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| Last updated: | 24 September 2019 |

**JOB DESCRIPTION**

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| Post title: | **Research Technician, GIS** | | |
| School/Department: | Geography and Environmental Science | | |
| Faculty: | Faculty of Environmental and Life Sciences | | |
| Career Pathway: | Technical and Experimental (TAE) | Level: | 3 |
| Posts responsible to: | Principal Research Fellow | | |
| Posts responsible for: |  | | |
| Post base: | Office-based | | |

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| Job purpose |
| To undertake GIS and mobility data assembly and analysis in accordance with the Gates Foundation award (hereafter referred as Seasonality Project) that funds analyses and mapping of seasonal population densities in low- and middle-income countries. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | Provide GIS technical support in the framework of the Seasonality Project by designing and leading the development of solutions for:   * collecting and processing geospatial data, from a range of internal and external sources; * designing, managing, and maintaining GIS datasets and GIS geodatabases; * applying appropriate theoretical and practical skills to address complex geospatial problems (such as modelling seasonal human mobility) requiring novel GIS methodologies/workflows and the use of HPC cluster technologies. | 35 % |
|  | Produce metadata documenting the processed (input and output) geospatial data and GIS methodologies/workflows used to produce them to ensure their reusability.  Perform quantitative and qualitative analyses and interpretation of research results.  Contribute to the production of academic publications in the framework of the Seasonality Project. | 30 % |
|  | Ensure that own work meets quality standards by planning and performing quality checks to identify and correct errors or omissions.  Support and advice non-technical staff on the application of appropriate GIS techniques/methodologies and the use of suitable hardware. | 15% |
|  | Stay current with the latest GIS technology trends and the relevant scientific literature in the field of spatial demography.  Work in close collaboration with the WorldPop Spatial Data Infrastructure Team to allow end-users to access and download the Seasonality Project outputs. | 10% |
|  | Attend internal meetings with project collaborators and external meetings with project stakeholders.  Contribute to training run by the WorldPop group. | 5% |
|  | Carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings, and documentation.  Ensure compliance with health and safety standards and any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| Other members of the School, Faculty and University  Internal and external project collaborators and stakeholders |

| Special Requirements |
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| Occasional travel internationally to attend meetings, workshops, conferences as needed. |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | Skill level equivalent to achievement of HNC, A-Level, NVQ3 with proven GIS work/spatial analysis experience  Experience of automating the processing of vector and raster datasets  Experience in computer programming, using languages such as Python, R, or GDAL | Undergraduate/Postgraduate degree with a specialisation in GIS  Knowledge and experience of working with demographic data (census, household survey)  Experience with designing, managing, and maintaining GIS datasets and GIS geodatabases  Statistical modelling expertise  Knowledge and experience of network analysis.  Expertise in geospatial data visualization methods.  Experience of training others in GIS. |  |
| Planning and organising | Able to plan and prioritise a range of one’s own, and the team’s, standard and non-standard work activities.  Ability to successfully plan and deliver technical support of projects over a period of several months. |  |  |
| Problem solving and initiative | Experience of contributing innovative ideas in order to solve technical problems.  Experience of using judgement to find solutions to problems for which no standard procedures exist. |  |  |
| Management and teamwork | Able to proactively work with colleagues in other work areas to achieve outcomes.  Experience of providing training/coaching to colleagues and students in relation to technical tasks  Able to solicit ideas and opinions to help form specific work plans.  Able to positively influence the way a team works together.  Able to ensure staff are clear about changing work priorities and service expectations. |  |  |
| Communicating and influencing | Able to elicit information to identify specific customer needs.  Able to offer proactive advice and guidance on technical processes and procedures.  Able to communicate and liaise with users of the technical services, both internal and external to the department.  Experience of demonstration skills |  |  |
| Other skills and behaviours |  |  |  |
| Special requirements | Willingness to undertake Health and Safety training specific to role. | Able and willing to travel to low income countries for meetings or contributing to GIS training |  |

**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 |  |  |  |