Sala Strozzi
UNIFI-DST
Firenze
14 - 15
November
2024

Finanziato dall'Unione europea NextGenerationEU

Ministero dell'Università e della Ricerca

Italiadomani

NATIONAL BIODIVERSITY FUTURE CENTER

Università degli Studi Firenze DST Dipartimento di Scienze della Terra

Da un secolo, oltre.

HNHP Histoire Naturelle de l'Homme Préhistorique

isem Institut des Sciences de l'Evolution-Montpellier

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CLIMATE CHANGE, BIODIVERSITY, AND SUSTAINABILITY: LESSONS FROM NATURAL ARCHIVES AND PROXIES

ADELE BERTINI [1-2], NATHALIE COMBOURIEU-NEBOUT [3], FEDERICA BADINO [1-2], GABRIELE NICCOLINI [1], LUCAS DUGERDIL [4-5] & MAE CATRAIN [3]

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THE SEMINAR IS PART OF THE DOCTORAL PROGRAM IN EARTH AND PLANETARY SCIENCES UNIVERSITY OF FLORENCE [2 DAYS, 16 HOURS].

FOR REGISTRATION: HTTPS://FORMS.GLE/RNWBY4ECVO72ETGV5 AND INFORMATION: FEDERICA.BADINO@UNIFI.IT

Climate Change, Biodiversity, and Sustainability: Lessons from Natural Archives and Proxies

DST - Sala Strozzi

Firenze, 14 – 15 November 2024

ADELE BERTINI[1-2], NATHALIE COMBOURIEU-NEBOUT[3], FEDERICA BADINO[1-2], GABRIELE NICCOLINI[1], LUCAS DUGERDIL[4-5] & MAE CATRAIN[3]

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[5]UMR 5276 LGLTPE, Lyon.

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 direct evidence of relationships between aridity and vegetation composition, palaeoecological records provide support for understanding vegetation responses over longer time scales. Paleoecological records show that aridity, as a feature of the Mediterranean basin, appeared early, and has gradually increased to the present day. 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 behavior of Mediterranean plants. Furthermore, the Italy's rich geological and stratigraphical record makes it (iii) an important source of information on the history of biodiversity in the Mediterranean.

The Seminar will last 16 hours between November 14 and 15, 2024 as part of the PhD Course in Earth and Planetary Sciences at the University of Florence. The Seminar will involve the participation of various scholars specialized in the use of different proxies, such as pollen, dinocysts and other non-pollen palynomorphs, palynological organic matter, and climate reconstructions. Among the various topics covered in the Seminar, special emphasis will be given to the following issues: i. long-term biodiversity changes, ii. aridity and biodiversity changes; iii. vulnerability of Mediterranean ecosystems and biodiversity conservation; iv. mathematical approach to highlight rapid and/or recurrent extreme events and their impacts on biodiversity. In addition, applications and laboratory activities will be developed.

14 November 2024

9:00 – 10:00	*Biodiversity: an introduction to Past, Present, and Future Perspectives*
10:00 – 11:00	*Vegetation and climate change: response to aridity*
11:00 – 12:00	*Environmental reconstruction and biodiversity: insights from palynological organic matter analysis*
12:00 – 13:00	*Discussion*
13:00 – 14:00	LUNCH
14:00 – 15:00	*Vulnerability of Mediterranean ecosystems and biodiversity conservation*
15:00 – 15:30	*New insights from a data mining approach to highlight rapid or repetitive extreme events and their consequences on biodiversity*

15:30 – 17:30	*Multi-method climate reconstructions from pollen data and comparison with other proxy-inferred data*
17:30 – 18:00	*Discussion*

15 November 2024

9:00 – 10:30	*Exploring Biodiversity & Climate: Questions Answered*
10:30 – 12:30	***Practical**: How to recognize the glacial/interglacial cycles through pollen data*
12:30 – 14:00	LUNCH
12:00 – 12:30	*Discussion*
12:30 – 14:00	LUNCH
14:00 – 16:00	***Practical**: Fires and biodiversity: Lab preparation, microscope analysis and introduction to statistical tools for sediment-charcoal analysis*
16:00 – 18:30	***Practical:** Discovering Palynomorphs: microscopic insights into past environments, climate, and biodiversity*

The Seminar is part of the Doctoral program in Earth and Planetary Sciences – University of Florence [2 days, 16 hours]. DST and the Ateneo of Firenze contributed with the Internationalization Grant Program. It is open especially to students, PhD and young researchers. Courses will be held in presence and via videoconference (except for practical activities on 15.11.2024) with a link sent on request. Certificates will be issued at the end of the course to those who attend at least 75% of the seminar.

***Venue**: Earth Sciences Department, G. La Pira 4 street, Florence - Sala Strozzi*

Registration form: https://forms.gle/RnwbY4Ecvo72Etgv5

Online registration is open until midnight Sunday 3 November 2024.

If you need assistance, please contact: *federica.badino@unifi.it*