ADDRESSING THE IMPACTS OF CLIMATE CHANGE ON ENGINEERED SLOPES FOR INFRASTRUCTURE

A COST TU1202 Dissemination symposium

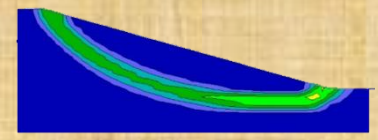
Thursday 15th September 2016

Amphi Cauchy, École des Ponts ParisTech,
6-8 avenue Blaise-Pascal, Cité Descartes,
77455 Champs-sur-Marne, Paris, France
http://www.enpc.fr/en/school-practice

There is an urgent need to assess the risks posed by climate change on our already ageing infrastructure and to plan adaptations that both increase safety and reduce the cost of repairs. Engineered slopes (cuttings, embankments) are a critical component of this infrastructure. Many of these slopes are now exhibiting excess deformation, which is threatening the serviceability of the infrastructure and dwellings nearby and causing delays and subsequent economic loss to European industry and the general public, while posing a safety hazard.

COST Action TU1202 is a European network of geotechnical, engineering geology, geography, biology and climate researchers, plus industry professionals and stakeholders working within transport infrastructure.
We have been investigating the impacts and potential tools for adaptation to the threats posed by climate to our engineered slopes. This event disseminates the most important outcomes on

- **numerical modelling techniques**
- **instrumentation and monitoring**
- **soil/vegetation/slope interactions**
- **risk assessment methods.**



Speakers include

- **Dr Gaetano Elia** Newcastle University, UK.
- **Dr Joel Smethurst** Southampton University, UK
- **Professor Ken Gavin** Delft University of Technology, NL
- **Dr Anh Minh Tang** Ecole des Ponts ParisTech , FR
- **Dr Paul Hughes**, Durham University, UK

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Provisional Programme

08:30	Registration
09:00	**Opening session** Welcome from Dr Paul Hughes, COST Action TU1202 Chair Professor Roger Frank – ISSMGE President
Session 1	**Slope deterioration processes**
09:30	Overview of research into soil/vegetation/climate interactions – implication for stakeholders and researchers. Dr Anh Minh Tang, ENPC
09:55	Environmental Influences on the Mechanical Behaviour of Unsaturated Soils. Piotr Osinski University of Nottingham / Warsaw University of Life Sciences
10:10	Efficiency analysis of geosynthetic-based drainage in slope stability. Anna Miszkowska Warsaw University of Life Sciences & Dr Stanislav Lennart Slovenian National Building and Civil Engineering Institute.
10:35	Morning refreshments
Session 2	**Monitoring systems and technology**
11:05	Current and future role of instrumentation and monitoring in the performance of transport infrastructure slopes. Dr Joel Smethurst, Southampton University
11:30	Monitoring the deterioration of engineered slopes in the field – implications for researchers and stakeholders. Dr Ross Stirling, Newcastle University
11:45	Integrated hydrogeological/geomechanical modelling-monitoring methods. Dr John van Esch, Deltares.
12:15	**Lunch**

Provisional Programme - continued

Session 3 **Modelling approaches**

13:45 Numerical modelling of slope-vegetation-atmosphere interaction: an overview
Dr Gaetano Elia, Newcastle University.

14:10 Implementation of subloading constitutive models in Material Point Methods
Dr Carlos Pereira, National Laboratory for Civil Engineering, Portugal

14:25 Locating critical circular and free failure surface in slope stability analysis with Genetic Algorithms. Tomasz Pasik, Warsaw University of Life Sciences.

14:50 Afternoon refreshments

Session 4 **Hazard and Risk Assessment**

15:20 Use of Risk Assessment Frameworks for the Management of Transport Infrastructure Slopes in Europe. Karlo Martinovic, University College Dublin.

16:00 Developing risk-mitigation strategies using eco-engineering techniques
Dr Slobodan Mickovski, Glasgow Caledonian University

16:25 **Closing remarks and discussion**
Panel, led by Dr Paul Hughes, Durham University

17:30 End of symposium

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Who should attend this symposium?

This symposium aims to reach stakeholders who are, or may become, affected by changes in the stability of infrastructure slopes as climate change progresses. It also aims to share techniques with researchers investigating slope stability.

Event Registration

This is a free event though the organisers do ask that delegates register in advance. Places at the event are limited and will be allocated on a first come, first served basis.

To register for the event, go to the link below and follow the instructions on screen.

https://www.eventbrite.co.uk/e/cost-tu1202-dissemination-symposium-tickets-26301703102

The event has been timed to coincide with the 3rd European Conference on Unsaturated Soils

http://eunsat2016.sciencesconf.org/

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