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| Last updated: | June 2020 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow in Experimental Solid Mechanics** | | |
| Academic Unit/Service: | School of Engineering | | |
| Faculty: | Faculty of Engineering and Physical Sciences | | |
| Career pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Principal Investigator | | |
| Posts responsible for: | n/a | | |
| Post base: | Office-based/Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| Conduct research related to a US Air Force funded project on the design of a new method to test the mechanical behaviour of adhesives joints at high rates of strain. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | To develop and carry out an area of personal research as planned in the research contract | 70 % |
|  | Regularly disseminate findings by taking the lead in preparing publication materials for scientific journals and conferences/workshops.  Contribute to the writing of bids for research funding. | 15 % |
|  | 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. |
|  | Occasionally participate to undergraduate and postgraduate supervision | 5 % |
|  | Personal and career development | 5 % |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| Direct responsibility to holder of research award.  May have additional reporting and liaison responsibilities to external funding bodies or sponsors.  Applications for Research Fellow positions will be considered from candidates who are working towards or nearing completion of a relevant PhD qualification.  The title of Research Fellow will be applied upon successful completion of the PhD.  Prior to the qualification being awarded the title of ***Senior Research Assistant*** will be given. |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | * PhD or equivalent qualifications and experience in solid mechanics or mechanics of materials * Expertise in the mechanical testing of materials * Experience in full-field measurements | * Experience in high speed imaging of deformation * Experience in high strain rate testing of materials * Knowledge of the dynamic behaviour of materials * Experience of adhesives / adhesively-bonded joints * Good programming skills (Matlab, Python or equivalent) * Knowledge of polymer/ adhesives mechanical behaviour | * CV, short-listing criteria and Interview |
| Planning and organising | * Able to organise own research activities to deadline and quality standards |  | * 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/method |  | * Interview and reference letters |
| Management and teamwork | * Able to work in a team, sharing knowledge and learning from others |  | * Interview and reference letters |
| Communicating and influencing | * Communicate new and complex information effectively, both verbally and in writing * Able to write up research results for publication in leading peer-viewed journals * Able to present research results at group meetings and conferences * Fluent in communicating in English both oral and written |  | * Short-listing criteria * Interview and reference letters |
| Other skills and behaviours | * Understanding of relevant Health & Safety issues * Proactive in promoting a working environment that is inclusive and engaging; recognising the value diversity brings. |  | * Interview and reference letters |
| Special requirements | * Able to attend national and international conferences to present research results |  | * Interview and reference letters |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below.  Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work | N/A |  |  |
| Extremes of temperature (eg: fridge/ furnace) | N/A |  |  |
| ## Potential for exposure to body fluids | N/A |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) | N/A |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: | N/A |  |  |
| Frequent hand washing | N/A |  |  |
| Ionising radiation | N/A |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling | N/A |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) | N/A |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) | N/A |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) | N/A |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling | N/A |  |  |
| Repetitive crouching/kneeling/stooping | N/A |  |  |
| Repetitive pulling/pushing | N/A |  |  |
| Repetitive lifting | N/A |  |  |
| Standing for prolonged periods | N/A |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) | N/A |  |  |
| Fine motor grips (eg: pipetting) | N/A |  |  |
| Gross motor grips | N/A |  |  |
| Repetitive reaching below shoulder height | N/A |  |  |
| Repetitive reaching at shoulder height | N/A |  |  |
| Repetitive reaching above shoulder height | N/A |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public | N/A |  |  |
| Lone working | N/A |  |  |
| ## Shift work/night work/on call duties | N/A |  |  |