Candidate Information

Position:	Research Fellow - REMODEL EPSRC Programme Grant
School/Department:	School of Mechanical and Aerospace Engineering
Reference:	25/112884
Closing Date:	Monday 6 October 2025
Salary:	£41,519 per annum.
Anticipated Interview Date:	Wednesday 22 October 2025
Duration:	60 months

JOB PURPOSE:

To be a highly productive and ambitious member of the Queen's University Belfast research team working on the five year, EPSRC funded, REMODEL Programme Grant (led by the University of Swansea). This will involved conduction leading research on engineering design simulation to run on the new UK National Supercomputer. The post holder will research novel methods for effectively working with geometry models of large and complex assemblies in HPC environments to support high-fidelity engineering simulations (e.g. FEA and CFD).

The successful applicant will conduct independent research, developing and using geometric and data driven methods, collaborating within Queen's University and externally with the wider REMODEL project team. Direct collaboration with academic partners will be a key aspect of the role, including regular visits to research facilities across the UK.

MAJOR DUTIES:

1. Undertake research, under supervision, into state-of-the-art geometry handling methods to support working with geometry models of large and complex engineering assemblies in HPC environments.
2. Carry out analyses, critical evaluations, and interpretations of design and simulation data and literature using methodologies and other techniques appropriate for engineering research.
3. Produce high quality research outputs consistent with project aims and commensurate with career stage. This will include collaborating and co-authoring with PI and project team (as appropriate) on outputs.
4. In consultation with the project team, promote research milestones and outputs at national and international conferences.
5. Assist grant holder in the preparation of funding proposals and applications to external bodies.
6. 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.
7. Undertake supplementary duties relevant to the success of the project including travel to partner sites, administrative duties and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Hold at least a 2:1 honours degree in Mechanical, Aerospace engineering, Mechatronics or closely related discipline.
2. Have, or be about to obtain, a relevant PhD in Mechanical, Aerospace Engineering, Mechatronics or closely related discipline.
3. Recent relevant research experience to include:
   - Demonstrable experience in the advanced use of Computer-Aided-Design and mesh based Computer Aided Engineering software tools (e.g. FEA or CFD).
   - A proven track record of using relevant techniques to carry out analyses, critical evaluations, and interpretations of data as relevant to the research project.
   - Working effectively as part of a research team in the development and promotion of the research theme.
4. A track record of high quality publications appropriate to stage in career
5. Ability to contribute to broader management and administrative processes.
6. A sufficient breadth of knowledge of general design methods, Commercial Off-The-Shelf software and manufacturing systems.
7. Ability to work in a team.

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. Proven ability to communicate complex information effectively in oral and written format.
11. Proven ability to build relationships to develop internal and external networks.
12. Ability to assess and organise resources.
13. Willing to travel to partner facilities on a regular and frequent basis.

DESIRABLE CRITERIA:

1. Demonstrable experience in developing techniques to support the use of engineering software on HPC.
2. Demonstrable experience in automating the use of Computer-Aided-Design or Computer Aided Engineering software tools.
3. Working with industry (or in industry) on research programmes.

ADDITIONAL INFORMATION:

andidates about to receive their PhD should provide proof that their viva is scheduled within three months.

Informal enquiries can be directed to: Damian Quinn - d.quinn@qub.ac.uk.