



Special Issue on
**Computational Heat and Mass Transfer and Fluid
Flow through Complex Passages for Emerging
Applications**

CALL FOR PAPERS

The progress of emerging engineering devices requires an in-depth knowledge of the transport processes through various complex geometry passages. However, the accuracy and precision of the numerical techniques depend on a range of parameters including geometrical features, discretization scheme, computational grid, and the numerical algorithm. Thus, an important question to answer is to determine an optimal method that provides sufficiently accurate solutions with minimum computational cost.

This special issue focuses on the latest advances in numerical and computational modelling of convective transport phenomena through complex geometry passages. Original research articles as well as review articles on CFD methods and their applications are welcomed in this special issue.

Potential topics include, but are not limited to:

- ▶ Convection, conduction, and radiation heat transfer as well as their combinations
- ▶ Flow in porous media and its application
- ▶ Special fluids: non-Newtonian fluids, micro- and nanofluids, MHD, PCM, and so on
- ▶ Transitional and turbulent flows
- ▶ Multiphase flows
- ▶ Fluid-structure interactions
- ▶ Advances in numerical methods (FVM, FEM, FDE, LBM, DSMC, MD, etc.)
- ▶ Hybrids numerical methods
- ▶ Meshless techniques
- ▶ High-performance computation, parallel processing, and cloud computing
- ▶ Validation, verification, and uncertainty quantification of commercial as well as open source software
- ▶ Application of numerical modelling in renewable energies, meteorology, agriculture, aerospace, civil, chemical, mechanical, corrosion, material, ocean, offshore, pipeline, manufacturing, and biomedical engineering

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/tswj/mechanical.engineering/chmt/>.

Lead Guest Editor

M. R. Safaei, University of Malaya,
Kuala Lumpur, Malaysia
cfdsafaei@yahoo.com

Guest Editors

Arash Karimipour, Islamic Azad
University, Isfahan, Iran
arashkarimipour@gmail.com

Kamel Hooman, The University of
Queensland, Brisbane, Australia
k.hooman@uq.edu.au

Marjan Goodarzi, University of Malaya,
Kuala Lumpur, Malaysia
marjan_g_2003@yahoo.com

Goodarz Ahmadi, Clarkson University,
Potsdam, USA
ahmadi@clarkson.edu

Ali Tamayol, Massachusetts Institute of
Technology, Cambridge, USA
ata42@sfu.ca

Manuscript Due

Friday, 12 December 2014

First Round of Reviews

Friday, 6 March 2015

Publication Date

Friday, 1 May 2015