

CHRONICLE

IAEG XII Congress Torino 2014 Engineering Geology for Society and Territory Overview of Congress' materials (September 15–19, 2014)

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Lingotto Conference Centre, Torino

PREFACE

- The IAEG XII Congress devoted of the dynamic role of Engineering Geology in our changing world. The success of the Congress was provided thanks to all participants contributing to this great event.
- The 2014 IAEG Congress celebrates 50 years from IAEG foundation: it aims to testify the fundamental scientific role of Engineering Geology in the last 50 years, through the contributions of successful, well-known researchers.
- An important goal of the XII International IAEG Congress is to promote and increase the relationships between scientists and engineering geology professional operators (Owners, Design Firms and Contractors).
- The cooperation between research and practice will lead to a development of the Society through the creation of new patents, licenses, spin offs and joined and sponsored researches.
- The Congress offered an extraordinary opportunity for scientists, companies and agencies to meet and improve together the current state of Engineering Geology. For this purpose keynote lectures have been delivered to both academic representatives and professional operators.
- Congress Organizing Committee want them to be able to overcome future difficulties in geo-environmental management and habitat protection.

INTRODUCTION

- In the next few years, major effects over territorial planning and infrastructures will be due to the global change particularly evident in extreme climate regions. Climate changes also affects natural processes related to slope dynamics, water courses, coastal and marine environments: all these phenomena are case studies for Engineering Geology.
- Engineering Geology plays a major role in the definition of human responses to the changes of a dynamic environment. More and more obvious is the role of territorial planning for a sustainable use of available geo and water resources and a proper management of natural hazards (as landslides, floods, marine processes and earthquakes).
- Urban Geology and Applied Geology for Major Engineering Projects are reaching far beyond technological applications, because they analyse the evolution over time of the Society and infrastructures, including also the Preservation of Cultural Heritage.
- Indeed, human activities have to be developed on a ethical base: Engineering Geology respects this principle, where implications include sustainable future and environmental conservation.

PATRONAGES

 <p>United Nations Educational, Scientific and Cultural Organization</p>	<p>United Nations Educational, Scientific and Cultural Organisation</p>		<p>ISPRA</p>	<p>Institute for Environmental Protection and Research - ISPRA (Italy)</p>
	<p>Government of Piemonte Regione</p>		<p>Citta di Torino Organizzazione Governative</p>	
	<p>PROVICIA DI TORINO</p>			

OPENING CEREMONY



Greeting of Chairs of the XII IAEG Congress – Giorgio Lollino

Torino 2014

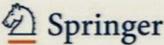


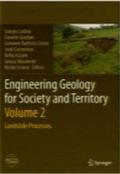
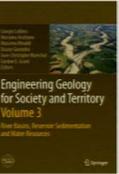
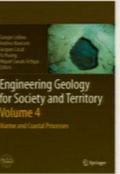
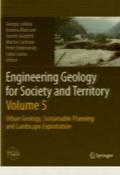
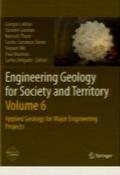
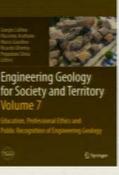
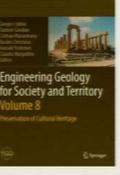
50th Anniversary of IAEG (1964-2014)




Lingotto

Congress Proceedings



 <p>Engineering Geology for Society and Territory Volume 1 Climate Change and Engineering Geology</p>	 <p>Engineering Geology for Society and Territory Volume 2 Landscape Protection</p>	 <p>Engineering Geology for Society and Territory Volume 3 River Basins, Reservoirs, Urbanization and Water Resources</p>	 <p>Engineering Geology for Society and Territory Volume 4 Rivers and Coastal Protection</p>
 <p>Engineering Geology for Society and Territory Volume 5 Urban Settings, Sustainable Planning and Land-use Approaches</p>	 <p>Engineering Geology for Society and Territory Volume 6 Applied Geology for Water Engineering Projects</p>	 <p>Engineering Geology for Society and Territory Volume 7 Education, Professional Ethics and Public Recognition of Engineering Geology</p>	 <p>Engineering Geology for Society and Territory Volume 8 Preservation of Cultural Heritage</p>

