

## Summer School

### Isotope Investigations in Archaeology: Methods and Applications



The *Summer School in Isotope Investigations in Archaeology: Methods and Applications* is a high-level training initiative aimed at master's and doctoral students interested in the application of stable isotopes in archaeology. The program offers an advanced, multidisciplinary approach, with the goal of providing both theoretical and practical skills in the use of stable isotopes (C, N, O, H, S, Sr) for the analysis of ancient diets and human mobility, as well as for studying the provenance and production techniques of lithic materials (marble and ceramics).

The course structure combines solid theoretical foundations with practical applications, including lectures, exercises based on real case studies, and hands-on laboratory sessions. Participants will deepen their understanding of the fundamentals of isotopic geochemistry, with particular focus on isotope fractionation mechanisms and key methodologies for analyzing stable isotopes in biological and archaeological materials.

Teaching activities focus specifically on bone collagen analysis for paleodiet and mobility reconstruction, dental enamel for dietary and geographic origin studies, and stone materials for exchange dynamics, as well as ceramics for technological characterization and provenance analysis. Laboratory sessions will offer a comprehensive experience—from sample preparation using standardized protocols, to the use of advanced analytical instruments (IRMS, MC-ICP-MS), and the critical evaluation of data within their archaeological context.

The distinctive feature of the Summer School is its strong interdisciplinary approach, made possible by the strategic collaboration between the Department of Geosciences and the Department of Cultural Heritage at the University of Padua (UNIPD), the Department of Chemical and Geological Sciences at the University of Modena and Reggio Emilia (UNIMORE), and the scientific partnership with the Observatoire des Sciences de l'Univers de Lyon, a member of the Arqus Alliance. This institutional synergy ensures an integrated perspective combining geochemical, archaeological, and technological expertise.

The initiative aims to foster the development of highly specialized skills in the field of isotope analysis applied to archaeology, promoting internationalization and academic mobility, the sharing of advanced knowledge, and the joint design of research activities within the Arqus Alliance.

## KEY INFO

**Dates:** 29<sup>th</sup> June 2026 – 4<sup>th</sup> July 2026

**Target:** Master's and PhD students

**Location:** Padua, Department of Geosciences

**ECTS:** 3

**Fee:** 500 euros per week / 20% fee waiver for students of partner universities / 50% fee waiver for Arqus students (including UNIPD students). A maximum number of waivers might apply.

**Contact:** [summerschool@unipd.it](mailto:summerschool@unipd.it)

**Application dates:** 15<sup>th</sup> November 2025 – 15<sup>th</sup> March 2026