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| Last updated: | July 2018 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow in Hyperpolarized Nuclear Magnetic Resonance** | | |
| School: | Chemistry | | |
| Faculty: | Engineering and Physical Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Research Group Supervisor | | |
| Posts responsible for: |  | | |
| Post base: | ~~Office-based/~~Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| To undertake experiments and perform analysis of hyperpolarization phenomena in nuclear magnetic resonance. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | Development of NMR methodology, and hyperpolarized NMR experiments | 65 % |
|  | NMR theory and NMR simulations | 20 % |
|  | Assistance and training of graduate and undergraduate students, under the direct guidance of a member of departmental academic staff. | 10 % |
|  | 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 or academic supervisor.  May have additional reporting and liaison responsibilities to external funding bodies or sponsors.  May be asked to serve on a relevant Academic Unit committee, for example research committee.  Collaborators/colleagues in other work areas and institutions.  The appointee will be expected to collaborate with current group members and contribute to group meetings and other discussions with research students and with the research group supervisor regarding delivery of objectives and project planning/management. |

| Special Requirements |
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| To attend national and international conferences for the purpose of disseminating research results.  *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 professional qualifications and experience in Physics or Chemistry, or other fields relevant to the project area.  Knowledge of the principles of NMR.    Experiences of advanced NMR techniques including operating and programming a NMR instrument.  Experience in the design, construction, and operation of scientific instrumentation. | Experience of hyperpolarized NMR techniques.  Knowledge of singlet nuclear magnetic resonance.  Contribution to teaching at undergraduate or postgraduate level. | Application/Interview |
| Planning and organising | Able to organise own research activities to deadline and quality standards. |  | Application/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. |  | Application/Interview |
| Management and teamwork | Able to supervise work of junior research staff, delegating effectively.  Able to contribute to Academic Unit management and administrative processes.  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development. |  | Application/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/Interview |
| Other skills and behaviours | Understanding of relevant Health & Safety issues.  Positive attitude to colleagues and students. |  | Application/Interview |
| Special requirements | Able to attend national and international conferences to present research results. |  | Application/Interview |

**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 |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) | x |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: | x |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: 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 |  |  |  |