

*Bordeaux Montaigne University is recruiting
A Post Doctoral Candidate*

Function	Post-doctorate
Level	Public service, Category A
Quota	100%
Nature and duration of the contract	2-year post-doctorate fixed-term contract for the physico-chemical analysis of ancient materials (ceramics and lithics), and the integration of data using 3D technologies and an interactive database. Starting : February 2025
Location	Laboratory : Archéosciences Bordeaux University Bordeaux Montaigne Campus Pessac
Assignment	Archéosciences Bordeaux – UMR 6034
Diplomas and experience	Doctorate or engineering degree: Physics of Archaeomaterials – Physics/Chemistry – Experimental Physics – Analytical Chemistry
Salary	From €2,874.90 gross per month (INM 584), depending on experience
Others	35h/week - 4.5-day working week - 47 days holiday/year from 1st year - on-site catering available - access to cultural and sporting activities

Presentation of Archéosciences Bordeaux - UMR 6034

(University Bordeaux Montaigne - CNRS - EPHE - UB)

Archéosciences Bordeaux is a research unit at the interface of the human and social sciences and the physical, chemical and natural sciences. Its research focuses on the chronology of human settlements, the circulation of ancient materials and techniques and imagery applied to heritage.

<https://www.archeosciences-bordeaux.fr/>

University Bordeaux Montaigne is a university of Arts, Humanities, Languages and Social Sciences that welcomes more than 17,000 students every year. It has a staff of 1258, including 707 teaching and research staff and 551 administrative and support staff. It is currently organised into 3 UFRs, 2 institutes (IJBA and IUT), 1 doctoral school, 16 research teams including 7 joint units with CNRS, and the Maison des sciences de l'homme de Bordeaux, a research support unit.

<https://www.u-bordeaux-montaigne.fr/fr/universite/chiffres-cles.html>

Context

European project ECCCH (European Collaborative Cloud for Cultural Heritage) starting 01/09/2024 for 4.5 years

AUTOMATA : AUTOMated enriched digitisation of Archaeological liThics and cerAmics

Keywords : *Archaeology, Robotics, Archaeometry, Digitization, Trustworthy AI, Crowdsourcing, Artistic data reuse*

Objective of the post-doctoral research

The aim is to develop the analysis of archaeological heritage objects using non-contact methods, with a view to automating the process that will be put in place. The equipment will have to be selected, acquired and tested in a specific environment where the objects will first be digitised. The construction of a reference system for ceramics and lithics is envisaged. The analysis data will be standardised and collected in an interactive database (3D Referenced Information System) so that it can be viewed and queried directly on the 3D models.

Missions

The person recruited will be involved in drawing up specifications, selecting and testing analysis equipment. He or she will be involved throughout the acquisition phase of mobile equipment adapted to the physico-chemical analysis of archaeological objects in a restricted environment. She will be in close contact with the second post-doc involved in optics and robotics.

In a second phase, he/she will be in contact with the partner researchers in the European programme (12 partners), in particular to ensure technology transfer to the robotics and computer science laboratories in Italy, and to the partners with archaeological collections, in particular INRAP in France and the universities of Pisa and Barcelona, and the Zagreb museum.

Activities

Demonstrations will be carried out as soon as the equipment acquired under the programme has been tested.

Bimonthly reports will be submitted to the Bordeaux managers and the European coordinator.

The construction of an interactive database (SIR3D) is planned in conjunction with the Archeovision platform. Publications and communications will be envisaged as the project progresses at local level, and at European level with the programme's partners.

Expected skills

- Mastery of physico-chemical analysis methods: X-ray fluorescence (XRF), hyperspectral imaging (HSI), Raman spectrometry
- Mastery of 3D and Data Base tools
- Vision and interdisciplinary approach (archaeometry - optics - robotics)
- Synthesis skills
- Project management
- Communication and promotion skills (reports, conferences, publications)
- Fluency in English (C1 level)

Contacts :

Rémy CHAPOULIE remy.chapoulie@u-bordeaux-montaigne.fr

Romain PACANOWSKI Romain.Pacanowski@inria.fr

Applications (CV and covering letter) must be sent no later than
20th December 2024