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| Last updated: | Oct 2024 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow** | | |
| School/Department: | Biological Sciences | | |
| Faculty: | FELS | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: |  | | |
| Posts responsible for: |  | | |
| Post base: | ~~Office-based~~/Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| The purpose of the work is software development for CCP4. The post will:  Phase 1 - develop, implement, and apply methodology for identification and analysis of overlapping networks of multiple structural states within and between different crystals corresponding to the same molecule, based on Bayesian decomposition.  Phase 2 - The Bayesian decomposition methodology, applicable when there are crystallographic data corresponding to more than one states of the molecule, will be further developed, and implemented within servalcat/refmac. After testing, the methods will be made available through CCP4’s i2 interface. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | Collaborate/work with software developers and users in other institutions. | 35 % |
|  | To develop and carry out an area of personal research. | 20 % |
|  | Regularly disseminate findings by taking the lead in preparing materials for publication on a public repositor, presenting results at conferences, or exhibiting work at other appropriate events. | 20 % |
|  | 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. | 10 % |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 10 % |
|  | Carry out occasional demonstrating duties within own area of expertise, under the direct guidance of a member of departmental academic staff. | 5 % |

| Internal and external relationships |
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| Direct responsibility to holder of research award or academic supervisor.  Additional reporting and liaison responsibilities to external funding bodies or sponsors (STFC, DIALS and CCP4 teams).  Collaborators/colleagues in other work areas and institutions, notably the LMB Cambridge. |

| Special Requirements |
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| To be available to participate collaboration with partner institutions as required by the specified research project.  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 Biological Sciences, Physical Sciences, or Computer Science  Detailed understanding and knowledge of computational methods in protein crystallography | PhD that applies computational methods in protein crystallography and the CCP4 software  Experience with programming (Python, C, or other)  Experience with crystallographic data collection | Submitted paperwork and interview |
| Planning and organising | Able to organise own research activities to deadline and quality standards  Ability of independent working and developing a research program |  | References  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  Ability to assess problems and make progress without too much supervisor guidance, develop solutions, and make progress with the project |  | Evidence from submitted paperwork  Interview |
| Management and teamwork | Able to contribute to School/Department management and administrative processes  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development |  | References |
| Communicating and influencing | Communicate new and complex information effectively 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 |  | Interview and references |
| Other skills and behaviours | Understanding of relevant Health & Safety issues  Positive attitude to colleagues and students |  | Interview and submitted paperwork |
| Special requirements | Able to attend national and international conferences to present research results |  | Submitted paperwork |

**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) |  |  |  |
| ## 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: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  | yes |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) | yes |  |  |
| ## 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) | yes |  |  |
| 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 |  |  |  |