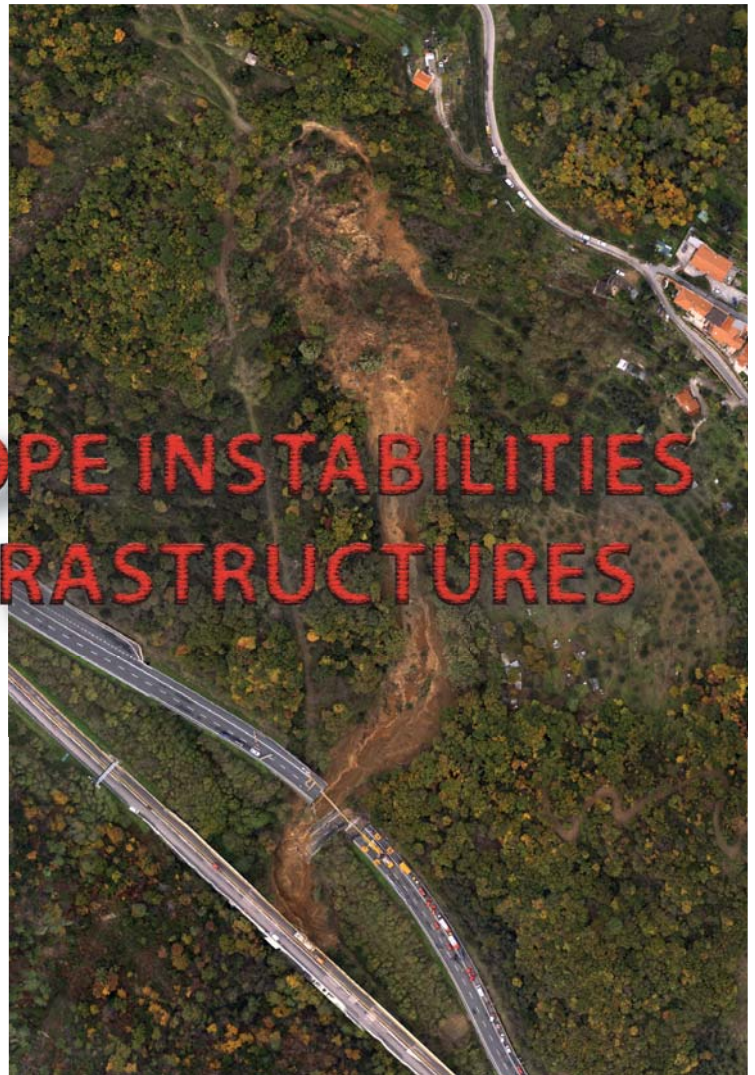




# FIRST SUMMER SCHOOL OF THE INTERNATIONAL ASSOCIATION FOR ENGINEERING GEOLOGY AND THE ENVIRONMENT

Aosta Valley (ITALY) 13 - 18 July 2020



## IMPACTS OF SLOPE INSTABILITIES ON LARGE INFRASTRUCTURES

The school is dedicated to PhD students in Earth Sciences and Engineering Geology

NO REGISTRATION FEE IS REQUIRED

The number of participants is limited  
Application deadline: March 30, 2020

For more information:  
[www.iaeg.info](http://www.iaeg.info)  
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Farrok Nadim  
Raffaele Rocco, Davide Bertolo  
Fabrizio Troilo  
Christian Zangerl  
Francesco Zucca

### LECTURERS

Univ. of Aosta Valley, Italy  
Univ. of Milano Bicocca, Italy  
Queen's University, Canada  
Univ. of Torino, Italy  
CNR IRPI, Italy  
Univ. of Lausanne; Switzerland  
Aristotle Univ. of Thessaloniki, Greece  
Norwegian Geotechnical Institute, Norway  
Aosta Region Administration, Italy  
Fondazione Montagna Sicura, Italy  
Univ. of Nat. Res. and Life Sciences, Austria  
Univ. of Pavia, Italy

### FIELD TRIP

Beauregard Dam, Valgrisenche

Mont Blanc Tunnel, Skyway, Mont de La Saxe rockslide, Planpincieux glacier

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## FIRST SUMMER SCHOOL OF THE INTERNATIONAL ASSOCIATION FOR ENGINEERING GEOLOGY AND THE ENVIRONMENT

### IMPACT OF SLOPE INSTABILITIES ON LARGE INFRASTRUCTURES

Among the most essential activities of engineering geology, there is proactive support in correct planning, realization and of course maintenance of large infrastructures.

