



Candidate Information

Position:	Research Fellow
School/Department:	Mechanical & Manufacturing Engineering
Reference:	23/111478
Closing Date:	Monday 22 January 2024
Salary:	£37,841 per annum
Anticipated Interview Date:	Friday 9 February 2024
Duration:	Fixed term until 30 September 2026

JOB PURPOSE:

To be a highly productive, ambitious, and collaborative member of the W-Tech (Wright Technology Centre) research team assisting in the planning and delivery of the research activity specifically in the development of new digital twin technologies relevant to the bus sector, as well as the development of research proposals.

The post is a critical role, and as such, successful applicants will have responsibilities in independent research, research planning and reporting and for collaboration with project partners.

MAJOR DUTIES:

1. Undertake research into methods and techniques for the development of digital twin technologies with specific focus on methods suitable for use in the automotive and public transport sectors.
2. Design, develop and refine methods for modelling of bus systems and development of new approaches for data collation, processing and synthesis to support this.
3. Carry out analyses, critical evaluations, and interpretations of design and simulation data and literature using methodologies and other techniques appropriate for engineering research.
4. 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.
5. In consultation with the project team, promote research milestones and outputs at national and international conferences.
6. Assist grant holder in the preparation of funding proposals and applications to external bodies.
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 and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Hold at least a 2:1 honours degree in Mechanical, Aerospace, Automotive Engineering, Computer Science or closely related discipline.
2. Have, or be about to obtain, a relevant PhD in Mechanical, Aerospace, Automotive Engineering, Computer Science or closely related discipline.
(Candidates about to receive their PhD should provide proof that their viva is scheduled within two months.)
3. Recent relevant research experience to include:
 - Demonstrable experience in the use of simulation and modelling tools relevant to research in development of digital twins.
 - Demonstrable experience in programming/scripting, beyond that taught in undergraduate engineering courses.
 - 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.
 - A track record of high quality publications appropriate to stage in career.
4. Ability to contribute to broader management and administrative processes.

5. A sufficient breadth of knowledge of general design methods and manufacturing systems.
6. Ability to work in a team.
7. Willingness to undertake additional training in research methods and other related skills as required.
8. Practical problem solving skills, independence of thought and initiative.
9. Ability to communicate complex information effectively in oral and written format.
10. Ability to build relationships to develop internal and external networks.
11. Ability to assess and organise resources.
12. Excellent interpersonal skills.
13. Willing to travel to partner facilities on a regular and frequent basis.

DESIRABLE CRITERIA:

1. Demonstrable experience in:
 - Use of artificial intelligence and/or machine learning methods.
 - Experience in the capture, collation, processing and interpretation of large datasets.
 - Use and/or interpretation of information from automotive telematics systems.
 - Experience of working in or with the automotive, public transport or closely related sectors.
 - Working with industry (or in industry) on research programmes.