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| Last updated: | 22 February 2016 |

**JOB DESCRIPTION**

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| Post title: | Research Fellow in Spatial Modelling | | |
| Academic Unit/Service: | Geography and Environment | | |
| Faculty: | Social Human and Mathematical Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Dr Felix Eigenbrod | | |
| Posts responsible for: | n/a | | |
| Post base: | Office-based | | |

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| Job purpose |
| Provide research support on the ERC Starting Grant, “Scaling Rules for Ecosystem Service Mapping (SCALEFORES)”. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | To develop and carry out an area of personal research. | 5 % |
|  | Create artificial surfaces of spatial processes (neutral maps) with known spatial properties to enable the systematic examination of the conditions under which the relationships between two or more spatial surfaces (maps) are most affected by spatial scale. | 30 % |
|  | Design and carry out statistical tests of predictions of when spatial scale will most affect the relationships between different ecosystem services using large-scale spatial datasets | 20 % |
|  | Collating, manipulating and analysing existing broad-scale social and ecological spatial datasets. | 10 % |
|  | To communicate research findings through writing first-authored peer-reviewed journal articles for high-impact ecological journals and through presenting at international and national academic and industry-led conferences and meetings. | 20 % |
|  | To help guide and mentor PhD and UG students on related projects and contribute to the wider ecosystem service research community at Southampton | 10 % |
|  | Carry out occasional undergraduate supervision, demonstrating or lecturing duties within own area of expertise, under the direct guidance of a member of departmental academic staff. | 5% |

| Internal and external relationships |
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| Direct responsibility to holder of research award |

| Special Requirements |
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| To be available for occasional overnight travel (less than 2 weeks per year).  To attend national and international conferences for the purpose of disseminating research results.  *Applications for Research Fellow positions will be considered from candidates who are working towards or nearing completion of a relevant PhD qualification. The title of Research Fellow will be applied upon successful completion of the PhD. Prior to the qualification being awarded the title of* ***Senior Research Assistant*** *will be given.* |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
|  | PhD or equivalent qualifications and experience in spatial and/or ecological modelling in a relevant subject (e.g. ecology, geography, demography, statistics, computer science, epidemiology etc).  Experience in spatial and/or ecological modelling  Experience in computer programming, preferably including within the R environment, but likely also in other relevant languages (e.g. Python, Java, C etc).  Strong skills in computer programming (e.g. in R, Matlab or Python) and statistics  Some expertise in GIS and data handling  Expertise in advanced statistical analyses, ideally of spatial datasets  Publications in peer-reviewed international journals in a relevant field | Experience in using GIS (i.e ArcGIS) to analyse large geospatial datasets | CV and interview |
| Planning and organising | Expertise in designing research on spatial questions. Able to organise own programme of work and resources to meet deadlines |  | CV,  interview |
| Problem solving and initiative | Expertise in data analysis, including large data-sets using appropriate software |  | CV, interview |
| Management and teamwork |  | Experience of working closely in a small research team.  Able to motivate, train and enthuse students | CV  Past record, interview |
| Communicating and influencing | Excellent verbal and written communication and presentation skills.  Able to address small and large groups and cross-disciplinary groups at projects meetings  The ability to present research results and contribute to papers in high quality journals  Able to synthesise information from meetings and write good notes. |  | Interview  CV, Interview  Publication record  Past record, interview |
| Other skills and behaviours | Computer literacy. Able to handle a range of software.  Understanding of relevant Health & Safety issues  Positive attitude to colleagues and students |  | CV, experience |
| Special requirements | Availability to attend national and international conferences and meetings to present research results and a willingness to travel occasionally for up to a week at a time to meet project partners. |  |  |

**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 |  |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## 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) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| 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 |  |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties |  |  |  |