Candidate Information

Position:	Research Fellow
School/Department:	School of Electronics, Electrical Engineering and Computer Science
Reference:	23/111336
Closing Date:	Monday 27 November 2023
Salary:	£37,841 - £45,148 per annum
Anticipated Interview Date:	Thursday 7 December 2023
Duration:	Fixed Term available for 15 months or until 31 December 2024, whichever is sooner

JOB PURPOSE:

To be a key player in the research and engineering team working on the next-generation sonar systems for high-speed vessel collision avoidance. The project is funded by the UKRI Strength in Places Fun (https://www.discover.ukri.org/strength-in-places-fund/) and is carried out in close collaboration with Artemis Technologies Ltd. which is one of the leading maritime transportation R&D companies globally (https://www.artemistechnologies.co.uk/expertise/).

The candidate will work alongside the Centre for Wireless Innovation (CWI) engineering team with expertise in analogue and digital electronics, sonar technology, control systems and composite engineering and collaborate with the Artemis Technologies team specialising in maritime engineering.

The post is a key role, and as such, successful applicants will have responsibilities in independent and collaborative research, planning activities, and regular meetings and discussions with the research and engineering team.

MAJOR DUTIES:

1. Undertake research in future sonar technology under supervision and as a member of an R&D team.
2. Design, develop and optimise theoretical models, software and hardware of advanced sonar systems.
3. Contribute towards designing and implementing simulation tools, such as sonar digital twins and experimental models, including modelling and measuring underwater acoustic channels.
4. Carry out analyses, critical evaluations, and interpretations of experimental data and the literature using methodologies appropriate to underwater acoustics.
5. Produce high-quality research outputs consistent with project aims and commensurate with career stage. This will include collaborating and co-authoring with the PI and project team on outputs.
6. In consultation with the project team and the Artemis Technologies team, promote research milestones and outputs at national and international conferences and through social media.
7. Assist grant holder in the preparation of funding proposals and applications to external bodies.

Planning and Organising:

1. Plan own day-to day activity within the framework of the agreed research programme.
2. Contribute to the planning of research projects, reports and publications etc.
3. Assist PI and project team in organising relevant events.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance, as required, to ensure a safe working environment.

Internal and External Relationships:

1. Liaise on a regular basis with members of the project team.

2. Liaise on a regular basis with project partners.
3. Build contacts with relevant stakeholders to form relationships for future collaboration and project dissemination.

ESSENTIAL CRITERIA:

1. Minimum of 2:1 Honours degree in Electrical and Electronic Engineering/Computer Science, Acoustics, (or related discipline).
2. Normally have or be about to obtain a PhD (or, alternatively, have a commensurate industrial engineering experience).
3. Recent research experience in in the area of sonar technology, and underwater acoustics and/or embedded circuits and systems.
4. A proven track record of using theoretical and experimental models to carry out analyses, critically evaluate, and interpret experimental data relevant to the research project.
5. Demonstrable evidence of working effectively as part of a research team in the development and promotion of the research theme.
6. Ability to contribute to broader management.
7. Contribute to the School's outreach programme by links with industry, community groups etc.
8. Willingness to undertake additional training in research methods and other related skills as required.
9. Practical problem-solving skills, independence of thought and initiative.
10. Ability to communicate complex information effectively in oral and written format.
11. Ability to build relationships to develop internal and external networks.
12. Ability to assess and organise resources.

DESIRABLE CRITERIA:

1. Engineering qualifications/ certificates in experimental techniques or programming languages proficiency.
2. Expertise in
   - The design of analogue and digital electronic circuits and the application of integrated circuits and microcontrollers,
   - Mathematical methods and programming languages such as C/C++,
   - Radar or sonar systems design and verification.