Candidate Information

Position: Research Fellow
School/Department: School of Mechanical and Aerospace Engineering
Reference: 19/107347
Closing Date: Thursday 18 April 2019
Salary: £33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
Duration: 2 years

JOB PURPOSE:

To be an active member of the project team delivering research in computer aided engineering and design, assisting in the planning of research and the development of proposals so that the overall research objectives of the project/school are met.

MAJOR DUTIES:

1. Develop algorithms and procedures to support the investigation of how engineering structures emerge, grow and develop in response to variations in polymer properties and how key design decisions are made to include additional design features
2. Develop prototype software tools exploiting agent based technology to link design rules and CAD systems
3. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
4. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
5. Prepare, in consultation with supervisors, material for publication in international journals, and attend and present at international conferences.
6. Engage with industrial partners to include short term placements at partner sites across the UK
7. Assist grant holder in the preparation of funding proposals and applications to external bodies.
8. 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.
9. 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.
10. 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 the 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 and students.

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. Have or be about to obtain a relevant PhD in Engineering, science or related discipline.
2. 2:1 or higher degree in Engineering or relevant science
3. At least 3 years relevant research experience including demonstrable experience in:
    • Software development
    • CAD
    • Design methods
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. A sufficient breadth of knowledge of general design methods and engineering systems
7. Ability to work in a team
8. Ability to communicate complex information clearly.
9. Ability to build contacts and participate in internal and external networks.
10. Ability to communicate effectively and present at board room level
11. Demonstrable intellectual ability.
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. Demonstrable experience in:
    • Agent based software systems
    • Knowledge of growth mechanisms in nature
    • Knowledge of chaos theory
2. A track record of high quality publications appropriate to stage in career
3. Knowledge of plastic materials