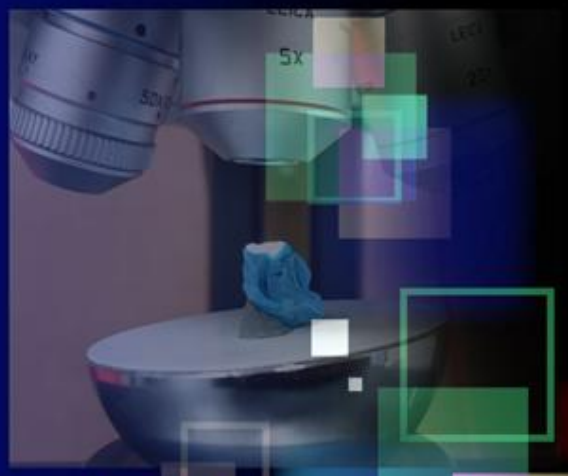


3D textural analysis

3D Textural Analyses Applied to the Ecology of Extant and Fossil Faunas (DMTA: Dental Microwear Texture Analysis): Data Acquisition, Processing, and Interpretation

Date:
April 22-23, 2026

Duration:
14.5 hours of training

Localisation :
Laboratoire Paléontologie Evolution Paléoécosystèmes Paléoprimatologie
Université de Poitiers - Bât B35 - TSA 51106
6 rue Michel Brunet - 86073 POITIERS Cedex 9

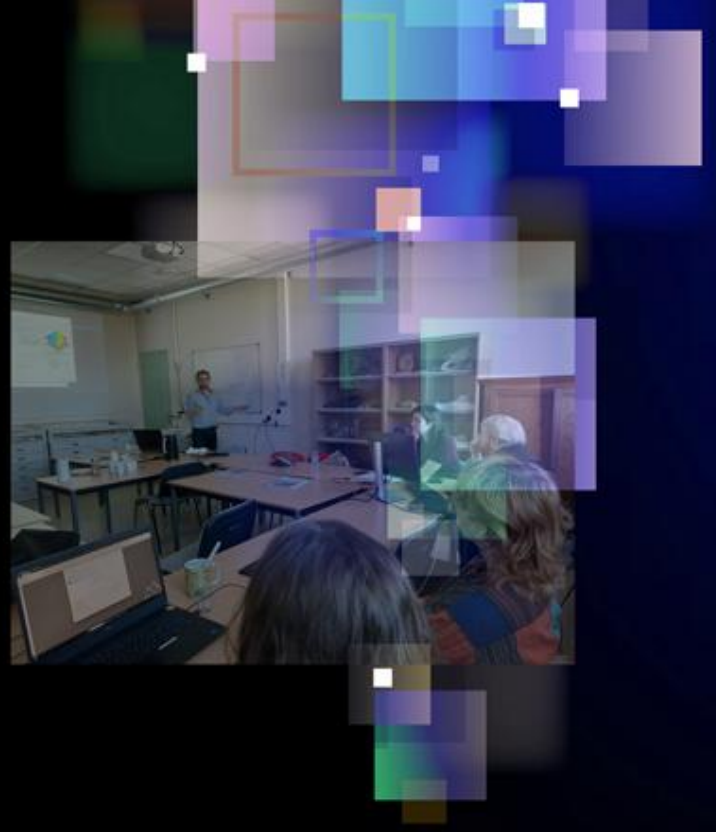
Registration :

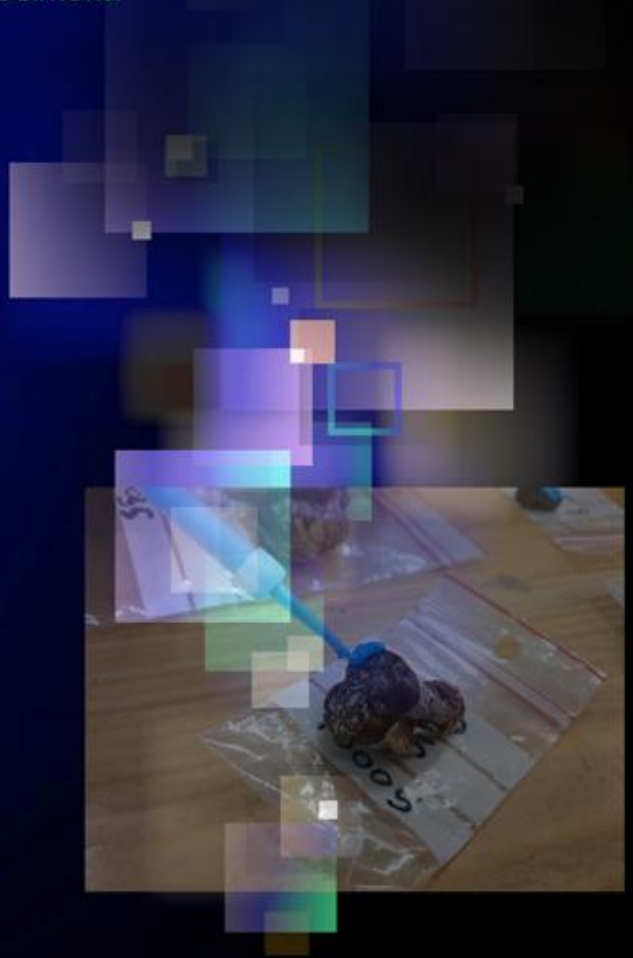
- adum.fr for PhD students of the Rosalind Franklin Doctoral School
- or contact the organizers:
  - emilie.berlioz@cnrs.fr ;
  - jerome.surault@univ-poitiers.fr

