UNIONE EUROPEA
Fondo Europeo di Sviluppo Regionale

PON Ricerca e Competitività 2007-2013

Ministero dell'Istruzione, dell'Università e della Ricerca

Ministero dello Sviluppo Economico

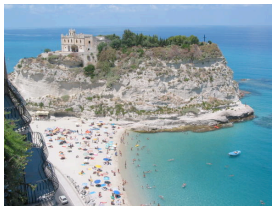
PROGETTO *Landslides Early Warning*

2th International Summer School on Water Research

Landslide modeling and Early Warning Systems.

4-10 July 2013

UNIVERSITÀ DELLA CALABRIA



General Informations:

The school is part of a cycle of biennial high educational courses focusing on the hydrologic and environmental main research topics. The summer school 2013 deals with shallow landslides modeling and risk mitigation, slope stability, vegetation and antrophic effects on shallow landslide triggering. It is dedicated to young Professors, Researchers, Post Docs and PhD students, and it organized in 5 days of lessons and working groups.
The number of participants will be limited to: **20**.

The organization will cover all accommodation expenses during the week of sessions provided that participants attend the entire week.

Applications should include a simple statement declaring that the applicant is interested in being considered for admission to the Summer School together with the applicant's contact information: email address, telephone, and mailing address.

The email has to be sent to:
giovanna.capparelli@unical.it and giuseppe.formetta@unical.it.

Admissions are based on the order in which applications are received and on the CV of the applicants. Applications deadline is: June 18, 2013.

Lectures

Dino G. Bellugi - MIT - Massachusetts Institute of Technology
Giovanna Capparelli – Calabria University
Matteo Berti – Bologna University
Federico Preti – Firenze University
Ning Lu - Division of Engineering, Colorado School of Mines, Golden, CO-US
Riccardo Rigon – Trento University
Maria Cristina Rulli – Politecnico di Milano
Jonas Von Rutte - ETH Zurich

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S I I H S

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There will be wide opportunities for interdisciplinary approaches to facilitate the communications and scientific exchanges among the lecturers and the participants, in order to enhance the coordination of specific scientific efforts and advocate for a common view of major scientific needs and priority areas for the future.
A guided tour and other social activities are also scheduled.

Lectures will be addressed and illustrated according to this scheme:

Prof. Dino G. Bellugi:
Shallow landslides: Observations; Power laws, intensity/duration; Infinite slope, shalstab and 3d slope stability; High-level clustering, clustering-based search algorithm and Application to a case study.

Prof. Giovanna Capparelli:
Introduction to the summer school; Introduction to the complete model Sushi and case studies; Presentation of the PON research project: Integrated Systems for hydrogeological risk monitoring, early warning and mitigation along the main lifelines.

Prof. Matteo. Berti
Hydrologic response to rainfall of unstable clay slopes; Conceptual models of slope hydrology and slope response to rainfall; Probabilistic evaluation of rainfall thresholds for landslide occurrence; Debris flow dynamics.

Prof. Federico Preti
Role of vegetation on slope stability: Geo-mechanical effects; Hydrological effects; Durability of soil bioengineering works.

Prof. Ning Lu
Hillslope hydrology (Seepage in hillslopes); Effective stress in variably saturated hillslopes; Hydrological and mechanical properties of hillslope materials; Slope stability analysis under precipitation conditions.

Prof. Riccardo Rigon
Hillslope Hydrology modelling with models of various degree of complexity.
Effects on stability of various hydrological assumptions in simple settings.

Prof. Maria Cristina Rulli
Antropogenic and natural forcing on shallow landslides triggering: Fire forcing on mass movements; Fire effect on vegetation; Fire effect on soil properties. Effect of roads on shallow landslides triggering: Hydrological effect; Geomechanical effect.

Doct. Jonas Von Rutte
Landslide susceptibility analysis based on multivariate statistical model logistic regression;
Introduction of the physically-based landslide triggering model developed in the ETH group;
Discussion of the influence of spatial and temporal heterogeneous rainfall pattern on landslide dynamics.

Scientific Committee:

Cancelliere Antonino (Catania University)
Capparelli Giovanna (Calabria University)
Conte Enrico (Calabria University)
Greco Roberto (Second University of Naples)
Noto Valerio (Palermo University)
Rigon Riccardo (Trento University)

Organizing Committee:

Giovanna Capparelli (Calabria University)
Giuseppe Formetta (Calabria University)
Riccardo Rigon (Trento University)