

Quaternary paleoenvironments and paleoclimate in the Mediterranean area

15-17 October 2018 - 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;
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

15.10.2018

10.30-13.00 (ROOM B) - Introduction to palynology. Pollen, spores and dinocysts morphology, palynofacies; countings, palynological diagrams. From the samples to the palynological slides: illustration of the chemical-physical treatment of marine and continental sediments.

13.00-13.30 (Laboratory of Palynology, DST) - Visit to laboratory and introduction to the chemical-physical methods.

14.30-17.30 (ROOM E) - Introduction on paleoenvironment and paleoclimate changes in the Mediterranean during the Quaternary with special focus on the Italian peninsula.

17.30-18.30 (ROOM E) - Introduction to practical palynology: exercises, flora, vegetation, climate, human impact, comparison with other marine and continental proxies.

16.10.2018

14.30-16.30 (ROOM E) - Cases of study in the whole Mediterranean area and application of transfer functions to reconstruct paleoclimatic parameters (T, P, ...).

16.30-18.30 - (ROOM E) - Practical palynology: exercises, flora, vegetation, climate, human impact, comparison with other marine and continental proxies.

17.10.2018

11.30-13.30 (Laboratory of Palynology DST) - How to prepare sedimentary samples for palynological investigations.

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

18.10.2018

9.00-11.00 - Corrections exercises of students absent from the Practical palynology lessons.

VENUE: Dipartimento di Scienze della Terra, via G. La Pira 4, Firenze (Rooms E, B, Laboratory of Palynology) .

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

STUDENTS UNABLE TO BE PRESENT DURING ALL THE PRATICAL PALYNOLOGY LESSONS WILL SEND THEIR EXERCISES DONE IN PDF (BY WETRANSFER) BY 9 A.M. OF 18.10.2018 AND A CORRECTION WILL BE RETURNED BY THE PROFESSORS.