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## **FIRST BULLETIN SECOND INTERNATIONAL CONFERENCE ON PERFORMANCE-BASED DESIGN IN EARTHQUAKE GEOTECHNICAL ENGINEERING**



**May 28-30, 2012  
Conference Center  
TAORMINA (ITALY)**

*organised by:*



ISSMGE Technical Committee of  
Geotechnical Earthquake Engineering  
and Associated Problems (TC203)

*co-organised by:*



European Technical Committee ERTC-12  
on Application of Eurocode 8



Italian Geotechnical Society

## CONFERENCE THEME

Pseudo-static analysis is still the most used methodology for assessing the stability of geotechnical systems subjected to earthquake loadings. However, this methodology did not give any information on the deformations and permanent displacements induced by seismic actions. Moreover, it is questionable to use this approach when the geotechnical systems are affected by frequent and rare seismic events. By the way the peak ground acceleration have been increased from 0.2-0.3 g in the seventies to 0.6-0.8g at the present time. It is needed to shift from pseudo-static approach to performance-based analysis.

In the most general sense, the performance of a geotechnical system can be defined in terms of:

- technical performance, usually quantified through displacement and/or capacity based design;
- economical performance, usually defined as the optimization of construction versus maintenance costs;
- environmental performance, which could be defined as the optimization of carbon emission versus cost of construction, maintenance and operational costs.

These topics have been debated in recent International conference and workshop such as the International conference on Performance-Based design held in Tokyo in 2008, the workshop on new trends of seismic geotechnical design based on performance and life cycle analysis held in Sacramento in 2008 and the Kyoto Seminar on 'Geotechnics/Earthquake Geotechnics towards Global Sustainability', held in Kyoto in 2010.

## CONFERENCE TOPICS

The Conference is mainly concerning the technical performance of geotechnical systems. However topics related to economical performance and environmental performance of geotechnical systems are welcome.

The main conference topics for Performance-Based Design (PBD) are:

- Case histories on ground motion and site effects;
- Soil investigation with field and laboratory testing;
- Dynamic Characterisation and modeling;
- Methodologies for PBD;
- Numerical analyses for PBD;
- Physical modeling by Shaking table test and centrifuge test;
- PBD for liquefaction;
- PBD for slopes;
- PBD for embankments, landfills and dams;
- PBD for shallow foundations
- PBD for pile foundations;
- PBD for soil-structure interaction;
- PBD for retaining wall;
- PBD for earth reinforced retaining wall;
- PBD for underground structures;
- Recent developments in PBD and codes.

## FURTHER INFORMATION

### Important Dates

- 31 May 2011: Submission of abstracts
- 30 June 2011: Notification of acceptance of abstracts
- 30 September 2011: Submission of the full papers
- 30 November 2011: Notification of outcome of review
- 29 February 2012: Submission of final papers

### Technical Sessions

- 5 State of Art Lectures
- 1 Special Lectures
- 16 State of Practice Lectures

Technical sessions for presenting papers

### Special Sessions

- Academics Versus Practitioners: Recent Developments in PBD and Codes
- The 2011 New Zealand Earthquake
- The 2011 Tōhoku Earthquake and Tsunami

**SYMPOSIUM IN HONOUR OF  
PROF. SHAMSHER PRAKASH  
May 30, 2012**

### Conference Proceedings

The Conference Proceedings CD Volume will be edited together with the hard copy of the abstracts volume.