













# NERA SEISMOLOGY@SCHOOL 2014 COURSE PROGRAM

**Program** 

Hes-so Valais-Wallis

Aula François- Xavier Bagnoud

Sion, 20-24 October 2014

**SUNDAY – October 19, 2014** 

Transportation from Sion train- station until "Hôtel Chalet Royal" in Veysonnaz

18.00 : Welcome

19.30: Registration

20.00 : Dinner "Hôtel Chalet Royal " restaurant

















#### MONDAY - October 20, 2014

#### 9.00: Welcome and Introduction

François Seppey, Director of the Hes-so Valais Stefan Wiemer, Director of the SED

#### **Session 1: Introduction in Seismology and Geodynamics**

#### 9.30: Earthquakes and waves.

Prof. Stefan Wiemer, Director of the SED, ETH Zürich, Switzerland.

#### 10.30: Evolution of plate tectonics and Seismology.

Prof. Jean-Pierre Burg, ETH Zürich, Switzerland

11.30: Coffee Break

#### 12.00: How Earthquakes occur?

Prof. Jean-Pierre Burg, ETH Zürich, Switzerland

13.00: Lunch break Hes-so restaurant

## Session 2: Bringing seismology into the classroom

## 14.00: Data, picking waves, earthquake localization, tectonic.

Dr. Stefano Solarino, INGV, Italy

# 15.00: Classroom hands-on activities

Dr. Joseph Moerschell, Hes-so, Switzerland

# 15.00: Classroom hands-on activities

Dr. Jean-Luc Berenguer, CIV Valbonne, France

# 15.00: Classroom hands-on activities

Dr. Paul Denton, British Geological Survey, UK

16.30: Coffee Break

## 17.00: Classroom hands-on activities

Dr. Joseph Moerschell, Hes-so, Switzerland

#### 17.00: Classroom hands-on activities

Dr. Jean-Luc Berenguer, CIV Valbonne, France

#### 17.00: Classroom hands-on activities

Dr. Paul Denton, British Geological Survey, UK

(Gr. A: Seismic instruments)

(Gr. B: Modeling earthquake, using data modeling)

(Gr. C: Modeling earthquake, seismic signal processing)

(Gr. B: Seismic instruments)

#### (Gr. C: Modeling earthquake, using data modeling)

(Gr. A: Modeling earthquake, seismic signal processing)

19.00: Dinner Hes-so restaurant















## TUESDAY- October 21, 2014

## Session 3: Observation, measurements and natural hazard

9.00: From site effects to induced phenomena: liquefaction and triggered landslides Prof. Donat Fäh, ETH Zürich, Switzerland

10.00: From site effects to induced phenomena: liquefaction and triggered landslides Prof. Donat Fäh, ETH Zürich, Switzerland

11:00: Coffee Break

11.30: Seismic risk in Alpine structure Dr. Stefano Solarino, INGV, Italy

12:30: Lunch break Hes-so restaurant

## Session 4: Bringing seismology into the classroom

14.00: Seismology@School: The European experience, now and future Dr. Paul Denton, British Geological Survey, UK

15.00: Classroom hands-on activities

Dr. Joseph Moerschell, Hes-so, Switzerland

15.00: Classroom hands-on activities

Dr. Jean-Luc Berenguer, CIV Valbonne, France

15.00: Classroom hands-on activities Dr. Paul Denton, British Geological Survey, UK

16.30: Coffee Break

16.00 - 19.30: CPPS experiments and shaking table Dr. Anne Sauron, ETH Zürich and Hes-so, Switzerland





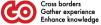
(Gr. C: Seismic instruments)

(Gr. A: Modeling earthquake, using data modeling)

(Gr. B: Modeling earthquake, seismic signal processing)









# **Open public Conference:**

## Aula François- Xavier Bagnoud

17.00: François Seppey: CPPS Introduction

Director of the engineer school: Hes-so Valais -Wallis

17.30: Jean-Marie Cleusix: CPPS and EPFL campus

Head of department of Education and Security.

