Candidate Information

Position:	Research Fellow - Numerical Flood Modelling in Urban Environments
School/Department:	Centre for Secure Information Technologies
Reference:	21/108687
Closing Date:	Monday 29 March 2021
Salary:	£33,797 per annum
Anticipated Interview Date:	Tuesday 13 April 2021
Duration:	21 months or until 31 December 2022 (whichever is soonest)

JOB PURPOSE:

To be an active member of the UrbanARK research team assisting in the planning and delivery of the research activity within the area of Numerical Flood Modelling so that the overall research objectives of the UrbanARK project are met.

MAJOR DUTIES:

1. Develop and undertake research within the UrbanARK project a member of the research team.
2. Design, develop and refine experimental models in order to obtain reliable data.
3. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
4. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
5. Prepare, often in consultation with the project team, material for publication in national and international journals and presentations at international conferences.
6. Assist grant holder in the preparation of funding proposals and applications to external bodies.
7. Carry out routine administrative tasks associated with the research project to ensure that the project is completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
8. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
9. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

Planning and Organising:

1. Plan for specific aspects of research programmes. Timescales range from 1-6 months in advance and contribute to research group planning.
2. Plan for the use of research resources, laboratories and workshops where appropriate.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Plan up to a year in advance to meet deadlines for journal publications and to prepare presentations and papers for conferences.
5. Coordinate and liaise with other members of the research group over work progress.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Liaise on a regular basis with colleagues and students.
2. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.

3. Join external networks to share information and ideas.
4. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.

ESSENTIAL CRITERIA:

1. PhD in Hydrology/Hydraulic Engineering or a related discipline with a strong background in numerical flood modelling.
2. Demonstrable track record of research in numerical modelling of surface water flow and/or flood risks with a publication record in peer reviewed journals.
3. At least 3 years relevant research experience in an academic or relevant industrial setting.
4. Demonstrable experience in application of numerical surface water modelling in an urban environment integrating multi-disciplinary multi-scale data sets, including LiDAR data.
5. Ability to contribute to broader management and administrative processes.
6. Contribute to the School's outreach programme by links with industry, community groups etc.
7. Demonstrable ability to manage and motivate junior research staff.
8. Proven ability to contribute to international multi-disciplinary research teams.
9. Demonstrable ability to devise, advise on and manage key sections in major projects.
10. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
11. Proven ability to communicate complex information clearly.
12. Proven ability to build contacts and participate in internal and external networks.
13. Demonstrable intellectual ability.
14. Proven ability to assess and organise resources.
15. Ability to work within a multidisciplinary team.
16. Willingness and ability to travel as required to engage with project team members in Ireland and the US.

DESIRABLE CRITERIA:

1. Experience with 2D/3D flood modelling.
2. Experience with urban flood modelling.
3. Experience in the integration of LiDAR data for flood risk models.
4. Experience with standard flood modelling packages, such as DHI MIKE, Delft3D, Lisflood-FP, etc.