

Candidate Information

Position:	Research Fellow
School/Department:	Mechanical & Manufacturing Engineering
Reference:	19/107436
Closing Date:	Tuesday 7 May 2019
Salary:	£33,199 per annum
Anticipated Interview Date:	17 May 2019
Duration:	6 Months

JOB PURPOSE:

To be an active member of the turbomachinery research group assisting in the running of the turbomachinery test laboratory, developing research proposals, developing publications, supporting PhD research students and contributing to the development of the research and teaching activity within the general area of turbomachinery so that the overall research objectives of the project/school are met.

MAJOR DUTIES:

1. Carry out analyses and critical evaluations of radial turbomachinery through state-of-the-art aero-mechanical modelling of radial turbomachinery using state-of-the-art CFD and FEA methods.
2. Undertake specific research projects, under supervision, associated with the turbomachinery research group.
3. Present regular progress reports on research to members of the research group or to industrial collaborators.
4. Design of turbomachinery components, preparation of engineering drawings and management of prototype manufacture.
5. Maintain and develop facilities and capabilities in the turbomachinery test laboratory in order to obtain reliable data to support a range of research projects with a particular emphasis on maintaining processes to ensure Health and Safety.
6. Undertake testing of centrifugal compressors and radial turbines to support PhD research projects and industrial projects.
7. Prepare, in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
8. Develop and plan an area of personal research and expertise.
9. Assist grant holder in the preparation of funding proposals and applications to external bodies.
10. Carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
11. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
12. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

Planning and Organising:

1. Plan for specific aspects of research programmes. Timescales range from 1-6 months in advance and contribute to research group planning.
2. Plan for the use of research resources, laboratories and workshops where appropriate.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Plan up to a year in advance to meet deadlines for journal publications and to prepare presentations and papers for conferences.
5. Coordinate and liaise with other members of the research group over work progress.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Liaise on a regular basis with colleagues, students and external collaborators.
2. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
3. Join external networks to share information and ideas.
4. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.

ESSENTIAL CRITERIA:

1. Hold a PhD in a turbomachinery related area.
2. Three years' relevant research experience in CFD modelling of compressors or turbines, experimental performance testing of radial turbomachinery, setting up instrumentation for turbomachinery testing, engineering design of turbomachinery components for prototype manufacture.
3. Familiarity and sound knowledge of CFD modelling software, ANSYS CFX, for turbomachinery.
4. Good publication record for stage of career.
5. Contribute to general culture of the laboratory work, particularly passing on skills to new members and maintaining Health and Safety processes.
6. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
7. Ability to communicate complex information clearly.
8. Ability to build contacts and participate in internal and external networks.
9. Ability to assess, organise and manage resources.

DESIRABLE CRITERIA:

1. Ability to work with industrial partners and other academic institutions as part of the project consortium.
2. Experience of project planning and project management relevant to a research environment.
3. Ability to contribute to broader management and administrative processes.