



Candidate Information

Position:	Research Fellow/Research Assistant
School/Department:	Mechanical & Manufacturing Engineering
Reference:	22/109709
Closing Date:	Monday 18 April 2022
Salary:	Research Assistant: £28,756 - £33,309 per annum. Research Fellow: £34,304 per annum.
Anticipated Interview Date:	Thursday 5 May 2022
Duration:	FTC - 12 months

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the research project/team for the Centre for Advanced Sustainable Energy (CASE)/Invest NI-funded project, Hydrogen Generation Infrastructure to Support Fuel-Cell Fleet, assisting in the planning and delivery of the research activity, specifically in the areas of value-based analysis and optimisation, probabilistic analysis, carbon footprinting, cost-benefit analysis, multi-criteria decision analysis, and geospatial analysis.

The post is a critical role, and as such, successful applicants will have responsibilities in independent research, planning, collaborations, and outreach.

MAJOR DUTIES:

1. Undertake research under supervision within a specific research project or as a member of a research team.
2. Design, develop and refine research using a range of analytical models, including in the areas of value engineering, carbon footprinting, spatial analysis and cost benefit analysis.
3. Carry out analyses, critical evaluations, and interpretations of data and the literature using methodologies and other techniques appropriate to area of research, for example, geospatial analysis using GIS (geographic information systems), analysis of risk and uncertainty using technology impact forecasting (TIF), carbon footprinting with life cycle analysis techniques, cost benefit analysis (CBA), and multi-criteria decision analysis (MCDA).
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 conferences/events and through social media (where applicable).
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. Research Assistant:
A 2.1 or higher degree in a *relevant subject area (*such as in Mechanical Engineering, Electronic or Electrical Engineering, Aerospace Engineering, Operations Management, Computer Science, Civil Engineering, Environmental Engineering or Chemical Engineering)
Research Fellow:
A *relevant PhD or about to obtain (*such as in Mechanical Engineering, Electronic or Electrical Engineering, Aerospace Engineering, Operations Management, Computer Science, Civil Engineering, Environmental Engineering or Chemical Engineering).

2. Research Assistant:

At least 1 year of research experience in in the area of sustainable energy, transportation and/or systems analysis.

Research Fellow:

At least 3 years relevant research experience to include:

- Undertaking research in the area of sustainable energy, transportation and/or systems analysis
- A proven track record of analyses, critical evaluations, and interpretations of data relevant to the research project
- Working effectively as part of a research team in the development and promotion of the research theme.

3. Strong publication record commensurate with stage of career.
4. Ability to contribute to broader management and administrative processes.
5. Contribute to the School's outreach programme by links with industry, community groups etc.
6. Commitment to continuous professional development.
7. Ability to assess and organise resources.
8. Ability to communicate complex information effectively in oral and written format.
9. Ability to build relationships to develop internal and external networks.
10. Practical problem-solving skills, independence of thought and initiative.

DESIRABLE CRITERIA:

1. Experience of carbon footprinting and life cycle analysis (LCA) techniques.
2. Experience of analysis using geographic information systems (GIS).
3. Knowledge of or experience in technology impact forecasting (TIF) techniques.
4. Knowledge of or experience in value engineering concepts and techniques or value driven design.
5. Familiarity with stochastic and probabilistic methods, optimization techniques.
6. Experience of disseminating research findings to a non-academic audience.