Research Associate in Archaeological Chemistry (TRADITION)

**Department:** Archaeology

**Hours of work:** 37 hours a week / Full-time

**Contract type:** Fixed-term / 36 months

**Salary:** £32,817 to £34,804 a year / grade 6.1 to 6.3
Introduction

The vacancy of a postdoctoral appointment of 36 months is available in the Department of Archaeology has arisen following the award of the ERC funded project “TRADITION: Long-term Coastal Adaptation, Food Security And Poverty Alleviation In Latin America”. The vacancy is for an analytical chemist or archaeological scientist to principally work on the chemical analysis of pre-contact and colonial ceramic vessels from the Atlantic Forest coast of Brazil. The successful applicant will investigate changes in cuisine and culinary practices in this region between 2,000 and 100 years ago through lipid residue analysis.

The successful applicant will be expected to work independently in the lab, from sample preparation and analysis, to reagent maintenance. She/he will help design experiments, participate in data analysis, and manage the sampling database.

Other duties will involve assisting the PI Andre Colonese and senior scientists towards delivering the overall goals of the project, under the direction of Prof. Oliver Craig. The post will be based in BioArCh, Heslington West Campus and will start no later than the 1st October 2020.

Context:

TRADITION is an ERC-Consolidator Grant funded research project that will assess the long-term development of small-scale fisheries in South America, and their legacy to present day food security and poverty alleviation. Our interdisciplinary team will investigate the historical ecology of subsistence fisheries along the Atlantic Forest coast of Brazil during major cultural and environmental events to test the hypothesis that fishing has played a role in supporting agricultural expansion in pre-Columbian times and during the historical colonization and urbanization of this region, and that this still echoes among present day artisanal fisheries. The traditional knowledge of small-scale fisheries is seen as crucial in current debates and policies concerning sustainable fisheries and biodiversity, yet these fisheries and their actors are historically invisible in most tropical and subtropical regions. A thorough recognition of their socio-economic and ecological importance requires an understanding of the scale of human interaction with marine environments and resources that transcends modern assessments and most historical records.

As a PDRA you will work with the project team to undertake organic residue analysis of pottery vessels. Pottery is a key piece of material culture that links the different coastal communities from the prehistoric to the very recent. Changes in the use of pottery and culinary practices through the various economic and social traditions will be an important strand of evidence on which to base our final interpretations.

The successful applicant will participate in selection of vessels working closely with our collaborators in Brazil and then apply well established methods to the samples, including high-throughput lipid residue analysis, involving GCMS and GC-c-IRMS. They will work on the interpretation of the data and integration with other sources of palaeoeconomic and palaeoenvironmental data generated by the project, such as faunal evidence and human bone collagen isotope records.

You will also work closely with the PI (Dr. Andre Colonese) and Brazilian partners of the project to prepare work for dissemination, including presenting research findings internally and externally at seminars, workshops and conferences, and assisting in writing articles, papers, reports, etc. for publication.
Main purpose of the role

- To conduct research under the supervision of senior colleagues and to contribute to the production of research
- To assist in the identification and development of potential areas of research and the development of proposals for independent or collaborative research projects

Key responsibilities

(Role holders will be required to undertake some or all of the duties below)

- To conduct individual and collaborative research projects, duties to include: analysis and interpretation of research data; use of appropriate research techniques and methods; writing up of research results and dissemination through publications, seminar and conference presentations and public engagement and outreach activities; contributing to the identification of possible new areas of research
- To contribute to the preparation of research proposals and applications to external bodies
- To undertake appropriate organisational and administrative activities connected to the research project, including conference organisation, and the development of promotional or educational material including website maintenance and development
- To develop and initiate collaborative working internally and externally, duties to include: the building of internal contacts and participation in internal networks; collaboration with colleagues on joint projects as required; participation in and identification of external networks in order to share information and identify potential opportunities for collaboration and possible sources of funding; attendance at and contribution to relevant meetings
- To provide guidance to other staff and students, as required, as well as coordinating the work of small research teams
- To assist with undergraduate teaching in own area of expertise
## Person specification

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>Essential / Desirable</th>
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<tbody>
<tr>
<td>First degree in chemistry, archaeological science, biochemistry, earth sciences, or a related topic or equivalent experience</td>
<td>Essential</td>
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<tr>
<td>PhD in chemistry, archaeological science, biochemistry, earth sciences, or a related topic or equivalent experience</td>
<td>Essential</td>
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### Knowledge

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<tr>
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<tr>
<td>Knowledge in chemistry or geochemistry to engage in high quality research</td>
<td>Essential</td>
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<td>Knowledge of a range of research techniques and methodologies</td>
<td>Essential</td>
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<td>Has research expertise in an area that will complement and enhance the department's research strategy and goals</td>
<td>Essential</td>
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<td>Knowledge of organic residue analysis or organic chemistry applied to an archaeological context</td>
<td>Essential</td>
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<td>Knowledge of South American prehistory, historical ecology or colonial archaeology</td>
<td>Desirable</td>
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### Skills, abilities and competencies

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<tr>
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<th>Essential / Desirable</th>
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<tr>
<td>Highly developed communication skills to engage effectively with a wide ranging audience, both orally and in writing, using a range of media</td>
<td>Essential</td>
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<td>Ability to write up research work for publication in high profile journals and engage in public dissemination</td>
<td>Essential</td>
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<td>Ability to develop research objectives, projects and proposals for own and joint research, with the assistance of a mentor if required</td>
<td>Essential</td>
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<td>Competency to conduct individual and collaborative research projects</td>
<td>Essential</td>
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<td>Ability to identify sources of funding and contribute to the process of securing funds, with collaborators if required</td>
<td>Essential</td>
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<td>Competency to make presentations at conferences or exhibit work in other appropriate events</td>
<td>Essential</td>
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<td>Competent with organic chemistry and working in a laboratory setting</td>
<td>Essential</td>
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### Experience

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<tr>
<td>Experience of carrying out both independent and collaborative research</td>
<td>Essential</td>
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<td>Experience of writing up research work for publication</td>
<td>Essential</td>
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<td>Ability to work as part of a team and also to work independently using own initiative</td>
<td>Essential</td>
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<td>Experience of Mass spectrometry</td>
<td>Essential</td>
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<td>Experience of organic residue analysis applied to archaeology</td>
<td>Desirable</td>
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**Personal attributes**

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<tr>
<th>Attention to detail and commitment to high quality</th>
<th>Essential</th>
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<tr>
<td>Collaborative ethos</td>
<td>Essential</td>
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<td>Interest in and enthusiasm for the subject matter of the project(s)</td>
<td>Essential</td>
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<td>Positive attitude to colleagues and students</td>
<td>Essential</td>
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<td>Willingness to work proactively with colleagues in other work areas/institutions</td>
<td>Essential</td>
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<td>Ability to plan and prioritise own work in order to meet deadlines, including using initiative to plan research programmes</td>
<td>Essential</td>
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<td>Commitment to personal development and updating of knowledge and skills</td>
<td>Essential</td>
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