



UNIVERSITY OF TRENTO - Italy



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

**EUROPEAN
MECHANICS
SOCIETY**

ESMC 2018

10th European Solid Mechanics Conference



July 2-6, 2018
Bologna, Italy

www.esmc2018.org

GENERAL LECTURER

Prof. Bernhard Schrefler, University of Padova

PLENARY LECTURERS

Prof. Lorna Gibson

Prof. Odd Sture Hopperstad

Prof. Ray W. Ogden

Prof. Thomas Pardoën

Prof. Zhigang Suo

MINI SYMPOSIA

Mechanics of Materials

Mechanics of Composite Materials

Pedro Camanho, Josep Costa

The Virtual Concrete Lab: Modelling the Behaviour of Concrete from Fresh State to Long Term Durability

Günter Hofstetter, Liberato Ferrara

Architected Materials

Katia Bertoldi, Damiano Pasini, Patrick Onck

Mechanics of Textile Composite Reinforcements and Fibrous Materials

Philippe Boisse, Stepan Lomov

Micro and Nano Mechanics Systems

Horacio Espinosa, Vittorio Ferrari, Attilio Frangi, Fiorella Pantano

Multiscale Modelling of Polycrystalline Materials

Javier Segurado, Ricardo A. Lebensohn

Shape Memory Alloys – Modelling, Numerical Algorithms and Applications

Stefanie Reese, Stanisław Stupkiewicz

Topology Optimization for Additive Manufacturing

Fred van Keulen, Pierre Duysinx

Modelling of Fracture in Hard and Soft Materials

Roberta Massabò, Chad Landis

Graphene and Related Materials and Systems

Costas Galiotis, Nicola Pugno

GENERAL SESSIONS

Biomechanics

Composite Materials and Homogenization Theory

Computational Mechanics

Continuum Mechanics

Dynamics, Waves, and Metamaterials

Experimental Mechanics

Mechanics of Materials

Multifield and Multiscale Problems

Structural Mechanics

Biomechanics

Brain Mechanics

Antoine Jerusalem, Alain Goriely

Cell Mechanics

José Manuel Garcia Aznar, Patrick McGarry, Paolo Bisegna

Mechanics and Shape Control of Biological Membranes and Thin Structures

Marino Arroyo, Antonio DeSimone, Giovanni Noselli

Mechanics of Silk: from Molecules to Orb-webs

Frauke Graeter, Nicola Pugno

Mechanics of Soft Biological Tissues

Gerhard A. Holzapfel, Ray W. Ogden

Cardiovascular Biomechanics and Mechanobiology: from Basics to Clinical Applications

Christian Cyron, Alessandro Veneziani

Mechanics of Mineralised Tissues and Biomaterials

Anna Tampieri, Marco Viceconti

Continuum Mechanics

Contact Mechanics

Michel Raous, Peter Wriggers, Giorgio Zavarise

Constitutive Models for Smart and Active Materials

Nick Triantafyllidis, Pedro Ponte Castañeda

Homogenization Strategies for Multiphase and Active Materials

Issam Doghri, Kostas Danas

Material Instabilities

Ahmed Benallal, Henryk Petryk

Mechanics of Granular Media: Experiments, Theory and Modelling

Alessandro Gajo, Ken Kamrin, Stefan Luding

Mechanics and Physics of Solids and Structures

Sebastien Neukirch, Benoit Roman, Keith Seffen, Francesco Dal Corso

Multi-Physics of Solids at Fracture

Bernhard Schrefler, Gennady Mishuris, Alexander Linkov

Nonlinear Elasticity

Roger Bustamante, Luis Dorfmann, Yibin Fu, Patrizio Neff

Recent Advances in Damage Mechanics

Claudia Comi, Jean-Jacques Marigo

The Physics of Dense Granular Media

Robert Behringer, Lou Kondic, Corey O'Hern

Mechanics of Generalized Continua with Cohesion-adhesion Interactions and their Applications to Size-dependent Thin Structures

Holm Altenbach, Nikita Morozov, Francesco dell'Isola, Sergey Lurie

Generalized Continua

Panagiotis Gougiotis, Patrizio Neff, Victor Eremeyev

Rivlin's Legacy in Solid Mechanics

Michel Destrade, Tommaso Ruggeri, Giuseppe Saccomandi

Fatigue and Tribology

Filippo Berto, Michele Ciavarella, Daniele Dini

Experimental Mechanics

Experimental Micromechanics and Nanomechanics

Gerhard Dehm, Jon Molina-Aldareguía, Miguel Monclus

In-situ Mechanical Characterization of Materials

Eric Maire, Thomas Pardoen

Computational Mechanics

Advanced Strategies for Computational Modelling of Material Failure

Guenther Meschke, Angelo Simone

Cohesive-zone Modelling – Advances and Challenges

Albert Turón, Giulio Alfano, Bent F. Sørensen

Geometry and Discretization

Alessandro Reali, Annalisa Buffa

Models and Numerical Methods for Coupled Problems in Mechanics

Ignacio Romero, Adrian Lew

Non-local Models for Damage and Fracture

Ugo Galvanetto, Erkan Oterkus

Mechanics in Energy Harvesting and Storage

Alberto Salvadori, Angelo Simone, Robert McMeeking

Advances in Analytical and Discretization Methods for Discontinuities and Singularities

