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| Last updated: | January 2023 |

**JOB DESCRIPTION**

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| Post title: | **Specialist Technician in Electron Diffraction** | | |
| School/Department: | Chemistry | | |
| Faculty: | Faculty of Engineering and Physical Sciences | | |
| Career Pathway: | Technical and Experimental (TAE) | Level: | 4 |
| Posts responsible to: | Director EPSRC National Crystallography Service (ERE 7)  X-ray Diffraction Manager (ERE 5) | | |
| Posts responsible for: | n/a | | |
| Post base: | Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| To contribute specialist technical support for the work of the EPSRC funded National Electron Diffraction Facility for Nanomaterial Structural Studies to provide a crystallographic service, user training and research pilot projects to academic and industry users through the UK National Crystallography Service (NCS). |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | Data collection, structure solution and report preparation on demanding samples submitted to the service by academic and industry users. | 50 % |
|  | Regularly disseminate findings and promote the facility by taking the lead in preparing publication materials for referred journals, presenting results at conferences, or exhibiting work at other appropriate events. | 5 % |
|  | Provide a repair and fault-finding service including planned maintenance of equipment and devices in the facility. | 5 % |
|  | Develop and carry out an area of personal research that will particularly include, but not restricted to, sample preparation and sample environment. | 20 % |
|  | Plan, organise and manage the work environment to ensure smooth scheduling and management of the facility. | 5 % |
|  | Demonstrate and advise research staff and students on techniques in relation to internal and external projects, assisting in the interpretation of arising data. Provide advice and support relating to the use of any equipment or devices and operate as required. | 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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| Work with the National Crystallography Service and Southampton Crystallography staff in general day-to-day operation of the laboratory.  Liaise with selected NCS users (UK Chemistry academics, or employees in chemical companies), depending on whether work has been performed for them.  Liaise with specific internal and external academics as a component of conducting research in collaboration with them.  Work in close collaboration with project partners (University of Warwick and Rigaku) to develop new techniques and deliver the service.  Report to NCS Director and X-ray Diffraction Manager. |

| Special Requirements |
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| To attend national and international conferences for the purpose of disseminating research results and promoting the facility. |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | Skill level equivalent to achievement of HND, Degree, NVQ4 or basic professional qualification in Diffraction and/or Electron Microscopy  Substantial knowledge in electron microscopy/diffraction, with proven experience of successfully planning and progressing work activities.  Ability to independently write up technical and scientific aspects of experimental studies  Practical experience with electron-based methods, including sample preparation, data collection and results analysis. | Experience in crystallography including conducting small molecule crystallography experiments  Experience of training others in technical aspects of instrument-based experiments  Experience of single crystal X-ray diffraction for structural solution | CV & interview |
| Planning and organising | Ability to work on a number of experiments or projects simultaneously  Able to manage conflicting priorities | Experience of successful project management. | CV & interview |
| Problem solving and initiative | Ability to apply specialist technical knowledge to analyse complex problems and recommend solutions/plans of action. | Able to develop original techniques/methods | CV & interview |
| Management and teamwork | Able to proactively work with colleagues in other work areas and institutions to achieve outcomes. | Demonstrate ability to work independently and effectively as part of a team, understanding the strengths and weaknesses of others to help teamwork development | CV & interview |
| Communicating and influencing | Able to provide accurate and timely specialist guidance on complex issues.  Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience | Able to write up experimental results for publication in leading peer-viewed journals along with generating reports | CV & interview |
| Other skills and behaviours | Proactive in promoting a working environment that is inclusive and engaging; recognising the value diversity brings. |  | Interview |
| Special requirements | Willingness to undertake Health and Safety training specific to role. | IOSH/COSHH | 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 | n/a |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  | X |  |
| ## 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: |  | X |  |
| Frequent hand washing |  | X |  |
| Ionising radiation |  | X |  |
| **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) |  | X |  |
| 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 | X |  |  |
| Lone working | X |  |  |
| ## Shift work/night work/on call duties | X |  |  |