



Candidate Information

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| Position: | Research Fellow (2 posts) |
| School/Department: | School of Mechanical and Aerospace Engineering |
| Reference: | 22/110269 |
| Closing Date: | Monday 17 October 2022 |
| Salary: | £35,333 - £38,592 per annum |
| Anticipated Interview Date: | Monday 7 November 2022 |
| Duration: | Fixed-term for 18 months, or available until 31/07/2024 |

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the EPSRC CoatIN research project/team assisting in the development of research proposals and the planning and delivery of the research activity specifically in digitalisation of manufacturing processes.

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 under supervision into methods for digitalisation of manufacturing processes used for surface engineering.
2. Design, develop and refine physical experiments for the acquisition of manufacturing data.
3. Carry out analyses, critical evaluations, and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area of research, for example signal processing, machine learning.
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. Have, or be about to obtain, a relevant PhD in Mechanical, Mechatronics, Chemical, Electrical/Electronic Engineering, Physics or closely related discipline.
(Candidates about to receive their PhD should provide proof that their viva is scheduled within two months).
2. Relevant research experience in the design of physical experiments, including the use of various types of sensors and the use of design tools (such as CAD, Labview, Matlab).
3. A proven track record of carrying out analyses, critical evaluations, and interpretations of experimental data.
4. A track record of publications commensurate with stage of career.
5. Ability to contribute to broader management and administrative processes.
6. A sufficient breadth of knowledge of general design methods 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. Ability to communicate complex information effectively in oral and written format.
11. Ability to build relationships to develop internal and external networks.
12. Ability to assess and organise resources.

13. Excellent interpersonal skills.
14. Willing to travel to partner facilities on a regular and frequent basis.

DESIRABLE CRITERIA:

1. Significant data analytics and modelling with experimental data, for example signal processing, machine learning, ideally integrating signals from multiple and diverse sensing modalities.
2. Working as part of a multidisciplinary research team, ideally with industrial collaborators.
3. Strong experience in programming, for example in Python, Labview, Matlab.