Program Summary

This training course, offered by the PALEVOPRIM laboratory (UMR 7262, University of Poitiers & CNRS Ecology and Environment), aims to provide participants with theoretical knowledge and practical skills in the use of the laboratory's Leica DCM-8 surface profilometer, as well as in the processing tools and statistical analysis of acquired surface textures.

The training course is primarily focused on the application of 3D dental microwear texture analysis (Dental Microwear Texture Analysis, DMTA) to mammalian teeth, with the aim of addressing questions in ecology and paleoecology (dietary reconstruction, comparison of trophic niches, intra- and inter-population variability, etc.). This is a non-invasive approach that leaves no marks on the specimens.





At the end of the training course, participants will be able to:

- Making dental facet impressions using high-precision dental silicone;
- Surface scanning of dental facets from these impressions using the Leica DCM-8 profilometer;
- Pre-processing of the acquired surfaces (point clouds; management of surface defects, correction of non-measured points, levelling, etc.);
- Extraction of quantitative textural parameters (DMTA–Scale Sensitive Fractal Analysis; DMTA–ISO 25178);
- Statistical analysis of the results;
- Interpretation of the results to address questions in (palaeo)ecology.

Participants will also be introduced to the implementation of FAIR principles (Findable, Accessible, Interoperable, Reusable), particularly with regard to metadata organization, data archiving, and the reproducibility of data processing workflows in the field of texture analysis.

Final objective: to be able to independently conduct a 3D dental microwear texture analysis (DMTA) study.

Gildas Merceron
CNRS
Senior Researcher
Co-coordinator of the training course

Mammalian
(palaeo)ecology

Emilie Berlioz
CNRS
Researcher
Co-coordinator of the training course

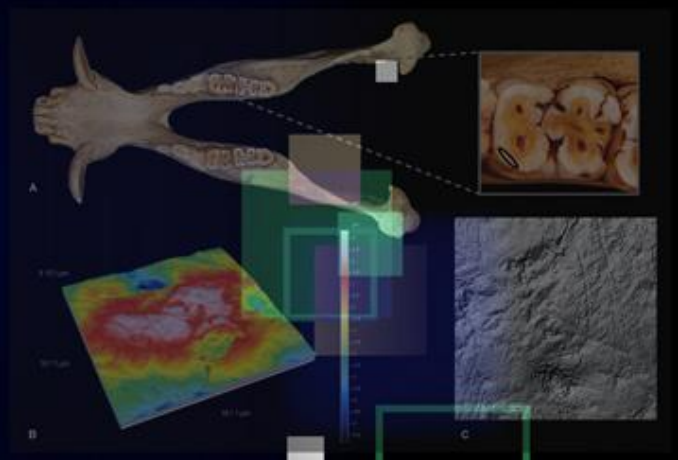
(Paléo)écologie des
grands ongulés quaternaires

Training team

Confocal profilometer
(Leica DCM8 – Leica Microsystems)

Jérôme Surault
Assistant Engineer
UP (AI)

Head of the PALEVOPRIM
technical platform

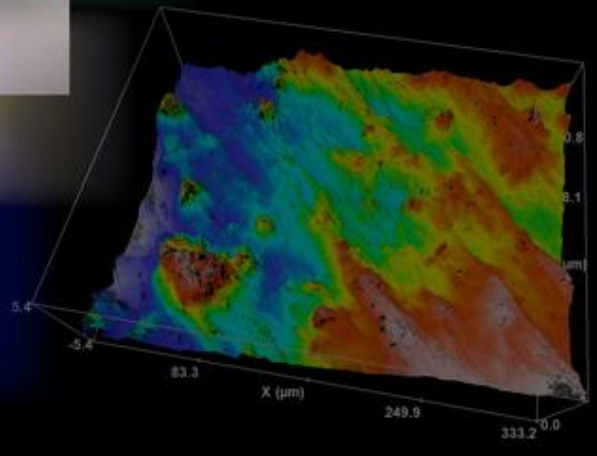


List of software

- LeicaMap
- LeicaScan
- R Studio
- Trident

Registration instructions

- No specific prerequisites are required.
- Where possible, the practical training materials will be adapted to participants' individual research interests. We therefore ask you to provide information about your research subjects and your expectations when registering.
- **Limited to 8 participants.**



PALEVOPRIM

Université de Poitiers

cnrs

ECOLE DOCTORALE Rosalind FRANKLIN