UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Hydrological Modelling, School of Geography, Faculty of Environment

Salary: Grade 7 (£39,355 – £46,735 p.a. depending on experience)

Reporting to: Dr Megan Klaar

Reference: ENVGE1267

Fixed term for 12 months - to complete a specific task

Location: University of Leeds (with scope for hybrid working)

We are also open to discussing flexible working arrangements.

Research Fellow in Hydrological Modelling School of Geography, Faculty of Environment

Overview of the Role

Are you an ambitious researcher looking for your next challenge? Do you have an established background in hydrology, hydraulics and climate modelling? Do you want to work in a trans-disciplinary research group incorporating expertise in biology, animal physiology and physical geography?

Based in the School of Geography, you will contribute to the research project *'Sink or Swim- threats to earthworm diversity due to flooding'* funded by the Leverhulme Trust. The project seeks to determine the impact of increased soil water content and decreased oxygen levels due to flooding on earthworm behaviour and survival, and the implications of increased flooding frequency on earthworm communities. In collaboration with specialists in biology and animal physiology, the project will determine whether there is a significant threat to future earthworm communities, and by extension- healthy soils, owing to climate change related increases in flood extent frequency and duration.

Joining the River Basin Processes and Management research group and working closely with Dr Megan Klaar, you will also be involved with colleagues at the Universities of York and Liverpool. We are looking for an enthusiastic Post- Doctoral researcher with a background in hydrological modelling- specifically rainfall-runoff and 2D models to join our team in the University Leeds to lead on the work in developing a UK wide flood mapping methodology. The methodology will be used to understand changes in flood extent for the last 50 years using observed and reanalysed climate data to create a flood hazard dataset. The methodology will utilise a combination of existing datasets and outputs from climate change models to develop a picture of the evolving nature of flood hazard.

Main duties and responsibilities

- Developing a UK wide flood mapping methodology to allow for rapid assessment of changing patterns in flood hazard;
- Using existing datasets, including outputs from climate change models to produce predictions of changes in flooding extent, duration and frequency in the UK under different climate change scenarios;



- Communicating the hydrological model outputs of past and future flood conditions to the wider project team;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

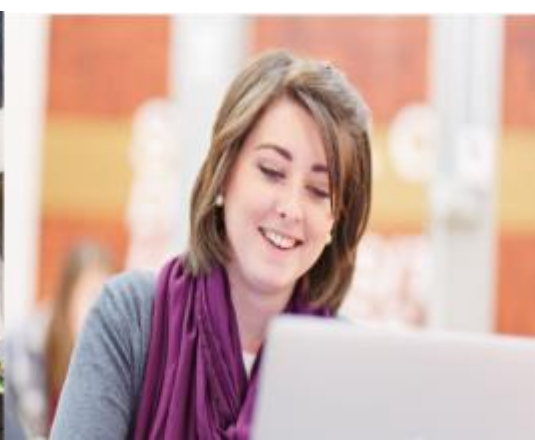
These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

Qualifications and skills

Essential

- A PhD or near completion - i.e. the initial thesis needs to have been handed in at the point of application in Geography, Civil Engineering or a closely allied discipline;
- A strong background in hydrological modelling including rainfall-runoff and 2D flood modelling;
- Proficient in using coding (e.g. R, C++ and Python) and utilising a High Performance Computing cluster to run hydrological models;
- Experience in using climate change scenario models within hydrological models;





- An ability to write high quality research papers independently with an emerging track record in publishing scholarly articles in peer-reviewed journals in the appropriate subject area;
- Evidenced ability to use initiative and develop and pursue new research ideas in-line with the requirements of the project;
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- Excellent written and verbal communication skills including presentation skills;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

Desirable

- Experience of pursuing external funding to support research;
- Experience of working in trans-disciplinary teams

Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information please visit: www.gov.uk/skilled-worker-visa

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: https://www.gov.uk/global-talent

Find out more about the Faculty of Environment

Find out more about our School of Geography

Find out more about our Research and associated facilities

Find out more about Equality in the Faculty



Working at Leeds
We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our Working at Leeds information page.

The Faculty of Environment has received a prestigious Athena SWAN silver award from Advance HE, the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

Information for disabled candidates
Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our How to Apply information page or by getting in touch by emailing HR via hr@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974
A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.