Candidate Information

Position:	Research Fellow in Ultra-thin CNT-Web based inserts
School/Department:	School of Mechanical and Aerospace Engineering
Reference:	19/107976
Closing Date:	Thursday 2 January 2020
Salary:	£33,797 per annum
Anticipated Interview Date:	Thursday 23 January 2020
Duration:	Twelve months

JOB PURPOSE:

The Advanced Composites Research Group (ACRG), in the School of Mechanical and Aerospace Engineering at Queen's University Belfast, has developed a concept for an innovative susceptor for plastic welding by utilising ultra-thin carbon nanotube webs. The aim of this one-year fellowship is to further develop this technology and, in parallel, pursue a commercialisation strategy with the aim of bringing this device closer to market. This project should particularly appeal to an individual who has recently completed, or is about to complete, a PhD; and who possesses an entrepreneurial outlook and is seeking a new challenge in applying leading-edge science and engineering knowledge for the development of new products.

MAJOR DUTIES:

1. Visit potential customers and demonstrate/describe the technology in order to understand the needs of the market.
2. Evaluate the susceptor's performance and compare with competing systems.
3. Identify, with the help of potential customers, the most appropriate demonstrator products.
4. Design, build and test these demonstrator products.
5. Work with the Supervisor/Principal Investigator (PI) and appointed Commercialisation Mentor to fulfil an agreed commercialisation plan.
6. Develop, update and maintain publicity material as required.

Planning and Organising:

1. Develop a planned programme of work which fulfils the tasks and deliverables of the project.
2. Plan own day-to day activities within the agreed framework.
3. Plan high quality presentations to promote the technology.
4. Coordinate and liaise with other members of the Advanced Composites Research Group and the University's Research and Enterprise Directorate as appropriate.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff, within the research group, and any PhD/MSc/UG students who may be assisting with the project.

Internal and External Relationships:

1. Liaise on a regular basis with the PI, colleagues, students and commercial partners.
2. Visit potential customers.
3. Present technology at Engineering Exhibitions.

ESSENTIAL CRITERIA:

1. A PhD (completed or thesis submitted before the beginning of the project) in either Aerospace / Mechanical / Materials Engineering, with a predominantly experimental research component.
2. A 2:1 or higher honours degree in one of these fields of study or a closely related field.

3. 3 years relevant research experience.
4. Demonstrable knowledge of structural fibre/resin composite materials and experience in basic composite manufacturing.
5. Demonstrable knowledge of fracture mechanics of composite materials.
6. Experience in material characterisation and structural testing.
7. Evidence of analytical modelling.
8. Demonstrable interest in the commercialisation of research.
9. Ability to plan and manage a technical project.
10. Excellent communication and presentation skills both orally and in writing with the ability to relate to others at all levels both internally and externally.
11. Excellent interpersonal skills with the confidence to present at Company Executive Boards.
12. Ability to build contacts and participate in internal and external networks.
13. Demonstrable intellectual ability.
14. Ability to assess and organise resources.

DESIRABLE CRITERIA:

1. A qualification in business studies.
2. Scientific understanding of resistive plastic welding.
3. Scientific understanding of carbon nanotube webs.
4. Experience in the development of scientific devices.
5. Experience of working with industry on research programmes.