International Winter School 2023

"Dynamics and Sedimentary Systems in Collisional Zones"

Within the PhD School in Earth and Environmental Sciences, University of Pavia

LECTURERS

Chiara Amadori – Univ. of Pavia
Giovanni Toscani – Univ. of Pavia
Francesco E. Maesano - INGV
Barbara Carrapa – Univ. of Arizona
Peter DeCelles – Univ. of Arizona
Sébastien Castelltort – Univ. of Geneva
Paolo Ballato – Univ. of RomaTre
Pietro Sternai – Univ. of Milano Bicocca

The school is dedicated to PhD students and Early Career Researchers in Earth Science.
The number of participants is limited to 30

To apply send 1 page CV to
Chiara Amadori
chiara.amadori@unipv.it

Application deadline: August 30, 2023
NO REGISTRATION FEE IS REQUIRED

APPLY FOR TRAVEL GRANTS FUNDED BY IAS!
deadline 1st August → https://www.sedimentologists.org/me/travel-grant

Winter School Program

2 October - Introduction and ice break event with presentations by the participants

3 October - Orogen-basin systems in Northern Italy

4 October - Sediment routing system in collisional zones

5 October – Himalayan thrust belt and its foreland basin system

6 October – Tour of the laboratories and L.E.N.A. Irradiation Centre

20 h of in-class lecture and 3.5 h practice = 5.5 CFU/ECTS

Goals
The major goal of this Winter School is to share and discuss the modern knowledge on fold-and-thrust belts and sedimentary basins developed in collisional systems (e.g., foreland basin). Topics covered by lectures have the purpose to show the interesting complexity about the Earth dynamics from a structural, sedimentological, and numerical modelling point of view. This course aims also at stimulating fruitful discussions on the relationship between collisional systems evolution, surface processes and long-term climate change.
Language: English.
Evaluation criteria
The final test is written, made of questions (open and/or multiple choice) on the topics covered during the course. The exam is passed (and CFU assigned) with minimum 60% of correct answers.

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→ **http://phd-dsta.unipv.it**

UNIVERSITÀ DI PAVIA
Department of Earth and Environmental Sciences

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2 October - Introduction and ice break event with presentations by the participants

- 9.30-10.15 – Registration and Introduction
- 10.15-11.30 - Participants presentations
- 11.30-12.00 - Coffee break
- 12.00-13.00 - Participants presentations
- 13.00-14.00 – Lunch break
- 14.00-15.30 - Open debate on Academic Career and mentoring.

3 October - "Orogen-basin systems in Northern Italy"

- 9.30-11.00 - "Northern Apennines, Southern Alps, Dinarides: three thrust belts with the same foreland". Giovanni Toscani (unipv). Part 1.
- 11.00-11.30 - Coffee break
- 11.30-13.00 - "Northern Apennines, Southern Alps, Dinarides: three thrust belts with the same foreland". Francesco Maesano (INGV).
- 13.00-14.00 – Lunch break
- 14.00-15.30 - "A shared foreland system: the Po Plain case study". Chiara Amadori (unipv). Part 1.
- 15.30-16.00 – Coffee break
- 16.00-17.30 - "A shared foreland system: the Po Plain case study". Chiara Amadori (unipv). Part 2.

4 October - "Sediment routing system in collisional zones"

- 9.30-11.00 - "Sediment generation and intermediate storage in intermontane basins". Paolo Ballato (Univ. of RomaTre). Part 1.
- 11.00-11.30 - Coffee break
- 11.30-13.00 - "Sediment generation and intermediate storage in intermontane basins". Paolo Ballato (Univ. of RomaTre). Part 2.
- 13.00-14.00 – Lunch break
- 14.00-15.30 - "Propagation of environmental signals from source to sink: concepts and examples to climate-driven stratigraphy in foreland basin". Sébastien Castelltort (Univ. of Geneva). Part 1.
- 15.30-16.00 – Coffee break
- 16.00-17.30 - "Propagation of environmental signals from source to sink: concepts and examples to climate-driven stratigraphy in foreland basin". Sébastien Castelltort (Univ. of Geneva). Part 2.

5 October – "Himalayan thrust belt and its foreland basin system"

- 8.30-10.30 - "Kinematic history of the Himalayan thrust belt and foreland basin system". Peter DeCelles (Univ. of Arizona).
- 10.30-11.00 - Coffee break
- 11.00-13.00 - "Introduction on detrital thermochronology and its applications to the Himalaya". Barbara Carrapa (Univ. of Arizona).
- 13.00-14.00 – Lunch break
- 14.00-15.30 - "Introduction to geodynamics and landscape evolution numerical modeling with applications to the India-Asia collision". Pietro Sternai (uniMIB) Part 1.
- 15.30-16.00 – Coffee break
- 16.00-17.30 - "Introduction to geodynamics and landscape evolution numerical modeling with applications to the India-Asia collision". Pietro Sternai (uniMIB). Part 2.

6 October – "Tour of the laboratories and Irradiation Centre L.E.N.A."

- 9.30-11.00 – Labs tour at the Department of Earth and Environmental Sciences.
- 11.00-13.00 - Tour at L.E.N.A.
- 13.00-14.00 – Lunch break
- 14.00-16.00 – FINAL TEST

APPLY TO TRAVEL GRANTS!! IAS