

**16 June 2023**

Universitat Pompeu Fabra, Campus Ciutadella  
And hybrid via ZOOM

## RAINDROPS workshop

### *Recent advances on stable isotope analysis on modern and archaeological plant remains*



Recent advances in isotope analysis of botanical remains are expanding the scope of traditional archaeobotanical investigations, allowing to unravel the complex relationships between plants and their ecosystems throughout time. The analysis of stable isotopes in plants, i.e. seeds, phytoliths, charcoal are a useful method to infer natural and anthropogenic effects on the growing conditions of plants. Applications span from the reconstruction of climate, to crop growing conditions, reaching to crop provenancing. Stable isotopes act as natural tracers, preserving information about ancient climates, water sources, and nutrient cycles. This information is particularly significant for understanding past agricultural practices, human diets, and the ecological adaptations of plants.

In the framework of the ERC Starting Grant RAINDROPS we invite you to participate in a workshop dedicated to recent research on stable isotopes analysis applied to botanical remains. This will serve a starting point for a reflection on how isotope analysis on experimental and ethnographic reference material allow us to better understand past human-plant relationships and how this research can contribute to the present debate of resilient ecosystems.

The session will be held in hybrid form and it will be possible to participate via ZOOM. Please sign up using this [FORM](#)

## Program

- 9.15- 9.30 Welcome
- 9.30-10.00 Girolamo Fiorentino (Dep. Cultural Heritage, University of Salento)  
*Stable isotope analysis in archeobotanical research (TBC)*
- 10.00-10.30 Amy Strying (School of Archaeology, University of Oxford)  
*Reconstructing the openness of prehistoric woodlands using stable carbon isotope values of hazelnuts*
- 10.30-11.00 Giedre Motuzaitė-Matuzevičiute (Dep. of Archaeology, University of Vilnius)  
*The past and future of C4 plant adaptation in the northern latitudes*
- 11.00-11.30 Coffee break
- 11.30-12.00 Juan Pedro Ferrio (ARAID, CITA Research Centre)  
*From source to sink: fractionation processes determining carbon and oxygen isotopes in plants*
- 12.00-12.30 Laia Andreu-Hayles (CREAF, University Autònoma of Barcelona)  
*Stable isotopes in tree rings*
- 12.30-13.00 Daniel Frick (Dep. of Geosciences, University of Kiel)  
*Stable silicon isotope ratios of individual phytoliths as a proxy for (paleo-)soil water composition*
- 13.00-13.30 Paola Iacumin (Dep. of Chemistry, Life Sciences and Environmental Sustainability, University of Parma)  
*Oxygen isotope analysis in botanical remains (TBC)*
- 13.30-15.00 Lunch break
- 15.00-16.30 Afternoon - focus session on RAINDROPS [various members of the project will present the results of their research followed by discussion]
- 16.30-17.00 Coffee break
- 17.00-18.00 General discussion and final remarks