

Location

Prague, the capital of the Czech Republic, is a romantic city with a uniquely preserved historic core. The conference venue will be the Faculty of Civil Engineering on the Dejvice campus of the Czech Technical University, just 15 minutes by taxi from the Prague airport and 15 minutes on foot from the Prague Castle.



The conference will be hosted by the Czech Technical University in Prague, which celebrates 300 years since its establishment by an imperial decree in 1707.

Registration Fee

The fee covers the book of abstracts, attendance at all scientific sessions, refreshments during breaks, welcome drink, concert with reception and conference banquet. Lower rates apply to payments received no later than 31 March 2007.

	Early	Late
Delegates	300	400
Students	150	200

Social Programme

A social programme for accompanying persons will be arranged, including a concert and sightseeing tours.

Accommodation

A wide selection of lodging facilities is available, ranging from student hostels to luxury hotels. For details and reservation forms please follow the link on the conference web site or contact the conference secretariat.

Conference Secretariat

Conference Partners Prague Ltd.
Sokolska 26
120 00 Prague 2
Czech Republic
Phones: +420 224 262 108 - 10
Fax: +420 224 261 703
Email: mhm2007@conference.cz

An ECCOMAS Thematic Conference

MHM 2007 is one of the Thematic Conferences of the European Community on Computational Methods in Applied Sciences (ECCOMAS). For further information on ECCOMAS visit www.eccomas.org.



MHM 2007

International Conference on Modelling of Heterogeneous Materials with Applications in Construction and Biomedical Engineering

Prague, Czech Republic, 25-27 June 2007



<http://mech.fsv.cvut.cz/mhm2007>

Objectives

Virtually all natural and man-made materials exhibit a heterogeneous internal structure if they are observed on a sufficiently fine scale of resolution, and many of them contain pores filled by one or more pore fluids. Realistic description of deformation and failure mechanisms in such materials, as well as of their transport properties, still remains a major challenge of contemporary mechanics and physics. Moreover, in some cases the internal microstructure evolves in time due to chemical reactions or biological processes that often involve interaction with the environment.

The aim of this conference is to gather specialists in modelling of heterogeneous materials who work in different domains of application but face similar general problems. Attention will focus on theoretical modelling and numerical simulation on multiple scales, but contributions dealing with advanced experimental techniques, especially on the nano- and micro-level, are equally welcome. The specific materials to be considered will be e.g. concrete and other cement-based composites, rocks and soils, polymers, bones, or soft biological tissues.

Conference Topics

- multiscale modelling of heterogeneous materials
- multi-phase, multi-field modeling of porous media
- homogenization of elastic and inelastic behaviour
- homogenization of transport properties
- damage and fracture on multiple scales
- modelling of failure: from strain localization to discrete fracture
- bifurcations, instabilities and discontinuities in heterogeneous materials
- modelling of evolving microstructure
- interface between chemistry and mechanics
- growth, remodelling, adaptation and repair in biological tissues, self-healing and repair of structural materials
- modelling of biological tissues in health and disease
- nano-mechanics of proteins and molecules
- electroactive materials, magnetoelastic interactions in elastomers and polymers
- microplane models
- microstructure characterization and reconstruction
- discretization techniques for complex microstructures
- microstructure visualization and image processing
- parameter identification, inverse analysis and sensitivity assessment

Conference Chairmen

Zdeněk Bittnar, Czech Technical University
Herbert Mang, Vienna University of Technology

Technical Advisory Panel

Zdeněk P. Bažant,
Northwestern University
Ted Belytschko,
Northwestern University
Ignacio Carol,
UPC Barcelona
Stephen C. Cowin,
The City College of New York
Felix Darve,
Institut National Polytechnique de Grenoble
Wolfgang Dienemann,
Heidelberg Cement Technology Center
Manuel Doblare,
University of Zaragoza
Luc Dormieux,
Ecole Nationale des Ponts et Chaussées
Wolfgang Ehlers,
Universität Stuttgart
Dariusz Gawin,
Technical University of Lodz
Fred Glasser,
University of Aberdeen
Christian Hellmich,
Vienna University of Technology
Gerhard A. Holzapfel,
KTH Stockholm

Jacques M. Huyghe,
Technical University Eindhoven
Hamlin Jennings,
Northwestern University
Milan Jirásek,
Czech Technical University in Prague
Ellen Kuhl,
Ecole Polytechnique Fédérale de Lausanne
Koichi Maekawa,
University of Tokyo
Ray W. Ogden,
University of Glasgow
Eugenio Oñate,
CIMNE Barcelona
Gilles Pijaudier-Cabot,
Ecole Centrale de Nantes
George W. Scherer,
Princeton University
Bernhard Schrefler,
University of Padova
Karen Scrivener,
Ecole Polytechnique Fédérale de Lausanne
Paul Steinmann,
Universität Kaiserslautern
Franz Ulm,
Massachusetts Institute of Technology
Kaspar Willam,
University of Colorado at Boulder

Call for Papers

The conference language is English. All interested participants are encouraged to submit extended two-page abstracts following the instructions on the conference web site. The abstracts will be evaluated by the scientific committee and the decision will be communicated to the authors in February 2007. The book of extended abstracts will be distributed at the conference and the authors of selected contributions will be invited to submit full papers to a special issue of an international journal.

Important Dates

submission of extended abstracts
notification of acceptance
early payment of registration fee
conference

31 January 2007
28 February 2007
31 March 2007
25 - 27 June 2007