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| Last updated: | 22/01/24 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow in Systems Modelling** | | |
| Standard Occupation Code: (UKVI SOC CODE) | 2119 - Natural and social science professionals | | |
| School/Department: | Geography and Environmental Science | | |
| Faculty: | Environmental and Life Science | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Prof. Pete Langdon | | |
| Posts responsible for: |  | | |
| Post base: | Office-based/Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| To undertake research in accordance with the specified research project under the supervision of the award holders (Prof. Pete Langdon – Southampton, Prof. Simon Willcock – Rothamsted, Prof. Patrick Doncaster - Southampton) and liaise with the first postdoc, and palaeo team working under Prof. Helen Bennion (UCL). To undertake writing of publications, some project management and engagement activities. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | To develop and simulate systems dynamic models to understand ecosystem recovery | 60 % |
|  | Preparation of journal articles for submission to leading peer-reviewed international journals. | 15 % |
|  | Preparation and delivery of papers at key national and international conferences and  project workshops and outreach events. | 10 % |
|  | Carry out administrative tasks associated with wider project | 5 % |
|  | Collaborate with lake stakeholders across the duration of the project | 5 % |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| The post will report to Prof. Pete Langdon (School of Geography and Environmental Sciences), with additional support from Prof. Simon Willcock (Rothamsted), Prof. Patrick Doncaster (Southampton) and Dr. Gregory Cooper (Sheffield). They will also liaise with Postdoc 1 (Freshwater Lake Palaeoecology).  May have additional reporting and liaison responsibilities to external organisations e.g. UKRI.  May be asked to serve on a relevant School/Department committee.  Collaborators/colleagues in other work areas and institutions.  May have an opportunity to contribute more widely to School activities, e.g. teaching, depending on individual aspirations and in conjunction with discussions with line managers. |

| Special Requirements |
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| To be able to design and simulate systems dynamic models.  To be able to analyse multi-proxy datasets for environmental collapse and recovery.  To be able to develop networks with end users in areas allied to the research project.  To be able to develop potential routes to achieve research impact through stakeholder engagement.  To attend national and international conferences for the purpose of disseminating research results. |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD or equivalent professional qualifications and experience in environmental modelling.  Experience in the use of systems modelling software (e.g. STELLA).  Detailed understanding and knowledge of resilience and/or ecosystem stressors and/or recovery/restoration.  Knowledge and experience of creating and running quantitative systems models. | PhD in resilience, ecosystem recovery, or a related (sub)discipline.  Experience and knowledge of time series based analytical approaches used to quantify changes in ecosystem dynamics.  Knowledge and experience of research impact. | CV, Covering letter, references and Interview. |
| Planning and organising | Able to organise own research activities to deadline and quality standards, including fieldwork. |  | CV, Covering letter, references and Interview. |
| Problem solving and initiative | Able to develop understanding of complex problems and apply in-depth knowledge to address them.  Able to develop original techniques/methods. | Ability to undertake computer-based work and develop/apply new methods, and to undertake statistical analyses on multi-proxy datasets. | CV, Covering letter, references and Interview. |
| Management and teamwork | Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development.  Interest in working across disciplinary areas (systems-based models, ecosystem resilience and recovery, freshwater palaeoecology, eutrophication processes). | Happy working with teams in field, meetings and laboratory contexts. | CV, Covering letter, references and Interview. |
| Communicating and influencing | Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience (academic and non-academic sector).  Able to present research results at group meetings and conferences.  Able to write up research results for publication in relevant peer-viewed journals.  Work proactively with colleagues in other work areas/institutions, contributing specialist knowledge to achieve outcomes. | Happy communicating with people face-to-face and online to problem solve, present data and receive feedback. | CV, Covering letter, references and Interview. |
| Other skills and behaviours | Understanding of relevant Health & Safety issues.  Positive attitude to colleagues and students and awareness of EDI. | Confident, collegiate and collaborative, not afraid to give and take constructive criticism or praise. | CV, Covering letter, references and Interview. |
| Special requirements | Able to attend national and international conferences. | Ability to manage and cope with stressful situations under pressure of deadlines (presenting, reporting). | CV, Covering letter, references and Interview. |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below.  Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
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| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) |  |  |  |
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| Load manual handling |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
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| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties |  |  |  |