1,300 full papers

8,640 pages

Delivered to all participants in electronic form

OPENING CEREMONY

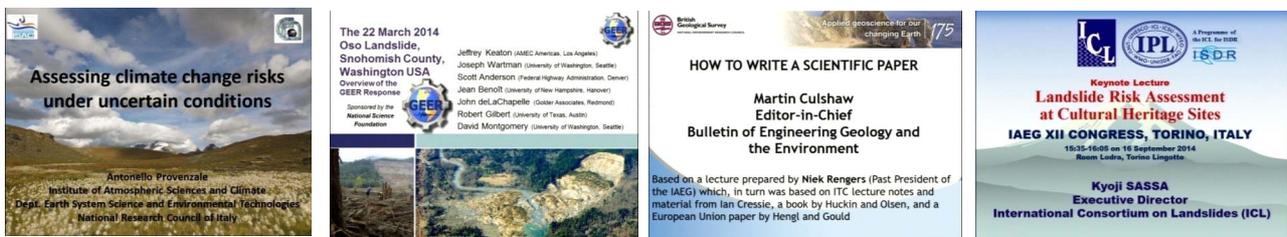
Keynotes



1. Problems in buildings and public works derived from soils with unsteady structure and soils with large volume instability. Carlos Delgado.
2. Urban Landslides: A Challenge for forensic engineering geologists. Scott Burns
3. Using the Working Classification of Landslides to assess the danger from a natural slope. David Cruden
4. Observing, modeling and checking slope behaviour: is there a better way to fully exploit the expertise of geologists and engineers at the same time? Luciano Picarelli
5. Understanding the mechanism of large-scale landslides. Runqiu Huang
6. Large-Scale Thematic Geological Mapping of Megacities (by the example of Moscow). Victor I. Osipov.

Tuesday, 16 September 2014

Keynotes



- Antonello Provenzale –Assessing climate change risks under uncertain conditions
- Short Jeff Keaton — Extreme Events and Engineering Geology: Processes, Effects, and Contributions for Resilient Communities
- Short Course: Martin Culshaw — How to write a scientific paper
- Lecture: Kyoji Sassa Landslide Risk Assessment at Cultural Heritage Sites

Wednesday, 17 September 2014

Keynotes

IAEG2014 - IAEG XII CONGRESS, TORINO, 17 SEP 2014



TOWARDS IMPROVED LANDSLIDE MAPPING AND FORECASTING

FAUSTO GUZZETTI & CO-WORKERS
ISTITUTO DI RICERCA PER LA PROTEZIONE IDROGEOLOGICA
CONSIGLIO NAZIONALE DELLE RICERCHE

TOWARDS IMPROVED LANDSLIDE MAPPING & FORECASTING

GEOMORPHOLOGY.IRPII.CNR.IT
1



Optimization of Large Civil Engineering Projects from an Environmental Point of View

Ricardo Oliveira
COBA, S.A. and New University of Lisbon
PORTUGAL



- Fausto Guzzetti — Towards improved landslide mapping and forecasting
- Ricardo Oliveira — Optimization of large civil engineering projects from an environmental point of view

Thursday, 19 September 2014

Scientific Sessions, Examples of Presentations



Large induced displacements and slopes around an open pit lignite mine, Ptolemais basin, Northern Greece

V. Marinos, T. Tsapanos, S. Pavlidis, P. Tsourlos, A. Chatzipetros, K. Voudouris



Comparing Satellite Based and Ground Based Radar interferometry and field observations at the Canillo landslide (Pyrenees)

J. Corominas¹, R. Iglesias², A. Aguasca², J.J. Mallorquí², X. Fàbregas², X. Planas³, J.A. Gili¹

¹ Department of Geotechnical Engineering and Geo-Sciences, Technical University of Catalonia - BarcelonaTech, Jordi Girona, 1 (D2), 08034, Barcelona, Spain

² Department of Signal Theory and Communications, Technical University of Catalonia - BarcelonaTech, Jordi Girona, 1 (D3), 08034, Barcelona, Spain

³ Ministeri d'Economia i Territori, Departament d'Ordenament Territorial, Camí de la Grau s/n, AD500, Andorra la Vella, Andorra

A Detailed Study of the Cedar City Landslide, Utah, U.S.A.

