Candidate Information

Position:	Research Fellow
School/Department:	Civil Engineering
Reference:	23/111025
Closing Date:	Sunday 23 July 2023
Salary:	£36,333 per annum
Anticipated Interview Date:	Tuesday 1 August 2023
Duration:	Fixed term for 24 months, or available until 31 August 2025, whichever is sooner.

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the SAPHIRE Peatland Research Group assisting in the planning and delivery of research activity within the School of the Natural and Built Environment so that the overall research objectives of the project are met.

MAJOR DUTIES:

1. Undertake numerical modelling of hydrological processes blanket bog rainfall-runoff responses, factoring in spatially distributed variables, including topography.
2. Present regular progress reports on research to members of the SAPHIRE research group and to external audiences to disseminate and publicise research findings.
3. Communicate with members of the wider public, including maintaining and upgrading research project web page and social media facilities.
4. Compile and maintain project database for all project partners.
5. Write up results of own work and contribute to the production of research reports, publications and proposals consistent with project aims and commensurate with career stage.
6. Assist in presentations to both the general public and specialist audiences.
7. Carry out occasional educational supervision e.g. undergraduate supervision/ demonstrating/ teaching duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
8. Carry out routine administrative duties as requested, e.g. arranging research meetings and maintaining research group website.
9. Undertake supplementary duties relevant to the success of the project including administrative duties and possibly assisting in field work.

ESSENTIAL CRITERIA:

1. Have or about to obtain a PhD or equivalent qualification involving collection, analysis and synthesis of physical hydrological data using distributed numerical models to simulate rainfall runoff responses. This may include but is not restricted to a PhD in Earth Sciences, Environmental Science, Civil Engineering or Environmental Engineering.
2. Experience of analysing and synthesizing physical hydrological data using distributed numerical modelling.
3. Capable of generating international peer-reviewed publications.
4. High level of computer literacy including programming to solve hydrological problems.
5. Candidates must have demonstrable experience in the collection and analysis of hydrological data, along with its storage within databases.
6. Capacity to quantify the effects of topography on rainfall/runoff responses.
7. Capable of managing time and data collection.
8. Ability to store and process data, which can be readily retrieved from a number of institutions.
9. Ability to communicate complex information in English effectively in oral and written format.
10. Ability to build relationships to develop internal and external research and communication networks.
11. Ability to deal effectively with members of the general public.

12. Commitment to continuous professional development.
13. Prepared to undertake flexible working to meet deadlines.
14. Demonstrable ability to communicate with non-specialists, including members of the general public.
15. Ability to update and maintain web pages and social media sites.

DESIRABLE CRITERIA:

1. Background wetland /peatland hydrology.
2. Experience in the use of modelling areas of high topographic relief.
3. Experience in the use of MIKE SHE, MIKE BASIIN or related packages.
4. Experience linking water quality to rainfall / runoff responses, e.g. INCA-C.
5. Knowledge/experience of using geographic information systems for spatial / hydrological data storage and analysis.
6. Familiarity with the application and development of lumped hydrological models, e.g., MIKE NAM.
7. Experience of groundwater modelling.
8. Experience of Matlab, python and/or machine learning programming.
9. Background in the development of flood risk mapping.
10. Familiarity with hydrological data collection methods in the field.
11. Experience presenting fundamental hydrological processes and methods to undergraduate and/or post graduate students.
12. Prepared to work flexibly in contributing to field research activity, including tasks involving manual labour.
13. Ability to work in the EU (Republic of Ireland).
14. Full clean driving licence.
15. Ability to work in physically challenging outdoor environments.