Antonio Tralli, Elena Benvenuti, N. Sukumar

Dynamics, Waves, and Metamaterials

Nonlinear Dynamics in Mechanical and Structural Systems

Sergey Sorokin, Jon Juel Thomsen, Giuseppe Rega

Elastic Metamaterials

Alexander Movchan, Sebastian Guenneau, Diego Misseroni

Dynamic Failure and Phase Transition in Structured Media

Gennady Mishuris, Michael Nieves, Andrea Piccolroaz, Bernd Markert

Structural Mechanics

Beam, Plate and Shell Finite Elements based on non-Classical Theories of Structures

Erasmus Carrera, Francisco Chinesta

Steel Structures: Mechanics, Simulation and Testing

Nuno Silvestre, Leroy Gardner

Mechanics of Tensegrity Structures and Multifunctional Lattice Materials

Fernando Fraternali, Robert E. Skelton

Instabilities in Structural Mechanics and Fluid-Structure Interactions

Oleg Kirillov, Olivier Doare

Smart Materials and Structures

Michele Brun, Vincent Pagneaux

Structural Analysis of Real Historic Buildings

Maurizio Angelillo, Santiago Huerta

Composite Materials and Homogenization Theory

Micromechanics-based Nonlocal Continuum Models

Lorenzo Bardella, Samuel Forest

Computational Homogenization of Nonlinear Composites

Elio Sacco, Djimédo Kondo, Felix Fritzen, Sonia Marfia

Inelastic Processes in Heterogeneous Materials: Formulations, Uncertainty Quantification, Computations

Adnan Ibrahimbegovic, Hermann Matthies

Multifield and Multiscale Problems

Multi-scale Solids and Homogenisation

Natasha Movchan, Daniel Colquitt, Ross McPhedran

Reaction Diffusion Problems in Mechanics

Marco Paggi, Ricardo Ruiz Baier, Fabrizio Davi

Variational Methods in Constitutive Modelling for Multi-physics Problems

Anna Pandolfi, Laurent Stainier, Kerstin Weinberg

Modeling of Additive Manufacturing Processes

Ferdinando Auricchio, Simone Morganti, Ernst Rank, Stefan Kollmannsberger



CONFERENCE SCIENTIFIC COMMITTEE

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ABSTRACT SUBMISSION

Authors wishing to contribute to the conference through the General Sessions or a Mini-Symposium are invited to submit a two-page abstract. Abstracts have to be submitted online using a template which will be downloaded from the conference web site. The conference programme will include only the accepted abstracts. Abstract submission will open on July 15th, 2017. **The deadline for abstract submission is November 15th, 2017.**

CONFERENCE FORMAT

The Conference will last five days (Monday to Friday). One afternoon will be reserved for optional organized trips. In addition to the invited lectures, there will be the "EUROMECH Solid Mechanics Prize" lecture. An award ceremony for EUROMECH Fellows will be held and two "Young Researcher" and one "Best Poster" awards will be assigned. Further details will be available on the conference web site www.esmc2018.org.

VENUE

The conference will be held in the Palazzo della Cultura e dei Congressi of Bologna.

Bologna is the capital of the Emilia-Romagna Region and is located in the Northern part of Italy. It is a city full of art and culture and home of the oldest University in the Western world – Alma Mater Studiorum – founded in 1088. The very special urban fabric, the cultural heritage, and the remarkable architecture make Bologna a warm and welcoming city. The centre of the city, with its well preserved

Medieval layout, is famous for its porticoes, that extend for more than 40 kilometers, and for the ancient towers. Bologna, with its international airport "Guglielmo Marconi", is well connected with almost all the main European cities. Finally, its strategic location makes Bologna a major road and railway hub, which is extremely well connected with all Italian cities.

ACCOMODATION

Bologna has an age-old tradition of hospitality with high-quality hotel accommodations that include a wide range of solutions. The choice spans from charming old-style hotels to world famous modern, international hotels. A number of hotels are located within walking distance from the conference venue. Additional hotels, in centre of the city, can be conveniently reached by bus. Further details will be available on the conference web site www.esmc2018.org.

ABOUT EUROMECH

EUROMECH — the European Mechanics Society is an international non-governmental non-profit scientific organization, whose objective is to engage in all activities intended to promote in Europe the development of mechanics as a branch of science and engineering. Activities within the field of mechanics range from fundamental research on the behaviour of fluids and solids to applied research in engineering. The approaches used comprise theoretical, analytical, computational and experimental methods. Further details are available on www.euomech.org.



REGISTRATION

The registration fees include the conference program, participation in all sessions, lunch and coffee breaks, a reception and the conference banquet. Each registered participant will be allowed to present one oral talk or poster.

Early Registration (up to March 31st, 2018)		
	EUROMECH members	Non-EUROMECH members
Regular	600€	625€
Students	350€	350€
Late Registration (after March 31st, 2018)		
	EUROMECH members	Non-EUROMECH members
Regular	650€	675€
Students	400€	400€

SOCIAL PROGRAMME

The social programme will include a reception on Monday evening. The Conference banquet will be held on Thursday evening. An additional fee will apply for those accompanying persons who wish to attend the banquet. Optional tourist programme will be organized on the free afternoon, and details will be published on the conference web site.

SECRETARIAT

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