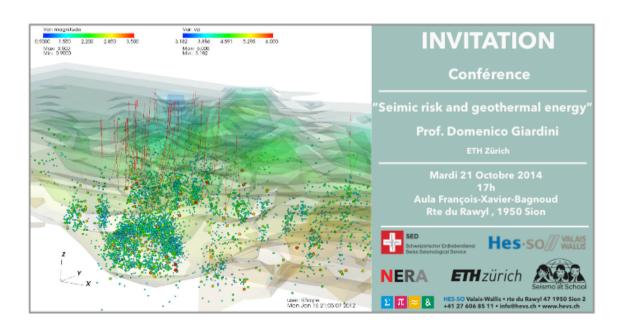
17.45: Marcel Maurer: EPFL campus and Sion

President of the City of Sion

18.00: Seismic risk and geothermal energy

Prof. Domenico Giardini, ETH Zürich, Switzerland

19.30: Aperitif-dinner Hes-so restaurant



















## WEDNESDAY October 22, 2014

## **Session 5: Seismic Risk Mitigation**

**9.00: Defeating Earthquakes: How to build?**Prof. Bozidar Stojadinovic, ETH Zürich, Switzerland

10.00: Expected Earthquakes and Seismic Risk Mitigation in Palestine

Prof. Jalal Al Dabbeek, UPDRR, Palestine

11.00: Coffee Break

11.30: Community Earthquake Preparedness and Disaster Education in Turkey

Assoc.Prof.Dr Gülüm Tanircan, Bogazici University, KOERI, Istanbul, Turkey

12.30: Lunch break Hes-so restaurant

## Session 6: Bringing seismology into the classroom

14.00: Community Earthquake preparedness and response for a Kibbutz (Sde Eliahu)

Dr. Gilles Hillel Wust-Bloch, TAV, Israel

15.00: Micro-earthquakes and their applications

Dr. Marianne Marot, Géo-azur Sophia-Antipolis, France

16.00: Coffee Break

16.30: Experiments, posters, made by teachers and/or students

19.00: Dinner Hes-so restaurant















## THURSDAY October 23, 2014

#### **Session 7: Seismic Risk Assessment**

9.00: The role of numerical simulations on hazard and risk assessment

Dr. Luis A. Dalguer, Swissnuclear, Switzerland

10.00: Extreme consequences of earthquakes:

Dr. Arnaud Mignan, ETH Zürich, Switzerland

11.00: Coffee Break

11.30: Earthquake risk in building codes and beyond

Dr. Blaise Duvernay, BAFU, Switzerland

12.30: Lunch break Hes-so restaurant

## Session 8: Teachers' projects

## 14.00: Earthquake risk in building codes and beyond

Dr. Roberto Peruzzi, Bureau d'ingénieurs civils Kurmann & Cretton SA, Switzerland

15.00: Seismology@school network, 'staying in touch'

Dr. Paul Denton, British Geological Survey, UK

16.00: Coffee Break

16.30: Teachers projects

Caroline, Ian and Gordon, British Geological Survey, UK

17.30: Visit of Sion Old town

19.30: Visit cave of vine in Wallis and Diner



Trainings Course















## FRIDAY October 24, 2014

**Session 9: Field trip** 

9.00: Field trip departure:

This field trip aims to discuss the structure of the Alps in the area of Sion (Valais, Suisse).

Prof. Jean-Luc Epard, University of Lausanne, Switzerland

Special emphasis will be placed on brittle structures such as faults. Several faults can be observed or postulated in the area.

Their history can be long and complex. Some are probably in relation to deposition of sediments during the Mesozoic or Cenozoic others are related to the Alps formation. Some sets could be very young in the Alpine kinematics and are compatible with the present day stress regime.

Consequences of the 1946 Sierre earthquake will be examined.

If weather conditions are good enough, a visit to the "Six des Eaux Froides" rock falls and to the nearby Tseuzier dam site is planned.

13.00: Lunch break picnic

17: Return

18.00: Seismology@school network, 'staying in touch'

Dr. Paul Denton, British Geological Survey, UK

18.30: Evaluation session and closure

19.00 Dinner "Hôtel Chalet Royal" restaurant

