

Quaternary paleoenvironments and paleoclimate in the Mediterranean area

16-18 December 2019 - Dipartimento di Scienze della Terra (Firenze)

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The future of Mediterranean ecosystems and landscapes is clearly tied to water availability and global climate change. While modern vegetation data from the region provide a baseline for understanding relationships between aridity and vegetation composition, paleoecological records bring support for understanding vegetation responses at longer time scales. Paleoecological records show that aridity, as a feature of the Mediterranean basin, appeared early, gradually increasing up to the present time.

Italy represents one of the most informative Mediterranean areas to: (i) reconstruct the response of vegetation to various climatic stresses; and (ii) assess the likely future behaviour of Mediterranean plants. Furthermore, the Italy's rich geological and stratigraphical record makes it (iii) a significant source of information on the history of Mediterranean. This course focuses on understanding the:

1. response of vegetation/environment (from 2.6 Ma) to variations in climatic forcing on orbital and millennial/submillennial (e.g. Heinrich events, D-O, Bond cycles) timescales;
2. driving and environmental context of the phases of migration and successive colonization of hominins including the impact of human practices in the recent periods;
3. interglacial features from 2.6 Ma for a better evaluation of the future and length of the Holocene.

The seminar, open to students, PhD and young researchers is carried out thanks to the Erasmus program and has the Patronage of AIQUA (Italian Association for the Study of the Quaternary)

PROGRAM

16.12.2019

10.30-13.00 (ROOM E) - Introduction to palynology. Pollen, spores and dinocysts morphology, palynofacies. From the samples to the palynological slides. Applications of palynology to: archeology, criminology, aerobiology, ...

14.30-17.00 (ROOM E) - Introduction on paleoenvironment and paleoclimate changes in the Mediterranean during the Quaternary with special focus on the Italian peninsula.

17.00-17.30 (ROOM E) - Introduction to practical palynology.

17.12.2019

8.30-10.30 (Laboratory of Palynology, DST) - How to prepare sedimentary samples for palynological investigations: visit to laboratory and introduction to the chemical-physical methods. Practical examples on: how to use Ultrasounds to filter sediments? How to prepare microscope slides?

10.30-13.30 (ROOM E) - Cases of study in the whole Mediterranean area and application of transfer functions to reconstruct paleoclimatic parameters (T, P, ...).

14.30-17.30 (ROOM E) - Practical palynology: exercises, flora, vegetation, climate, human impact, comparison with other marine and continental proxies.

18.12.2019

8.30-12.00 (ROOM E) - Practical palynology: exercises, flora, vegetation, climate, human impact, comparison with other marine and continental proxies. - correction of exercises

12.00-13.30 (ROOM 215) - Practical palynology: Microscope analyses.

VENUE: Dipartimento di Scienze della Terra, via G. La Pira 4, Firenze (Rooms E, Laboratory of Palynology-first floor, 215-second floor) .

REGISTRATION: please contact by mail adele.bertini@unifi.it