

MiniSymposium (MS) proposal for International Conference on Nonlinear Solid
Mechanics (ICoNSoM 2022)

13 Jun 2022 - 16 Jun 2022

Title. “**Methods of computational mechanics and simulation oriented to civil engineering.**”

Abstract

This MS aims at favoring a fruitful debate within the engineering community on advanced computational methods oriented to civil applications. Contributions to this MS are welcome, investigating the possible role of numerical analysis and simulations for the prediction of nonlinear phenomena in a multiphysics and multiscale framework, thus contributing to filling the gap between the academy and the engineering practice. In particular, as an indicative list absolutely not exhaustive, the following topics are included in the MS: multiscale modelling of heterogeneous structures (such as reinforced masonry elements), coupling between chemical-physical processes and thermomechanical response of materials and structures (possibly affected by ageing phenomena), mathematical and stochastic methods for calibration/validation of predictive tools, structural monitoring and diagnostics of existing structures.

Organizers and biographical sketches:

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Gabriele Milani, Eng. PhD, is Full Professor at the Department of Architecture, Built Environment and Construction Engineering. He was born in Cittadella-PD (Italy) in 1977. PhD in Civil and Industrial Engineering, MSc in Civil Engineering, both at the University of Ferrara, Italy.

From 2019: Full Professor, Mechanics of Solids and Theory of Structures, Technical University of Milan, Italy.

Previously, Associate (2014-2019) and Assistant Professor (2008-2014), Technical University of Milan, Italy, Post Doctoral Researcher, Swiss Federal Institute of Technology ETH Zurich, Switzerland (2008) and Post Doctoral Fellow, University of Ferrara, Italy (2004-2008).

He has 398 SCOPUS records (accession date 30 April 2020), he published more than 210 indexed International Journal Papers, 11 Chapters in books, more than 250 Presentations at Conferences. h-index 41 (SCOPUS), more than 5400 total citations.

Reviewer for more than 250 papers in about 70 journals and 10 conferences. EB member in 8 journals and 7 congresses, editor in chief of a journal dedicated to masonry (International Journal of Masonry Research and Innovation by Inderscience Publishers) and a generalist journal in civil engineering (Open Civil Engineering Journal by Bentham Science), chairman in several congresses.

His scientific interests are: masonry, historical constructions, structural analysis, limit analysis, FEM, homogenization theory, FRP reinforcement, genetic algorithms (GA), rubber vulcanization, elastomeric seismic isolators.

Most Cited Author Years 2006-2010 Diploma, Computers & Structures. Telford Premium Award 2012, by the UK Institution of Civil Engineering. K.J. Bathe Award 2014, chair professor Yangzhou University, PRC (2019-2020).



Roberto Fedele, Eng., PhD, is Associate Professor of Solid Mechanics, Department of Civil and Environmental Engineering (DICA), Politecnico di Milano, Milan, Italy. Roberto Fedele, born in 1973, is currently associate professor of Solid Mechanics at Politecnico di Milano (Milan, Italy). In 2017 he got the habilitation as full professor. His main research interests concern experimental and computational mechanics of materials and structures in multidisciplinary frameworks, with a special emphasis on modelling of cracks, joints and interfaces and on inverse problems (identification of constitutive parameters, 2D and 3D-Volume Digital Image Correlation, X-ray microtomography). He is author or coauthors of tenths of papers on peer review journals and of numerous extended contributions in conference proceedings. He has spent several periods abroad also invited as visiting professor (France, Switzerland, Poland), and has been involved as principal investigator or local unit coordinator in several multidisciplinary projects funded by Private Foundations (CARIPLO), local and national Institutions (Regione Lombardia, MISE, MIUR).



Nicola Cefis, Eng., PhD, is a Post Doc Fellow at the Department of Civil and Environmental Engineering (DICA), Politecnico di Milano, Milan, Italy.

Nicola Cefis was born in Bergamo, Italy on December 28, 1987. He graduated in Civil Engineering and he doctorate in Structural, Seismic and Geotechnical Engineering both in Politecnico di Milano, Italy. He is co-author of publications on theoretical, numerical and experimental mechanics of concrete subjected to sulfate attack and dynamic of structures and he is author of one book with teaching focus. He has been involved, as a teaching assistant (since 2012) and adjunct professor (since 2017), in several courses of structural mechanics and structural engineering at Politecnico di Milano. His scientific interests are theoretical models, computational aspects and experimental procedures in materials mechanics and structural engineering.