

Candidate Information

Position:	Research Fellow – Thermal Analysis
School/Department:	School of Mechanical and Aerospace Engineering
Reference:	18/106770
Closing Date:	Tuesday 9 October 2018
Salary:	£33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
Anticipated Interview Date:	Wednesday 17 October 2018
Duration:	3 years

JOB PURPOSE:

We are seeking a highly-motivated post-doctoral researcher in the field of thermal analysis to join the Sir William Wright Technology Centre (W-Tech) at Queen's University Belfast. As part of the Centre, the researcher will support development of new thermal management strategies for Next Generation Electric and Hybrid-Electric bus vehicles, supporting both fundamental modelling and on-vehicle validation studies in conjunction with partner Wrightbus. With an emphasis on improving vehicle thermal efficiency, the researcher will contribute to the development of new design methods and technologies which will shape the future of urban public mobility.

The PDRF will be based in W-Tech, a newly established research centre for future bus technology solutions at Queen's University Belfast. The Centre has a strong record for transitioning fundamental research into industrially relevant solutions, and the Research Fellow will join a vibrant team of postgraduate and postdoctoral staff working at the cutting edge of technology development in the sector.

MAJOR DUTIES:

1. Development of thermal analysis toolsets and methods suitable for optimisation of thermal systems in hybrid-electric and electric bus configurations;
2. Participation in vehicle testing activities in conjunction with partner Wrightbus, both onsite at Wrightbus facilities and at testing sites in England, as required;
3. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
4. Write up results of own work and contribute to the production of research reports, publications, presentations and proposals.
5. May contribute to introductory courses, for example, on the use of research methods and equipment.
6. Carry out undergraduate supervision/demonstrating/teaching duties under direction.
7. Carry out routine administrative duties as requested, e.g. arranging research group meetings.
8. Read and critically evaluate academic papers, journals and textbooks to keep abreast of developments.
9. Attend relevant conferences, seminars or training days
10. Carry out any other duties designated by a line manager and which fall within the general ambit of the post.

Planning and Organising:

1. Plan own day-to-day activity within the framework of the agreed research programme.
2. Contribute to the planning of research projects, reports and publications etc.

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 with research colleagues and support staff on routine matters.
2. Develop internal and external contacts to develop knowledge and understanding and form relationships for future collaborations with industrial partners and OEMs.
3. Attend and contribute to relevant meetings, conferences, seminars, etc.

ESSENTIAL CRITERIA:

1. Have, or are about to obtain, a PhD in Automotive, Mechanical, Manufacturing, Aerospace, Electronic, Physics, Applied Mathematics or a related discipline. For those applicants about to obtain a PhD, they must have submitted their intention to submit prior to the application deadline. Applicants who do not hold a PhD may also be considered for the post, but must clearly demonstrate in their CV substantial experience in conducting research in one of the above stated areas at a level equivalent to a PhD.
2. Have obtained a first or upper second degree or equivalent in Automotive, Mechanical, Manufacturing, Aerospace, Electronic, Physics, Applied Mathematics or a related discipline.
3. A minimum of three years' research experience in thermal analysis, fluid mechanics, CFD or closely related.
4. Demonstrate an ability to manage your own research and to plan research activities effectively;
5. Excellent verbal and written communication skills.
6. Demonstrate experience of communicating with, developing and maintaining academic and/or industrial relationships.
7. Must be willing to work flexibility and travel to partner sites and testing sites across the UK as necessary.

DESIRABLE CRITERIA:

1. Experience with thermal modelling tools such as Thermal Desktop, TRASYS, SINDA, Fluent.
2. Experience with instrumentation, measurement and analytical techniques applied to testing of thermal systems.
3. Experience with Matlab, VBA or other high level applications.
4. Experience of working in an automotive environment;
5. Current drivers licence and access to personal transportation.