

Candidate Information

Position:	Research Fellow
School/Department:	School of Electronics, Electrical Engineering and Computer Science
Reference:	18/106781
Closing Date:	Friday 5 October 2018
Salary:	£33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
Anticipated Interview Date:	Wednesday 17 October 2018
Duration:	24 Months (September 2020)

JOB PURPOSE:

The primary aim of this collaborative research project is to investigate the application of novel human computer interaction techniques in the development and operation of vehicle-based systems. As part of the research study, methods to reduce human operator workload and coordinate crew members will be investigated in order to develop an optimal system. As part of this multi-disciplinary project team you will deliver research into next generation human interface (HMI) design, focusing on novel human computer interaction techniques in the development and operation of vehicle-based systems in a defence context.

This project is funded by Thales Group UK.

MAJOR DUTIES:

1. Conduct background study & evaluation of existing systems and Explore novel technology and systems for HMI.

For further details of our research vision please follow:

<http://www.qub.ac.uk/schools/SchoolofMechanicalandAerospaceEngineering/Research/>

2. To work closely with Industry partners to recommend new product development follow-ups for industrial sponsor.
3. Present regular progress reports on research to members of the research team (including representatives from the industrial partner) or to external audiences to disseminate and publicise research findings.
4. Prepare, in consultation with supervisors, material for publication in international journals, and attend and present at national and international conferences.
5. Engage with industrial partner (Thales Group UK) to include short term placements at partner site when required.
6. Assist academic team 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 project is completed on time and within budget. This will 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 the research programme. 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 team (including representatives from the industrial partner) 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. Have or be about to obtain a relevant PhD in Engineering, science or related discipline. (Candidates about to receive their PhD should provide proof that their viva scheduled within one month)
2. 2:1 or higher degree in Engineering or discipline relevant to the core elements of the proposed work.
3. At least 3 years relevant research experience in virtual reality/augmented reality, including demonstrable experience in the construction and use of 3D CAD geometry and immersive VR environments.
4. Experience of developing links with industry, community groups etc
5. Proven track record of delivering to deadlines and budgets
6. A sufficient breadth of knowledge of general design methods and engineering systems
7. Evidence of working effectively as part of a research team
8. Experience of communicating complex information to a variety of audiences
9. Willing to travel to partner facilities on a regular and frequent basis

DESIRABLE CRITERIA:

1. Demonstrable experience in:
 - CAD modelling using the commercial software (e.g. CATIA, SolidWorks)
 - Programming/scripting for relevant VR/AR software & hardware (e.g. Unity, Oculus, Leap Motion)
 - Experience of human factors in design.
 - Experience of system usability assessment.
 - Experience of working with industry on research programmes.
 - A track record of high quality publications appropriate to stage in career
2. Ability to contribute to broader management and administrative processes.