# Dottorato di Ricerca in Scienze della Terra e dell'Ambiente

Dipartimento di Scienze della Terra e dell'Ambiente
Università degli Studi di Pavia
PAVIA
25-29 Settembre 2017

La scuola di Dottorato di Ricerca in Scienze della Terra e dell'Ambiente, nell'ambito del progetto di Mobilità Europea Università e Aziende organizza il seguente corso per studenti di dottorato

## *Interpretation and 2D/3D Model Building/Validation of Seismic Structures*

**Tutor**

Dr. Claudio Turrini (Consultant)

**Duration**

A five-day classroom course, from Monday 25 September 2017 (afternoon) to Friday 29 September 2017 (morning).

**Summary**

This course is a practical guide to the structural interpretation of seismic data and the related process of building a consistent structural framework. It covers natural structural geometries, both in time and depth, the ability to envisage them in 3D space, especially when data is limited, building a coherent architecture and validating each composing element.

**Learning Outcomes**

Participants completing this course will be able to:

- Generate a series of best practices for the structural interpretation of seismic data.
- Apply a practical interpretation workflow that fully takes account of the time versus depth relationship.
- Suggest a reasoned geological framework at both field and regional scale and within different tectonic settings.
- Build and validate the related 2D-3D structural model even when data are sparse and discontinuous.
- Question the structural models provided by others and ensure that such a configuration makes geological sense.

## Training Method

The course is classroom-based with maximum time spent on computer/exercise sessions.
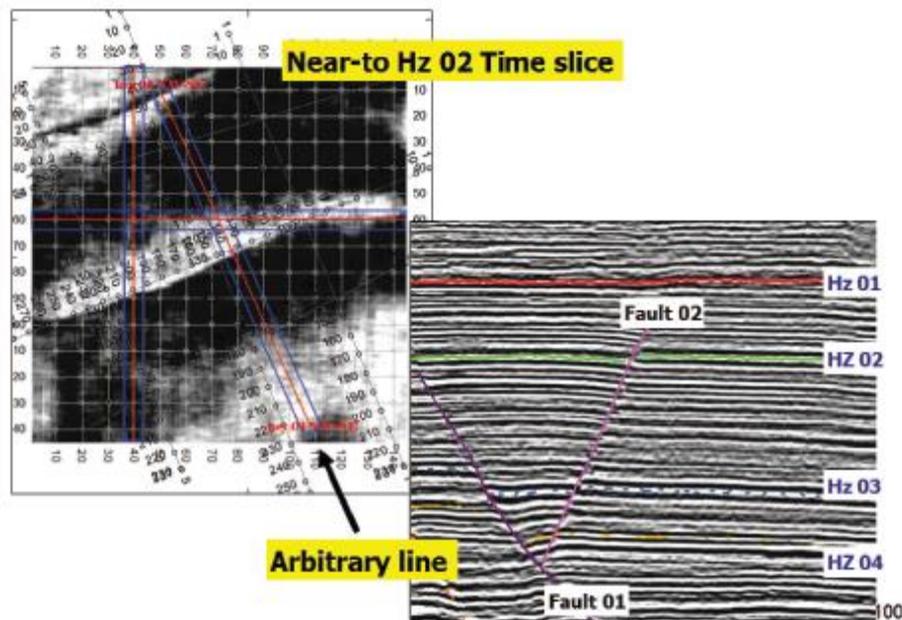


*Seismic interpretation of extensional structures from a 3D survey*

## Who Should Attend

The course is addressed to Ph.D and Post-doc students and researchers from Universities and Research Institutes.

## Detailed Program:

**Day 1 (25 September 14.00-17.00)**
- Introduction to the class.
- Basic criteria for structural modelling.
- Basic criteria for interpretation of seismic data.
- From seismic to structural modeling: the workflow
- Case study from the real world

**Day 2 (26 September 9.00-12.30/14.30-17.00)**
- Basic criteria for extensional structures.
- Exercise on seismic interpretation and structural modeling

**Day 3 (27 September 9.00-12.30/14.30-17.00)**
- Basic criteria for contractional structures.
- Sandbox modelling: a further reference to the interpretation of seismic structures (at the end of the day, participants will be invited to visit the new Analogue Model Lab of the Earth Science Department)
- Exercise on seismic interpretation and structural modelling

**Day 4 (28 September 9.00-12.30/14.30-17.00)**
- Basic criteria for strike-slip structures.
- Exercise on seismic interpretation and structural modelling

**Day 5 «Open session» (29 September 9.00-12.00)**

- Basic criteria for salt-related structures.
- Exercise on seismic interpretation and structural modelling
- "Open session": participants can bring their own data and discuss them with the tutor and other participants, asking questions, discussing problems, looking at possible solutions. If you want to treat and discuss your data using the software and tools presented during the class please bring them in a jpeg/tiff/png/gif format.
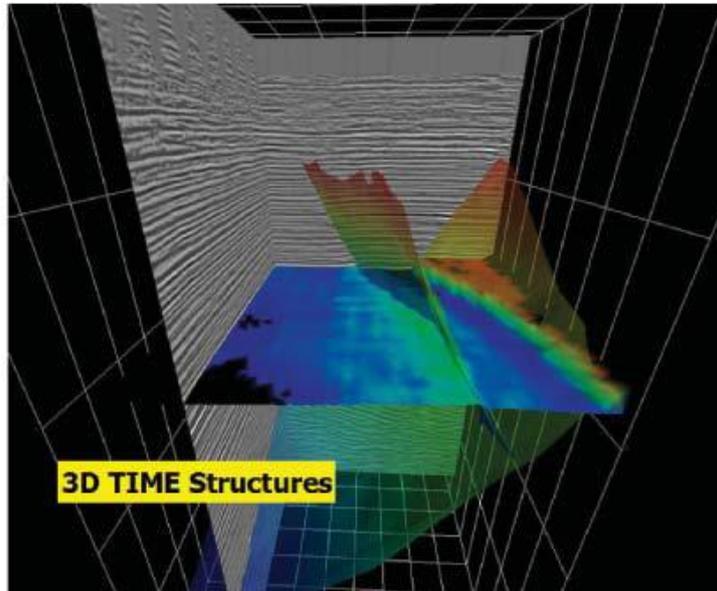


3D Structural Model building and validation

**Place**
The course will take place at the:
Dipartimento di Scienze della Terra e dell'Ambiente
Università di Pavia
Via Ferrata, 1
27100 Pavia.

**Participants** : maximum 24 (due to the number of workstations and software licenses).

**Registration** : please send an e-mail to
Dr. GIOVANNI TOSCANI      giovanni.toscani@unipv.it    ph : 0382/985857
All participants will be contacted by the organizer and will receive detailed information about possible accommodations and how to reach the place of the course.

**All participants will receive a participation certificate.**