

Job Description

Research Fellow in Spatial Modelling

Grade: 7.32

(DREAM: Discovering the (R)Evolution of Eurasian Metallurgy: Social and Environmental Impact of the Bronze Age Steppes Metal-Driven Economy)

Department: UCL Institute of Archaeology

Location: 31-34 Gordon Square, London WC1H 0PY/Hybrid working

Reports to

Dr Miljana Radivojević, Principal Investigator, DREAM: Discovering the (R)Evolution of Eurasian Metallurgy: Social and Environmental Impact of the Bronze Age Steppes Metal-Driven Economy Project

Context

The UCL Institute of Archaeology is recognised as one of the leading academic departments of archaeology and heritage studies worldwide. As the largest department of its kind in the UK, it provides a uniquely stimulating environment for interdisciplinary research, with more than sixty academic staff engaged in high-quality research across five continents. The Institute is at the forefront of global archaeology, conservation, and heritage studies, supported by well-equipped laboratories for archaeological science.

Archaeological Science at UCL is a vibrant field of research and teaching, with an active community of academic staff, postdoctoral researchers, and PhD students working across organic and inorganic archaeomaterials. The Archaeomaterials Research Network and the Institute for Archaeo-Metallurgical Studies organise regular seminars, workshops, and international events, fostering collaboration across disciplines.

Main purpose of the job

Applications are invited for a full-time (1.0FTE, 36.5 hours per week) Research Fellow in Spatial Modelling to support the ERC-awarded and UKRI-underwritten project **DREAM: Discovering the (R)Evolution of Eurasian Metallurgy: Social and Environmental Impact of the Bronze Age Steppes Metal-Driven Economy**. The post is available from 1st November 2026 until 31st August 2028.

The project is based at UCL and operates through a network of international collaborations spanning the UK, Europe, the United States, and Central Asia. Running from October 2024 to September 2029, DREAM investigates how and why Bronze Age metallurgical production across the Eurasian Steppe scaled up to unprecedented levels between c. 3500 and 1000 BCE, and how these processes reshaped environments, economies, and long-distance connectivity.

DREAM adopts an original interdisciplinary approach, integrating archaeology, geospatial science, archaeometallurgy, archaeobotany, materials science, environmental and earth sciences, complexity science, and artificial intelligence. Particular attention is given to production debris, especially metallurgical slag, as a key proxy for understanding the interactions between technology, environment, and society. Through the integration of diverse datasets, the project aims to produce high-resolution explanatory models for the organisation, development, and environmental impact of metallurgical systems across Eurasia.

Duties and responsibilities

- Manage the day-to-day delivery of research within the DREAM project to ensure objectives and outputs are completed on schedule
- Design, develop, and maintain integrated GIS databases and analytical workflows to support multi-scalar modelling of metallurgical landscapes
- Integrate archaeological, metallurgical, geological, and environmental datasets to enable interdisciplinary research and analysis
- Apply advanced spatial and statistical modelling techniques to identify patterns in production, resource procurement, and exchange systems
- Evaluate spatial distributions to interpret the organisation of metal production and supply networks across the Eurasian Steppe
- Conduct international fieldwork in Kazakhstan and Uzbekistan, including spatial documentation, landscape analysis, and integration of new data into project frameworks
- Undertake scholarly research, including literature reviews of international sources, with a commitment to developing reading knowledge of relevant languages (e.g. Russian)
- Organise, catalogue, and archive datasets in accordance with best practices in research data management
- Lead and contribute to peer-reviewed publications, reports, and presentations, including primary authorship of at least three outputs

- Contribute to project dissemination and engagement, including website, newsletters, social media, podcast participation, event organisation, and representation at international conferences

General

- Follow and actively promote the UCL Ways of Working.
- Takes responsibility to carry out duties in a way that embodies UCL's environmental and social sustainability values, actively supporting UCL's Sustainability Strategy, policies and objectives within the remit of their role.
- Carry out any other duties within the scope, spirit and purpose of the job as requested by the line manager.
- This job description may be reviewed and be subject to amendment in consultation with the post holder.
- UCL offers hybrid working where appropriate and the successful applicant may normally work remotely for up to 40% of the week if they wish.

Person Specification

Note to job applicant: copy and paste the following criteria into your “Statement in support of your application” and describe underneath each criterion how you meet it, giving examples. You will be scored on how you meet each criterion.

Essential Criteria	Assessment method
Qualifications, experience and knowledge	
PhD in Archaeology, Archaeological Science, Geography or Spatial Data Science	Application
Demonstrable experience in GIS and spatial analysis applied to archaeological or environmental datasets	Application/Interview
Demonstrable experience in the development, management, and integration of large-scale, complex geospatial databases and data infrastructures.	Application/Interview
Proven track record of conducting independent research of high quality, with evidence of peer-reviewed publications appropriate to career stage	Application/Interview
A thorough knowledge of quantitative methods, including spatial statistics and modelling approaches relevant to geospatial analysis	Application/Interview
Skills and abilities	
Excellent data analysis and data management skills, with a high level of accuracy and attention to detail	Application/Interview
Excellent written and digital communication skills, including the ability to contribute to research dissemination via online platforms and social media	Application/Interview
Excellent verbal communication skills, including ability to communicate with academic, administrative, and international partners	Interview
Commitment and knowledge to advancing equality, diversity and inclusion	Application/Interview
Willingness to develop reading knowledge of relevant languages (e.g. Russian) and to engage with academic literature across multiple languages	Application/Interview
Ability and willingness to travel (nationally and internationally) and to work flexibly to support the activities of the project, including undertaking fieldwork in Kazakhstan and Uzbekistan	Application/Interview
UCL Ways of Working	
Ability to work both independently and collaboratively while following instructions and delivering tasks within agreed timelines	Interview
Ability to build effective relationships with team members and colleagues	Interview
Desirable Criteria	Assessment method
Experience with advanced spatial or computational modelling approaches (e.g. Bayesian modelling, network analysis, or machine learning)	Application
Knowledge of Bronze Age archaeology, archaeometallurgy, or Eurasian archaeological contexts	Application

Application Process

Please apply online at <http://www.ucl.ac.uk/hr/jobs/>.

Your application **should include:**

- A **CV** including your academic and employment history, and any additional relevant skills.
- A **Cover Letter** which states how you meet the essential and desirable criteria in the Person Specification part of the Job Description. We shortlist against the essential criteria of the person specification, so you must address each of these explicitly in your application. Please provide a clear 2-3 sentence statement in response to **each** of the selection criteria, which shows how your qualifications, experience and training fit each of them (more detailed supporting evidence can be provided in your CV).

By including a Cover Letter, you can leave blank the 'Why you have applied for this role' field in the application form, which is limited in the number of characters it will allow.

Shortlisted candidates will be invited to attend a formal interview (via Microsoft Teams). They will be asked to provide one writing sample of a research article/technical report that showcases some of the essential skills required.

Informal enquiries may be addressed to:

Dr Miljana Radivojevic
Associate Professor in Archaeological Science
UCL Institute of Archaeology
31-34 Gordon Square London
WC1H 0PY
Email: m.radivojevic@ucl.ac.uk

If you have any queries regarding the vacancy or the application process, please contact Louisa Goldsmith (l.goldsmith@ucl.ac.uk; HR Administrator).