

Special Issue on “ECCOMAS MSF 2015”

Preface

This special issue gathers the selected papers from ECCOMAS MSF 2015 Thematic Conference, which was held in Sarajevo, the capital of Bosnia and Herzegovina, June 10-12, 2015. The conference was already the second one in series started by the previous conference organized at ENS-Cachan, in Paris, France. The thematic conferences of ECCOMAS provide an optimal framework to focus upon interdisciplinary problems, much representative of the current applications domains of interest for computational methods with particular attention to multiscale approach. The latter involves methods which bridge phenomena taking place at multiple scales in space and time and which ought to be placed in interaction or accounted for simultaneously in order to provide the most reliable explanations. This class of problems calls for the development and combination of different analytical tools (homogenization, asymptotic analysis) and computational methods (parallel computing, stochastic analysis) in order to advance the field towards currently relevant nonlinear applications.

The number of potential application domains and problems that can be successfully tackled in truly vast at present. Many of them are shortly discussed in Proceedings (Ibrahimbegovic et al. 2015), including: Heterogeneous materials, Masonry structures, Complex structures, Localized failure modeling, Mechanics of porous media, Multi-phase flows ...to mention only a few. The selected papers for this special issue are in that sense indeed representative, related to multiscale homogenization approach, large deformations, dynamics and localized failure, different heterogeneous materials, such as masonry, timber, steel, then statistical methods for water plant treatment etc. Rather than making a detailed outline of each paper selected for this special issue, we invite the potential readers to do their own exploration. I hope this will be an enjoyable one, and I thank all the authors of this special issue for their contribution towards this goal.

References

Ibrahimbegovic, A., Ghidaglia, J-M., Serdarevic A., Ilic-Georgijevic, E., Hrasnica M., Dolarevic S., Ademovic N., (2015), “2nd International Conference on Multiscale Computational Methods for Solids and Fluids”, Proceedings, Univ. Press, GF Sarajevo, Bosnia, website: <http://www.gf.unsa.ba/eccomas-msf-2015/proceedings.pdf>

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