- *Design optimization;*
- *Topology optimization.*