

EUROMECH Colloquium 572 – Programme

22 February – 24 February 2016
Innsbruck, Austria

Monday, 22 February 2016

08:00 – 08:30 **Registration**
08:45 – 09:00 **Welcome address**

Session I:

Fundamental aspects of constitutive modelling

09:00 – 09:30 **D. M. Wood**
University of Dundee
Soils and Space (various modelling challenges in which the volumetric packing plays an important role)

09:30 – 10:00 **I. Herle**
TU Dresden
On selection of advanced constitutive models for geotechnical tasks

10:00 – 10:30 **H. F. Schweiger**
Graz University of Technology
Multilaminate models for soils - recent developments and applications

10:30 – 11:00 Break

Session II:

Models of organic soils and clays

11:00 – 11:30 **A. Madaschi and A. Gajo**
University of Trento
Constitutive approach for rate-dependent behaviour of organic soils and clays

11:30 – 12:00 **S. Muraro and C. Jommi**
Delft University of Technology
The deviatoric behaviour of peats: modelling some experimental observations

12:00 – 14:00 Lunch

Session III:

Coupled constitutive models

14:00 – 14:30 **A. Gens et al.**
UPC Barcelona
Chemo-mechanical constitutive modelling of expansive clays

14:30 – 15:00 **A. Gajo**
University of Trento
Chemo-mechanical interactions in active clays and cemented soils

15:00 – 15:30 **A. Gajo and F. Cecinato**
University of Trento
Thermo-mechanical modelling of geomaterials subjected to very high temperature changes

15:30 – 16:00 Break

Session IV:

Extensions of classical models

- 16:00 – 16:30 **C. Vrettos, K. Merz, A. Becker**
Technische Universität Kaiserslautern
Parameters for an elasto-visco-plastic constitutive model for frozen sand from cubic triaxial tests
- 16:30 – 17:00 **A. Papadimitriou, Y. Chaloulos, Y. Dafalias**
National Technical University of Athens
Fabric Evolution of Sands and its Effects on the Response of Geostructures
- 17:00 – 17:30 **M. Liu**
University of Tuebingen
Granular Solid Hydrodynamics (GSH): from static stress and elastoplastic motion to fast dense flow

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Session V:

Multiphase constitutive models

- 09:00 – 09:30 **P. Gamnitzer**
Innsbruck University
A smoothed cap model for variably saturated soils
- 09:30 – 10:00 **L. Sanavia and M. Lazari**
University of Padova
Numerical modelling of strain localization in multiphase porous media with local/non-local viscoplasticity
- 10:00 – 10:30 **J. J. Timothy, D. Leonhart and G. Meschke**
Ruhr University Bochum
Determination of the effective transport properties of fractured heterogeneous rocks using Micromechanics and XFEM
- 10:30 – 11:00 Break

Session VI:

Modelling of localisation

- 11:00 – 11:30 **A. Alsahly, C. Callari and G. Meschke**
Ruhr University Bochum
A new approach for the shear localization analysis of strong discontinuous fields based on incompatible modes in frictional materials
- 11:30 – 12:00 **J. M. Huyghe, E. W. Remij, J. Ding and J. J. C. Remmers**
Eindhoven University of Technology
XFEM simulation of hydraulic fracturing
- 12:00 – 14:00 Lunch

Session VII:

Hypoplasticity and barodesy

- 14:00 – 14:30 **D. Masin**
Charles University in Prague
Hypoplasticity with explicitly defined asymptotic states
- 14:30 – 15:00 **G. Medicus**
Innsbruck University
Barodesy and its application for clay

- 15:00 – 15:30 **W. Fellin, A. Ostermann**
 Innsbruck University
Requirements on the Numerics in application of barodesy and hypoplasticity
- 15:30 – 16:00 **Laudatio for Dimitrios Kolymbas**
Gerd Gudehus
 Karlsruhe Institute of Technology
- 19:00 – 23:00 Colloquium Dinner

Wednesday, 24 February 2016

Session VIII:

Modelling of rock, rock mass and rockfill

- 09:00 – 09:30 **P. Hicher, Z. Yin, Y. Jin and C. Dano**
 L'Université Nantes Angers Le Mans
Modeling the mechanical behavior of coarse granular materials
- 09:30 – 10:00 **E. Bauer**
 Graz University of Technology
Constitutive modelling of rheological properties of weathered rockfill materials
- 10:00 – 10:30 **D. Unteregger**
 Innsbruck University
Damage plasticity model for intact rock and rock mass
- 10:30 – 11:00 Break
- 11:00 – 11:30 **B. Cerfontaine, F. Collin and R. Charlier**
 University of Liege
A constitutive law describing the cyclic behaviour of rocks
- 11:30 – 12:00 **C. Tamagnini, M. O. Ciantia**
 University of Perugia
A Finite Deformation Plasticity Model for Calcarenite Rocks Subject to Weathering
- 12:00 – 12:15 **Closing remarks**
- 12:15 – 13:15 Lunch
- 13:15 – 16:00 **Excursion to the Brenner Base Tunnel**