PROGRAMME

LECTURES

The workshop aims to deliver a paradigm for the interconnection of the mechanics of soil, rock, ice and snow and also for the interdisciplinary character of the related research. Therefore, the lectures will be of fundamental character and address the possible interfaces and the fascinating contents of the several subjects.

ORGANISATION

TIMETABLE

Arrival on Sunday 6th September before 22:00.

The workshop will start on Monday 7th September 08:30 and will end on Wednesday 9th September at approx. 18:00.

REGISTRATION AND FEES

To subscribe, please send an e-mail with the required information (name, address, affiliation, etc.).

e-mail: daniel.renk@uibk.ac.at

DEADLINE: 31st March 2009

Notification of acceptance: 30th April 2009

Transfer of the fees - DEADLINE: 31st May 2009

Notification of final registration: 30th June 2009

Participation fees: 350 €. To be paid after notification of acceptance. The amount includes participation, coffee breaks and lecture notes.

The number of participants is limited to 50.

TRAVEL, ACCOMMODATION AND TOURIST INFORMATION

Travel information and links can be found in the Workshop website:

http://sg1-c813.uibk.ac.at/igt/horto2009/

Accommodation can be directly booked under the indicated www addresses. Upon request, we can book for you.

CONTACT ADDRESS

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SYMPOSIUM

Mechanics of Natural Solids
Horto/Greece 7th - 9th September 2009

organised by:
Prof. Dimitris Kolymbas
(University of Innsbruck)
and
Prof. Cino Viggiani
(University of Grenoble)
Natural solids (soil, rock, ice, snow) are characterised by inhomogeneity and by properties that vary in a very large range. For example, granite is usually very hard, but weathered granite can be kneaded by hand. Rock can be continuous or jointed, large rock strata undergo in the course of millions of years enormous deformations, they can be folded and/or upheaved by several kilometers. Continuous disintegration transforms rock to soil, a granular material that exhibits peculiar properties the most striking of which is that it can undergo extremely large deformations and then resume solidity, when the individual grains are pressed against each other. Sand shares with rock the ability to undergo large deformation, provided that rock is deformed in completely different time scales from sand. Thus, strength and rigidity (stiffness) of rock are a matter of deformation rate, and sand can be considered as an archetype of all natural solids.

The inherent similarity that connects rock and soil holds also for ice and snow. Snow is a sintered material but shares some properties with soil, whereas glacier ice behaves like a low-viscosity rock.

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**SPEAKERS AND LECTURES**

- **Eduardo Alonso**, Barcelona
  "Size effects and long term behaviour of coarse granular media"

- **Gary Couples**, Edinburgh
  "Nature: A very sophisticated experimentalist"

- **Itai Einav**, Sydney
  "Confined comminution in granular materials: from discrete to continuum"

- **Steve Hall**, Grenoble
  "When geophysics meet geomechanics: elastic-wave imaging of geomechanical properties and processes"

- **Dimitrios Kolymbas**, Innsbruck
  "Sand as an archetypical natural solid"

- **Mario Liu**, Tübingen
  "Physical foundations of sand mechanics"

- **Jacques Meyssonier**, Grenoble
  "Experimental studies of the viscoplasticy of ice and snow"

- **Carlos Santamaria**, Georgia
  "Particle-level processes in the development of discontinuities in granular materials"

- **Martin Schneebeli**, Davos
  "Snow mechanics in view of the transition between a sintered and granular material"

- **Martin Schöpf**, Dublin
  "Distinct Element Method (DEM) modelling of laboratory to outcrop-scale fracturing of natural rocks"

- **Erland Schulson**, Dartmouth, New Hampshire
  "Fracture of Ice"

- **Antoinede Tordesillas**, Melbourne
  "Are we there yet?: Following the energy trail in cohesionless granular solids"

- **Cino Viggiani**, Grenoble
  "Mechanisms of localized deformation/damage in geomaterials: an experimental insight"

- **Teng Fong Wong**, New York
  "Grain crushing, pore collapse and strain localization in porous rock"