Ashley Tizzano
Abdul Shakoor

- Vassilis Marinos — Large induced displacements and slides around an open pit lignite mine, Ptolemais basin, northern Greece.
- Jordi Corominas — Comparing Satellite Based and Ground Based Radar interferometry and field observations at the Canillo landslide (Pyrenees)
- Abdul Shakoor — A detailed study of the Cedar City Landslide, Utah, U.S.A.

SCIENTIFIC ADVISORY COMMITTEE

ENGINEERING GEOLOGY TOPIC EXPERTS

Climate change and engineering geology

- Vittorio CANUTO, NASA — USA
- John CLAGUE, Simon Fraser University — CANADA
- Rejean COUTURE, Natural Resources Canada — CANADA
- Margaret DARROW, University of Alaska Fairbanks — USA
- Kaare FLAATE, Norwegian Geotechnical Institute (NGI) — NORWAY
- Pierre POTHERAT, Centre d'Etudes Techniques de Lyon — FRANCE
- Antonello PROVENZALE, CNR-ISAC, Torino — ITALY

- Dmitry SERGEEV, Institute of Environmental Geoscience RAS — RUSSIA
- Qingbai WU, Chinese Academy of Sciences — CHINA

Landslide processes

- Eduardo ALONSO, Universidad Polit?cnica de Cataluya — Barcelona — SPAIN
- Nicola CASAGLI, University of Firenze — ITALY
- Leonardo CASCINI, University of Salerno — ITALY
- Roger COJEAN, Ecole de Mines Paris — FRANCE
- Jordi COROMINAS, Universitat Polit?cnica de Catalunya — SPAIN
- Giovanni CROSTA, University of Milan — ITALY
- Francesco GUADAGNO, University of Sannio — ITALY
- Hideaki MARUI, Niigata University — JAPAN
- Kurosh THURO, Technical University of Munich — GERMANY
- Yueping YIN, China Geological Survey, Beijing — CHINA

MISSION

Engineering Geology - Definition

* “Engineering Geology is the science devoted to the investigation, study and solution of the engineering and environmental problems which may arise as the result of the interaction between geology and the works and activities of man as well as to the prediction and of the development of measures for prevention or remediation of geological hazards.” (IAEG statutes, 1992).

Engineering Geology embraces :

- the definition of the geomorphology, structure, stratigraphy, lithology and groundwater conditions of geological formations ;
- the characteristics of the mineralogical, physico - geomechanical, chemical and hydraulic properties of all earth materials involved in construction, resource recovery and environmental change ;
- the assessment of the mechanical and hydrologic behaviour of soil and rock masses ;
- the prediction of changes to the above properties with time ;
- the determination of the parameters to be considered in the stability analysis of engineering works and of earth masses ; and the improvement and maintenance of the environmental condition and of the properties of the terrain.

CONCLUSION

- Proceedings of the Congress can be used for the organization in Ukraine permanent training seminar - subject: Strategy for Reducing Risks from Disasters at World Heritage properties. (On materials of the XII International Congress IAEG: Engineering geology for Society and Territory).
- The project complies with the recommendations of UNESCO, WHC-07/31.COM/7.2, Item 7.2 : Issues related to the state of conservation of World Heritage properties.

MAIN TOPICS

- Climate change and engineering geology
- Landslide processes
- River basins, reservoir sedimentation and water resources
- Marine and coastal processes
- Urban geology, sustainable planning and landscape exploitation
- Applied geology for major engineering projects
- Education, professional ethics and public recognition of engineering geology
- Preservation of cultural heritage

Venue : National Conservation Area “Saint Sophia of Kyiv”