

ADVANCED COMPUTATIONAL MECHANICS IN REAL-WORLD APPLICATIONS

MICHELE GIRFOGLIO^{*}, GIOVANNI STABILE^{*}, ANDREA MOLA[†] AND GIANLUIGI ROZZA^{*}

^{*} SISSA - Scuola Internazionale Superiore di Studi Avanzati
Mathematics Area, mathLab
Via Bonomea 265, 34136 Trieste, Italy
mgirfogl@sissa.it, gstabile@sissa.it, grozza@sissa.it

[†] IMT, Alti Studi, Lucca, Italy
Piazza S. Francesco 19, 55100 Lucca, Italy
andrea.mola@imtlucca.it

ABSTRACT

This minisymposium deals with advanced numerical methods for the solution of partial differential equations governing complex industrial phenomena.

This Invited Session aims at gathering academic and industrial researchers working on research projects in a wide variety of industrial sectors including automotive, aerospace, naval, chemical and energy.

The invited talks will cover different numerical methodologies including multiphysics, immersed/embedded/virtual boundary methods, finite elements, finite volumes and boundary element methods, shape optimization, and a wide range of computational mechanics applications featuring complex phenomena such as fluid-structure interaction, nonlinear mechanics, turbulence, compressibility and multi-phase interfaces, heat exchange etc.

Real-life applications from engineering, including data science problems are strongly encouraged and welcome.