



**Conference Chairmen and  
Co-Editors**

Professor **Barry Topping**

(Heriot-Watt University, UK and Pecs  
University, Hungary)

Professor **Peter Ivanyi**

(Pecs University, Hungary)



**CIVIL-COMP 2019**

■ The Sixteenth International Conference on ■  
■ Civil, Structural and Environmental Engineering Computing ■  
■ 16-19 September 2019 ■ Riva Del Garda, Lake Garda, Italy ■

**CIVIL-COMP 2019**

"MS-TBD"

<http://www.bhvt.uk/c19/cc.html>

Submission of abstracts through the  
Conference web-site:

<http://www.civil-compconf.com/>

**Conference Plenary Speakers**

List currently being prepared

**MINISYMPOSIUM**

**CC 21. "Multiscale and Multiphysics  
Modelling for Complex Materials (MMCM13)"**

Professor **Patrizia Trovalusci**,  
Dr **Nicholas Fantuzzi** and  
Dr **Egidio Lofrano**, Italy

**Contact Information**

Nicholas Fantuzzi [nicholas.fantuzzi@unibo.it](mailto:nicholas.fantuzzi@unibo.it)

DICAM Department, University of Bologna, Italy

**16th International Conference on  
Civil, Structural and Environmental  
Engineering Computing  
(CIVIL-COMP 2019)**

**Riva del Garda, Italy  
September 16–19, 2019**



**International Symposium on  
Multiscale and Multiphysics  
Modelling  
for Complex Materials  
MMCM13**

**Patrizia Trovalusci  
Nicholas Fantuzzi  
Egidio Lofrano**

**deadline for abstracts:  
April 15 2019**

## MMCM13 Description

This symposium will provide a forum to present and debate several advanced computational methods for studying the behavior of materials and structures. The goal is to gather researchers (engineers, physicists, mathematicians) specialized in computational mechanics and numerical modelling for simulating the mechanics of solids and structures. The computational aspects will play a central role, but papers can focus on broad range of numerical aspects either related to the material modelling or the structural one.

In this framework, the interest and suitability of multiscale strategies will be highlighted. The focus will be set on computational issues, while still highlighting the underlying conceptual and theoretical basis.

## Coordinators

### Professor Patrizia Trovalusci

Department of Structural and Geotechnical Engineering,  
*Sapienza* University of Rome, Italy

Email: [patrizia.trovalusci@uniroma1.it](mailto:patrizia.trovalusci@uniroma1.it)

website: <https://sites.google.com/a/uniroma1.it/multiscale-and-multiphysics-modelling-for-complex-materials/>

### Dr. Nicholas Fantuzzi

DICAM Department, University of Bologna,  
*Alma Mater Studiorum*, Italy

Email: [nicholas.fantuzzi@unibo.it](mailto:nicholas.fantuzzi@unibo.it)

### Dr. Egidio Lofrano

Department of Structural and Geotechnical Engineering,  
*Sapienza* University of Rome, Italy

Email: [egidio.lofrano@uniroma1.it](mailto:egidio.lofrano@uniroma1.it)

## MMCM13 Topics

With these aims in mind, contributions from all aspects of engineering applications, with particular attention to structural engineering applications, will be considered. Topics of applications will include (but not be limited to):

### Materials with micro(/nano)-structure

- Composites, Fiber-Reinforced, Laminated
- Granular, Masonry-Like, Cementitious
- Biomaterials
- Random Materials

### Complex material behaviour

- Damage, Fracture, Defects, Cracks
- Non-Classical Continua
- Poromechanics, Fluid Flow
- Thermomechanics, Viscosity

### Non-standard/Non-local continuous formulation

- Micromorphic continua
- Multifield, Configurational/Material
- Non-local models
- Dispersive Wave Propagation

### Computational Methods for non-standard continua

- Computational Methods for generalized continua
- Coupled Discrete-Continuum Methods
- Advanced Finite Elements Method
- Virtual Elements Method

### Inverse problems

- Inverse techniques for multiphysics
- Recent algorithms for optimal solution search
- Detection and characterization of material/structural properties and damage

## CIVIL-COMP 2019

This is the sixteenth in the CIVIL-COMP series of conferences concerned with the application of computers to civil, structural and environmental engineering. The first Civil-Comp Conference was held in 1983. The conference will provide a forum for the presentation and dissemination of recent developments in the use of computers in civil, structural and environmental engineering. A major objective of the conference will be to link research and innovative ideas to engineering practice. Presentations describing technology transfer from recent research projects to practical projects are encouraged.

This conference runs concurrently with CIVIL-COMP-OPTI 2019: The Fifth International Conference on Soft Computing and Optimization in Civil, Structural and Environmental Engineering. Participants may attend sessions, lectures and presentations from either conference.

### Special Issues

Authors of accepted abstracts who present their papers at the conference may submit their full papers for review for publication in one of the two conference special issues of the international "Computers and Structures" and "Advances in Engineering Software".

Final papers should comply with the aims and scope of the journals to which they are submitted and make a clear contribution to the state of the art.

An Author Seminar will be held during the conference. Authors who wish to submit to the journal special issues are encouraged to attend the Author Seminar where they will hear some essential tips to aid in the preparation of their journal special issue papers. The speakers at the Author Seminar will be Carrie Christensen (Publisher, Elsevier, New York) and Professor Barry Topping (Editor of the Special Issues).