



Understanding Deep Crustal Processes

Winter School (January 30 - February 2, 2023)

With lectures and virtual laboratories held from 8:30 AM to 6:00 PM (GMT+1)

30th January 2023

08h30 - Welcome and introduction

- 08h40 Formation and composition of the lower crust [Othmar Müntener]
- 09h30 Petrology of melting [Bernardo Cesare]

10h30 Break (30 minutes)

- 11h00 Structures and metamorphism in collisional orogens: insights from numerical modeling [Manuele Faccenda]

12h00 Lunch

- 13h30 Flash-talks with short presentations by in person participants

15h30 Break (30 minutes)

- 16h00 Thermo-Chemo-mechanical coupling in metamorphic petrology [Lucie Tajčmanová];
- 17h30 Discussion

18h00 End

31st January 2023

- 08h30 Anatectic rocks under the microscope [Bernardo Cesare]
- 09h30 Multiphase fluid inclusions in migmatites and granulites [Bruna Borges Carvalho]

10h30 Break (30 minutes)

- 11h00 Chemistry of anatectic melts: nature, models and experiments [Omar Bartoli]

12h00 Lunch

- 13h30 Practical activities: anatectic rocks under the microscope [Bernardo Cesare, Bruna Borges Carvalho, Omar Bartoli]

15h30 Break (30 minutes)

- 16h00 The Beauty and the Beast, phase equilibrium modelling in metamorphic petrology [Lanari & Forshaw];
- 17h00 Local equilibria and reactive bulk composition and Bingo-Antidote [Pierre Lanari]

18h00 End

1st February 2023

- 8h30 Recent technology (2D and 3D) [Richard Taylor]
- 9h30 Link between Mineralogic and XMapTools [Richard Taylor and Pierre Lanari]

10h30 Break: 30 minutes

- 11h00 Data reduction using XMapTools [Pierre Lanari]

12h30 Lunch

- 14h00 Accessory minerals and isotopic signature in the lower crust [Daniela Rubatto]
- 15h00 Dating igneous and metamorphic events in the lower crust [Daniela Rubatto] part 1

16h00 Break (30 minutes)

- 16h30 Dating igneous and metamorphic events in the lower crust [Daniela Rubatto] part 2
- 17h30 Discussion

18h00 End

2nd February 2023

- 8h30 Crustal melting and its stable isotope record with examples from the Chon Aike SLIP (Silicic Large Igneous Province) in Patagonia [Benita Putlitz]

- 9h30 Granite formation, where and how and from the Archean to present [Othmar Müntener]

10h30 Break (30 minutes)

- 11h00 Crystallization and melt-mineral equilibration [Lukas Baumgartner]

12h00 Lunch

- 13h30 Partial melting of carbonate-rich rocks [Lukas Baumgartner (1 h)]
- 14h30 Closure of the School, End of Course.

Jointly organized by the Universities of Lausanne and Padua at the Department of Geosciences, University of Padua with the support of Carl Zeiss SpA – Microscopia



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