

# CALL FOR ABSTRACTS

# BIO- AND CHEMO- MECHANICAL PROCESSES IN GEOTECHNICAL ENGINEERING



GEOTECHNIQUE SYMPOSIUM IN PRINT 2013

**SYMPOSIUM IN PRINT SUB-COMMITTEE CHAIRMAN:  
Prof. Lyesse Laloui, EPFL, Switzerland**

In recent years substantial advances have been made in understanding the coupling between chemical and biological processes and mechanical and hydraulic behaviours in soils and rocks. At the same time, experimentation and modelling capabilities have progressed significantly, allowing effective design of geotechnical applications. The need for such analyses arises (for example) in chemical and biological soil improvement; nuclear, hazardous and municipal waste containment; petroleum and natural gas extraction; methane hydrate exploitation; CO<sub>2</sub> sequestration; and assessment of pavement durability.

This symposium will provide a forum to take stock of different approaches to the experimental characterisation, constitutive modelling and design/monitoring of geotechnical engineering applications. Abstracts (limited to 200 words) are invited for papers concerning, but not limited to the following subject areas. Abstracts focusing on practical applications and case studies are particularly welcome.

- Experimental analysis and constitutive modelling of the bio- and chemo-mechanical behaviour of geomaterials.
- Effects of changes in the pore water chemistry on soil and rock behaviour.
- Short-term (osmotic) versus long-term (chemical/bio weathering) processes.
- Interactions between geometrical scales of diverse biological, chemical, physical and mechanical processes.
- Fundamental mechanisms of bacteria-driven mechanical improvement of soils and the role of bacteria in changing and controlling geotechnical properties.
- Case studies of chemical and biological soil modifications.
- Applications of bio- and chemo-mechanical models in emerging technologies.

### **Invitation to authors**

Abstracts of 200 words should be submitted by 30 September 2011. These abstracts will be reviewed by an international panel of experts who will then invite a number of authors to develop their papers for submission by 1 March 2012. These will be refereed by *Géotechnique* in the usual way. Papers accepted will be published in the March and April 2013 issues of the journal. They will be discussed at a symposium in May 2013. Abstracts should be sent by email to [sohini.banerjee@icepublishing.com](mailto:sohini.banerjee@icepublishing.com)

### **Key Dates**

Abstracts to [Sohini Banerjee \(sohini.banerjee@icepublishing.com\)](mailto:sohini.banerjee@icepublishing.com) by 30 September 2011; full papers by 1 March 2012; publication early 2013; symposium May 2013.