

Candidate Information

Position:	Research Fellow
School/Department:	School of Mechanical and Aerospace Engineering
Reference:	24/111713
Closing Date:	Monday 25 March 2024
Salary:	£37,841 per annum
Anticipated Interview Date:	Thursday 2 & Friday 3 May 2024
Duration:	Available for 24 months, or until 30 April 2026, whichever is sooner.

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the EPSRC funded research project: Re-Imagining Engineering Design: Growing Radical Cyber-Physical-Socio Phenotypes (RIED) The RIED Programme Grant is led by the Queen's University of Belfast in partnership with Loughborough University, University of York, Airbus, Rolls-Royce, Spirit Aerosystems, Denroy Plastics Ltd, Far-UK Ltd, Glen Dimplex Group, ITI International TechneGroup Ltd, JW Kane Precision Engineering, Alloyed and The Manufacturing Technology Centre Ltd.

The Research Fellow will join this vibrant network of collaborators assisting in the development of research proposals and the planning and delivery of the research activity specifically to investigate Design Complexity methodology and its applicability in assessing bio-inspired design approaches.

The post is a critical role, and as such, successful applicants will have responsibilities in independent research, supervision, planning, outreach and collaboration both internally and externally.

MAJOR DUTIES:

1. Undertake research under supervision within the specific research project and as a member of the collaborative research team contribute to the investigation of bio-inspired approaches to product development by developing Design Complexity methodology appropriate for the novel approaches pioneered by the RIED programme.
2. Investigate existing Design Complexity Systems and further develop them in a manner compatible with Bio-inspired design approaches.
3. Design, develop and refine a Design Complexity ranking system applicable across different partner applications to understand the potential and limitations of the novel design approaches being developed in RIED.
4. Carry out analyses, experimental tests, critical evaluation and implementation, and interpretations of experimental data and the literature for Product Family groupings and definition using methodologies and other techniques appropriate to area of research across the wider RIED partnership.
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.
6. In consultation with the project team, promote research milestones and outputs at national and international conferences and through social media (where applicable).
7. Carry out occasional educational supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
8. Undertake supplementary duties relevant to the success of the project including administrative duties, presentation of regular progress reports and additional training and development activities.

ESSENTIAL CRITERIA:

1. 2.1 Honours Degree (or equivalent) in Engineering or closely related discipline.
2. Normally have or be about to obtain a PhD in Engineering.

3. Relevant research experience to include
 - Undertaking research in the area of Design Methods and/or Engineering Methodology
 - Development of Design Rules or novel design approaches.
 - Working effectively as part of a research team in the development and promotion of the research theme.
4. Strong publication record, commensurate with stage of career.
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. Practical problem solving skills, independence of thought and initiative.
8. Ability to assess and organise resources.
9. Ability to communicate complex information in English effectively in oral and written format to technical and non-technical audiences.
10. Ability to build relationships with a wide range of people and roles at different levels of seniority and to influence decision making.
11. Ability to manage self and prioritise workload.
12. A pro-active approach to work and team development.
13. Commitment to continuous professional development.
14. Ability to meet the mobility requirements of the post including the travel to project partners as required by the role.

DESIRABLE CRITERIA:

1. Experience in Product Family definition.
2. Experience in Design of variety of product types.
3. Exploration of Design rules Development.
4. Experience of different levels of complexity in design products.
5. Interest in Industry 4.0 and/or digital twins.