

European Geosciences Union / Council of Europe
FORM-OSE Post-graduate Training School 2016

Landslides and other Geological Hazards in Active Volcanic Environments

4 - 9 July, Ponta Delgada
(São Miguel Island - Azores), Portugal

Preliminary version

High-level Training to European Young Scientists

Lectures | Training | Field Trips | Networking

20

A PRESTIGIOUS LIST OF
20 LECTURERS

30

30 STUDENTS SELECTED
FROM ALL OVER EUROPE

6

A TOTAL OF **6** DAYS OF
INTENSIVE TRAINING

2

FIELD TRIPS ON **2** ACTIVE
CENTRAL VOLCANOES

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Sponsors



CIVISA



Instituto de Geografia
e Ordenamento do Território
UNIVERSIDADE DE LISBOA



About

The Post-graduate Training School is taking place within the framework of the European training programme on risk sciences (FORM-OSE). FORM-OSE is part of the training programme of the EUR-OPA Agreement, of the Council of Europe, and aims the training in risk sciences at European level. The Post-graduate Training School 2016 is organized by the **European Centre on Geomorphological Hazards (CERG)**, which is one of the 25 centres of the EUR-OPA Agreement, with the cooperation of the **University of the Azores (UAc)**, the **Centre for Volcanology and Geological Risk Assessment (CVARG)** and the **Centre for Information and Seismovolcanic Surveillance of the Azores (CIVISA)**.

Organization Committee

MALET Jean-Phillipe (*CERG, University of Strasbourg, France*)
MARQUES Rui (*CIVISA, CVARG - University of the Azores, Portugal*)
ZÉZERE José Luís (*Institute of Geography and Spatial Planning - University of Lisbon, Portugal*)

Lecturers Board

BAPTISTA Ana Maria (*Instituto Superior de Engenharia de Lisboa, University of Lisbon, Portugal*)
COROMINAS Jordi (*Universitat Politècnica de Catalunya-BarcelonaTech, Spain*)
DELGADO José (*Instituto Multidisciplinar para el Estudio del Medio, University of Alicante, Spain*)
FERREIRA Teresa (*CIVISA, CVARG - University of the Azores, Portugal*)
GARCIA Ricardo (*Institute of Geography and Spatial Planning - University of Lisbon, Portugal*)
GASPAR João Luís (*CIVISA, CVARG - University of the Azores, Portugal*)
GLADE Thomas (*Depart. of Geography and Regional Research, University of Bonn, Germany*)
JABOYEDOFF Michel (*Institute of Earth Sciences, University of Lausanne, Switzerland*)
MALET Jean-Phillipe (*Ecole et Observatoire des Sciences de la Terre, University of Strasbourg, France*)
MANGENEY Anne (*Institut de Physique du Globe de Paris, France*)
MARQUES Rui (*CIVISA, CVARG - University of the Azores, Portugal*)
PACHECO José (*CIVISA, CVARG - University of the Azores, Portugal*)
QUEIROZ Gabriela (*CIVISA, CVARG - University of the Azores, Portugal*)
SOLDATI Mauro (*University of Modena e Reggio Emilia, Italy*)
TEVES-COSTA Paula (*Instituto Dom Luiz, Faculdade de Ciências, Universidade de Lisboa*)
VIVEIROS Fátima (*CVARG - University of the Azores, Portugal*)
VOGFJÖRÐ Kristin (*Icelandic Met Office, Iceland*)
WALLENSTEIN Nicolau (*CVARG - University of the Azores, Portugal*)
WILLIAMS Rebecca (*Department of Geography, University of Hull, United Kingdom*)
ZÉZERE José Luís (*Institute of Geography and Spatial Planning - University of Lisbon, Portugal*)

Objectives

The global objectives of the training school are to provide a high-level training to European young scientists and to promote scientific and technological excellence in the science of natural hazards. This year, by organizing a multi-disciplinary high-level school in São Miguel Island (Azores Archipelago, Portugal), it will be focused the complex processes and interactions between "Landslides and Other Geological Hazards in Active Volcanic Environments". This training school follow the previous FORM-OSE training schools focused on: "Living with hydro-geomorphological risks: from theory to practice", held in Strasbourg (France) on 2004; "Multi-Risks: concepts to approach multiple hazards", held in Bonn (Germany) on 2006; "Quantitative Risk Assessment", in Barcelona (Spain) on 2008; "Coastal Hazard Assessment and Risk Management", in Caen (France) on 2011; and "Protecting Mountain Societies from Natural Hazards: Plans or Dams?", in Barcelonnette (France) in 2013.

