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| **Job Description and Person Specification (HR5)** | | |  | | | | | | | | |
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| **Job Description** | | | | | | | | | |
| Academic Unit/Department: | Faculty of Engineering and Environment  Aeronautics, Astronautics and Computational Engineering | | | | | | | | |
| Post Title: | Research Fellow | | | | | | | | |
| Career Pathway and Level: | ERE | | | TAE | | MSA | | | CAO |
| 4 | | |  | |  | | |  |
| ERE Category | Academic Posts | | | | | | Non-Academic Posts | | |
| Academic | | Research | | Teaching | | Enterprise | Education Development | |
|  |  | | x | |  | |  |  | |
| Post Responsible to (and Level):  Posts Responsible for (and Level): | Edward Richardson (level 5) | | | | | | | | |
| Job Purpose:  To undertake research in accordance with the specified research project under the supervision of the award holder. | | | | | | | | | |

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| Key Accountabilities/Primary Responsibilities   1. To develop and carry out an area of personal research. 2. Regularly disseminate findings by taking the lead in preparing publication materials for referred journals, presenting results at conferences, or exhibiting work at other appropriate events.      1. Investigate models and approaches to test and develop them. 2. Collaborate/work on original research tasks with colleagues in other institutions. 3. Carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control. 4. Supervise the work of junior research staff. | % Time  10%  25%  50%  5%  5%  5% |
| Internal & External Relationships:    Direct responsibility to holder of research award or academic supervisor.  May have additional reporting and liaison responsibilities to external funding bodies or sponsors.  Collaborators/colleagues in other work areas and institutions. | |
| Special Requirements:  To attend national and international conferences for the purpose of disseminating research results. | |

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| **Person Specification** | | | |
| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, Knowledge and Experience:  PhD or equivalent professional qualifications and experience in Engineering or cognate discipline  PhD in Fluid mechanics, Turbulent combustion, or computational simulation of physical phenomena.  Detailed understanding and knowledge of turbulent flow or turbulent combustion.  Very strong and demonstrated experience of code development and high performance computing  Knowledge of turbulent combustion modelling; fluid mechanics and mixing relevant to unsteady turbulent jets; diesel engine fuel injection, mixing and combustion.  Experience of computational fluid dynamics, simulation of compressible flow, parallel computing, the Fortran or C++ programming languages, scientific computing, analysis and visualisation of large data sets. | ✓  ✓  ✓ | ✓  ✓  ✓ | Application and interview |
| Planning and Organising:  Able to organise own research activities to deadline and quality standards | ✓ |  | Application and interview |
| Problem Solving and Initiative:  Able to develop understanding of complex problems and apply in-depth knowledge to address them  Able to develop original techniques/methods  Able to apply mathematical methods in the derivation and development of new engineering models | ✓  ✓ | ✓ | Application and interview |
| Management and Teamwork:  Able to supervise work of junior research staff, delegating effectively  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development | ✓ | ✓ | Application and interview |
| Communicating and Influencing:  Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience  Able to present research results at group meetings and conferences  Able to write up research results for publication in leading peer-viewed journals  Work proactively with colleagues in other work areas/institutions, contributing specialist knowledge to achieve outcomes | ✓  ✓  ✓  ✓ |  | Application and interview |
| Other Skills and Behaviours:  Understanding of relevant Health & Safety issues  Positive attitude to colleagues and students | ✓  ✓ |  | Application and interview |
| Special Requirements:  Able to attend national and international conferences to present research results | ✓ |  | Application and interview |

**Job Hazard Analysis Form - Appendix to Job and Person Specification**

Please tick **one** of the following statements:

|  |  |
| --- | --- |
| This post is an office-based job with **routine** office hazards e.g. use of VDU (if ticked, no further information needs to be supplied) | ✓ |
| This post has **some hazards other than routine office** e.g. more than use of VDU |  |

Please tick all those that apply, and put N/A if not applicable

|  |  |  |  |
| --- | --- | --- | --- |
| **Environmental Exposures** | **O\*** | **F** | **C** |
| Outside work |  |  |  |
| Extremes of temperature (e.g. fridge/ furnace) |  |  |  |
| Potential for exposure to body fluids ## |  |  |  |
| Noise (greater than 80 dba - 8 hrs twa) ## |  |  |  |
| Exposure to hazardous substances (e.g. solvents, liquids, dust, fumes, biohazards) Specify …………………………………………………………. ## |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
| **Equipment/Tools/Machines used** |  |  |  |
| Food Handling ## |  |  |  |
| Driving university vehicles (e.g. car/van/LGV/PCV) ## |  |  |  |
| Use of latex gloves (note: prohibited unless specific clinical necessity) ## |  |  |  |
| Vibrating tools (e.g. strimmers, hammer drill, lawnmowers) ## |  |  |  |
| **Physical Abilities** |  |  |  |
| Load manual handling |  |  |  |
| Repetitive Crouching/Kneeling/Stooping |  |  |  |
| Repetitive Pulling/Pushing |  |  |  |
| Repetitive Lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive Climbing i.e. steps, stools, ladders |  |  |  |
| Fine motor grips (e.g. pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **Psychosocial Issues** |  |  |  |
| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| Shift work/night work/on call duties ## |  |  |  |

**O – Occasionally** (up to 1/3 of time)**; F – Frequently** (up to 2/3 of time)**; C – Constantly** (more than 2/3 of time) ## denotes to HR the need for a full PEHQ to be sent to all applicants for this position.

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| **FOR ACADEMIC UNIT/SERVICE USE ONLY** | ResourceLink Post Number | | | |
| Which post does this job report to |  | | | |
| Is this post a Line Manager? | Yes |  | No |  |
| If yes, which posts directly report into it? | ResourceLink Post Number | | | |
| Post 1 |  | | | |
| Post 2 |  | | | |
| Post 3 |  | | | |
| Post 4 |  | | | |
| Post 5 |  | | | |
| Post 6 |  | | | |
| Post 7 |  | | | |
| Post 8 |  | | | |
| Please add additional rows as required | | | | |