

Mini-symposium in Computational Geomechanics
9th World Congress on Computational Mechanics

Sydney 19-23 July 2010

Organizers:

Dr Fernando Alonso-Marroquin, The University of Sydney

A/Prof Itai Einav, The University of Sydney

A/Prof Antoinette Tordesillas, The University of Melbourne

This symposium is dedicated to Professor Ioannis Vardoulakis, who passed away on September 19th 2009. We encourage abstracts submission in the areas related to the Prof. Vardoulakis contributions to fundamental computational geomechanics.: Bifurcation theory, mesh-dependency in FEM, constitutive modelling of shear bands and enriched continua modelling.

The Scientific Program Committee invites you to submit abstracts of original research for presentation at the Congress. All abstracts of maximum 400 words must be submitted by 15 December 2009. To submit an abstract please follow this link <http://www.wccm2010.com>

Participants are encouraged to write full length papers for publication in IOP Conference Series: Materials Science and Engineering.

Computational Geomechanics is an important area of Mechanics directed at the modelling, simulation, and quantitative prediction of the behaviour of complex mechanical systems appearing in everyday practice of Mineral, Environmental and Civil Engineering. The purpose of the mini-symposium of Computational Geomechanics is to bring together experts in physics, mathematics and civil engineering, working in the development of novel approaches in numerical solution of geomechanics-related problems. The organisers will encourage presentations addressing issues related to the reduction of greenhouse gas emissions and the identification of new sources of renewable energy. The program will be also focused on new approaches in computational geomechanics adding significant scientific value to the state-of-the-art in the multiscale modelling of geological materials.

Generic topics of interest:

- 1) New methods to bridge the different scales of geotechnical applications.
- 2) Hybrid discrete-continuum models for geomechanical problems.
- 3) Novel developments in Discrete Element Modelling.
- 4) New approaches for enriched continuum models, and micro-mechanical continuum models.
- 5) Numerical methods for coupling particles with fluids.