Large infrastructures (eg. dams, bridges, tunnels) are as a rule, often realized in complex environments, where number of geological and natural risks (geo status, processes, and events) and their interplay, represent a potential threat to the functionality and safety of infrastructures, workers and users, and as a consequence to the health of citizens as well as to the welfare and functions of communities and their economy. The European Alpine environment represents an excellent example in this sense: complex geological setting and the presence of different slope instabilities together with extreme climate events can hamper the construction and pose at risk the management of infrastructures during their life.

In 2020 the first official IAEG Summer School is organized in the Aosta Valley region, in the North West of Italy, and is indeed aimed to describe the possible impacts of different infrastructures like dams, tunnels, and other construction realized in the last century in an alpine region. The school will be focused on the description of impacts, but it also will put attention towards correct approaches for the definition of the geological model, the design of the infrastructure, its maintenance, and besides on the proper communication efforts.

The IAEG Summer School participation is free of charge. The number of participants is limited to 30 people, and primarily reserved for Ph.D. students. Post Doc and Master degree students will be considered if places would be available.

SCIENTIFIC COMMITTEE: Giovanni Crosta, Daniele Giordan, Francesco Zucca, Jean Hutchinson, Jean Alain Fleurisson, Vassilis Marinou, Haris Saroglou, Akos Torok

ORGANIZING COMMITTEE: Daniele Giordan, Giovanni Crosta, Francesco Zucca, Marco Alderighi, Raffaele Rocco, Davide Bertolo, Jean Pierre Fosson, Niccolò Dematteis

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Istituto di Ricerca per la Protezione Idrogeologica



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UNIVERSITÀ DELLA VALLE D'AOSTA  
UNIVERSITÉ DE LA VALLÉE D'AOSTE



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Regione Autonoma  
Valle d'Aosta





# FIRST SUMMER SCHOOL OF THE INTERNATIONAL ASSOCIATION FOR ENGINEERING GEOLOGY AND THE ENVIRONMENT

## SUMMER SCHOOL PROGRAM

13 – 18 July, 2020

### Monday

16-18.30 Summer school registration

### Tuesday (Summer school introduction)

9.30 – 10.00 Introduction to the IAEG Summer School and presentation of IAEG activities

10.00 -10.30 Welcome to the Aosta Valley Region (Raffaele Rocco)

10.30-11.00 Coffee break

11.00-12.00 Introduction to geology and geomorphology of the Aosta Valley Region (Franco Gianotti)

12.00 – 13.30 Lunch

13.30-15.15 Engineering Geology, Structures and Infrastructures, Risk and Cost-Benefit Analysis (Farrok Nadim)

16.30-18.00 Poster Ice breaker presentations (5-10 minutes presentation of every participant) to be defined according to the PhD-PostDoc student distribution

### Wednesday (Impacts assessment and monitoring solutions of slope instabilities)

9.00-10.45 Deep seated gravitational slope deformations in the Alps (Giovanni Crosta)

11.15-13.00 Rockfalls risk assessment (Michel Jaboyedoff)

13.00-14.30 Lunch

14.30-16.15 High mountains glacial instabilities and possible impacts (Fabrizio Troilo)

16.30-18.15 Monitoring solutions for slope instabilities (Christian Zangerl)

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### Thursday - Field trip

Giordan, Crosta, Bertolo, Zucca - Mont Blanc Tunnel, Skyway, Mont de La Saxe Rockslide, Planpincieux glacier

### Friday (design, construction, maintenance, and economic impact evaluation of large infrastructures)

9.00-10.45 The importance of a reliable geological model for a good design of large infrastructures (Jean Hutchinson)

11.15-13.00 Construction of large infrastructures in complex geology (Vassilis Marinos)

13.00-14.30 Lunch

14.30-16.15 The importance of a correct maintenance of large infrastructures: case studies and best practice

16.30-18.15 Feasibility study and cost/benefit economic evaluation of large infrastructures (Marco Alderighi)

### Saturday - Field trip

Giordan - Interaction between the Beaugard Dam and deep-seated gravitational slope deformation

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