



## Key info

### Dates:

29th June 2026 – 3rd July 2026

### Target:

Master's and PhD students

ECTS: 3

### Registration deadline:

15th March 2026

## Experts

Manuel Rigo

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Mara Bortolini

Christophe Lecuyer

Federico Lugli

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## Contact us

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<https://www.unipd.it/isotope-investigations-archaeology>

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# University of Padova

DEPARTMENT OF GEOSCIENCES

DEPARTMENT OF CULTURAL HERITAGE

# Isotope Investigations in Archaeology: Methods and Applications



# Background

The Summer School in Isotope Investigations in Archaeology offers a hands-on introduction to stable isotope analysis (C, N, O, H, S, Sr) and its archaeological applications.

Through lectures, case studies, and laboratory sessions, participants will learn how isotopic data from bones, teeth, ceramics, and stone materials can be used to investigate ancient diets, mobility, and material exchange.

Guided by international experts, the course provides both theoretical background and practical training with advanced analytical techniques, including IRMS and MC-ICP-MS, in a truly interdisciplinary framework.



# Course Programme

## Monday – Introduction & Sampling

- Welcome and course overview
- Introduction to isotope geochemistry
- Introduction to anthropology
- Introduction to lithic and ceramic studies
- Sample selection and preparation (theory and practice)

## Tuesday – Analytical Techniques

- Principles of isotope geochemistry
- Biogeochemical cycles
- Mass spectrometry (EA, ICP-MS)
- Sequence preparation and data calibration



## Wednesday – Stable Isotopes

- Stable isotopes (C, N, S, O, H): principles and interpretation
- Case studies (working groups)
- Gas Bench mass spectrometry

## Thursday – Radiogenic Isotopes & Data Analysis

- Sr and O isotopes
- Statistical approaches in isotope data interpretation
- Enamel sample preparation
- Applied case studies

## Friday – Applications & Synthesis

- Case studies: lithics, ceramics, and bioarchaeological materials
- Working group activities
- Student presentations and discussion
- Conclusions

# Farewell party

Join us and be part of a new generation uncovering ancient lives through science.