Scientific Program

Monday, 4th July 2016

- 14:00 – 16:00** Registration
- 16:00 – 17:00** Open ceremony
Azores Government Member, João Luís Gaspar - University of the Azores Rector, Gabriela Queiroz - Director of CVARG, Teresa Ferreira - President of CIVISA & Thomas Glade - President of CERG
- 17:00 – 17:30** Azores Archipelago an hazardous territory: setting, implications and monitoring
QUEIROZ Gabriela & FERREIRA Teresa
- 17:30 – 18:30** Visit to CVARG and CIVISA laboratorial and monitoring data centre facilities
FERREIRA Teresa; QUEIROZ Gabriela; MARQUES Rui & VIVEIROS Fátima
- 18:30 – 20:00** *Ice-break*

Tuesday, 5th July 2016

Session 1 (theoretical) - Rainfall triggered landslides

- 9:00 – 9:45** Hydrological mechanisms and slope stability
MALET Jean-Philippe
- 9:45 – 10:30** How to deal with landslide susceptibility/hazard assessment and incomplete data
JABOYEDOFF Michel
- 10:30 – 11:00** *Coffee break and students poster presentations*
- 11:00 – 11:45** Landslide triggers on Portugal: a state of the art
ZÉZERE José Luís
- 11:45 – 12:30** Landslide triggering rainfall thresholds and early warning systems
COROMINAS Jordi
- 12:30 – 14:00** *Lunch break*

Session 1 (training) - Rainfall triggered landslides

- 14:00 – 16:00** Empirical rainfall thresholds for landsliding activity: data processing, algorithm developing and validation
MARQUES Rui; GARCIA Ricardo & ZÉZERE José Luís
- 16:00 – 16:45** *Coffee break and students poster presentations*
- 16:45 – 18:30** Training class continuation

Wednesday, 6th July 2016

Field Trip 1 - Landslides and volcanism on Furnas Volcano (MARQUES Rui; VIVEIROS Fátima & PACHECO José)

- 9:00 – 13:00** Field Trip
- 13:00 – 14:00** *Lunch break*
- 14:00 – 18:00** Field Trip

Thursday, 7th July 2016

Session 2 (theoretical) - Earthquake and volcanic triggered landslides

- 9:00 – 9:45** The role of geomorphology in seismic hazard: lessons from the 5.9 Emilia earthquake 2012 (Italy)
SOLDATI Mauro
- 9:45 – 10:30** Earthquake geomorphological effects in Iberia: new insights from recent events occurred in Spain
DELGADO José
- 10:30 – 11:00** *Coffee break and students poster presentations*
- 11:00 – 11:45** Surveying and modelling gravitational flows for earthquake-triggered landslides understanding
MANGENEY Anne
- 11:45 – 12:30** Lahars triggered by volcanic eruptions hazard analysis
WILLIAMS Rebecca
- 12:30 – 14:00** *Lunch break*

Session 2 (training) - Earthquake and volcanic triggered landslides

- 14:00 – 16:00** GIS-based earthquake susceptibility analysis: algorithm development and validation
MARQUES Rui; GARCIA Ricardo & ZÉZERE José Luís
- Gravitational flows numerical modelling
MANGENEY Anne & MALET Jean-Philippe
- 16:00 – 16:45** **Coffee break and students poster presentations**
- 16:45 – 18:30** Training class continuation

Friday, 8th July 2016

Field Trip 2 - Landslides and volcanism on Fogo and Sete Cidades volcanoes

(MARQUES Rui; VIVEIROS Fátima & WALLENSTEIN Nicolau)

- 9:00 – 12:30** Field Trip
- 13:00 – 14:00** **Lunch break**
- 14:00 – 18:00** Field Trip

Saturday, 9th July 2016

Session 3 (theoretical) - Other geological hazards in active volcanic environments

- 9:00 – 9:45** Volcanic eruptions: types of volcanism, their implications to society and susceptibility analysis
PACHECO José
- 9:45 – 10:30** Hydrothermal emissions and diffuse degassing processes on volcanic areas
VIVEIROS Fátima
- 10:30 – 11:00** **Coffee break and students poster presentations**
- 11:00 – 11:45** Seismicity and ground deformation: a case study from Bárðarbunga (Iceland)
VOGFJÖRÐ Kristín
- 11:45 – 12:30** Tsunami hazard assessment
BAPTISTA Maria Ana
- 12:30 – 14:00** **Lunch break**

Session 4 (theoretical) - Risk management and civil protection

- 14:00 – 14:45** A global review on risk management
GLADE Thomas
- 14:45 – 15:30** Natural hazards to scientists and civil protection authorities in the Azores: two different views one common objective
GASPAR João Luís & DIAS José
- 15:30-16:30** Round Table - Risk management and Civil Protection
GASPAR João Luís; Azores Civil Protection member; VOGFJÖRÐ Kristín; GLADE Thomas; TEVES-COSTA Paula
- 16:30 – 17:00** **Coffee break and students poster presentations**
- 17:00 – 18:00** Course evaluation
ZÉZERE José Luís; MALET Jean-Philippe & MARQUES Rui
- 18:00 – 18:30** Closing ceremony
João Luís Gaspar - University of the Azores Rector; Gabriela Queiroz - Director of CVARG; Teresa Ferreira - President of CIVISA & Thomas Glade - President of CERG
- 20:00 – 22:00** Farewell party

Venue

The FORM-OSE Post-Graduate Training School 2016 will take place at the:

University of the Azores (Ponta Delgada *Campus*)
Scientific Building Complex
Rua Mãe de Deus
9500-321 Ponta Delgada
Azores – Portugal