Candidate Information

Position: Research Assistant
School/Department: School of Mechanical and Aerospace Engineering
Reference: 25/113034
Closing Date: Monday 15 December 2025
Salary: £35,136 per annum
Anticipated Interview Date: Tuesday 6 January 2026
Duration: 7 months

JOB PURPOSE:

To support the research of the Queen's University Belfast and MBDA collaborative research team, investigating the procedural & methodological readiness of modelling & simulation functions for the process of certification by analysis (CBA). The work relates to the structural and functional performance of complex systems.

Successful applicants will have responsibilities in process review & documentation, independent research, collaborating with the QUB team, and outreach. Direct collaboration with MBDA will be a key aspect of the role, including regular meetings with engineers from the company.

MAJOR DUTIES:

1. Understand the role of modelling and simulation in the development of complex systems.
2. Understand the requirements of model assurance.
3. Assist in the review & documentation of current procedural and methodological approaches to complex system development.
4. Assist in the implementation of an established HVM Catapult CBA assessment framework in order to understand / quantify levels of readiness for certification by analysis.
5. Produce high quality research outputs in oral and written format.
6. Produce high quality research outputs consistent with project aims and commensurate with career stage. This will include collaborating and co-authoring with the wider project team (as appropriate) on outputs.
7. In consultation with the project team, promote research milestones and outputs at national and international conferences.
8. Assist grant holder in the preparation of funding proposals and applications to external bodies.
9. 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.
10. Undertake supplementary duties relevant to the success of the project including administrative duties and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Have or about to obtain a degree in Mechanical or aerospace engineering, or related science (expectation 2.1 or higher).
2. Recent relevant experience to include:
   - Knowledge of using relevant techniques to carry out analyses, critical evaluations, and interpretations of data as relevant to the research project
   - Demonstrable experience the critical evaluation of scientific documentation and processes related to modelling & simulation.
   - Demonstrable experience in technical writing.
   - Design and operation of complex systems (E.g. UAS).
3. Willingness to undertake additional training in research methods and other related skills as required.
4. Practical problem-solving skills, independence of thought and initiative.
5. Ability to communicate complex information effectively in oral and written format.
6. Ability to build relationships to develop internal and external networks.
7. Ability to assess and organise resources.

8. Willingness to travel to meet the requirements of the research project.

DESIRABLE CRITERIA:

1. Working towards a PhD in the area of Computational Simulation.
2. Demonstrating experience of working on the certification of products.
3. Demonstrable experience in the use of software for the autonomous operation of unmanned systems.
4. Demonstrable experience of computational simulation in an industrial setting.
5. Demonstrable experience of physical experimentation in an industrial setting.
6. A publication record which is commensurate with career stage and experience.

ADDITIONAL INFORMATION:

Informal Enquiries to Dr Damian Quinn: d.quinn@qub.ac.uk