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| Last updated: | 07/04/2025 |

**JOB DESCRIPTION**

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| Post title: | **Senior Research Fellow** | | |
| Standard Occupation Code: (UKVI SOC CODE) | 2119 - Natural and social science professional | | |
| School/Department: | ECS | | |
| Faculty: | FEPS | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 5 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Ioannis Zeimpekis | | |
| Posts responsible for: | N/A | | |
| Post base: | Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| To plan and deliver research in accordance with the specified research project delegated by the project Director to target research independence and thus establish and grow a reputation for research quality. To undertake leadership and supervisory roles, resource management and engagement activities.  Use specialist knowledge to manage tasks and advanced materials fabrication for the GLS Upscale Project activities within the SET Group, including developing and characterising processes. In parallel with the experimental activity, modelling and simulations will form a significant aspect of the research, by exploiting the burgeoning range of AI tools available for materials discovery at the atomistic level. In addition, specialist advice will be provided to all group members and its external collaborators/customers. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | Plan and deliver high quality research within a specified area, project managing the research activity, sustaining a personal research plan, and supervising and taking responsibility for junior members in the research team.  Develop and deliver independent, rigorous and original research that leads to the discovery of new knowledge, insight and/or understanding of soft glass and advanced material fabrication processing to manage and deliver various fabrication tasks as required within the group and the Novel Glass facilities. | 30 % |
|  | Develop and manage specific enterprise activities and other projects to achieve client or stakeholder requirements, providing technical support and other specific, specialist services (e.g. applied research, service provision) for clients, customers and stakeholders external to the University.  Apply in-depth specialist knowledge to provide expert advice, generate ideas and design products or solutions that meet stakeholder requirements, where precedents may not exist. Develop links and contribute to relevant specialist, industry and/or professional bodies. Participate in committees and working groups.  Improve processes on specialist cleanroom equipment for our bespoke research projects. Responsibilities include literature review, critical evaluation and interpretation, fault finding and design of experiments and change programmes as part of a wider project team. In parallel, simulation and modelling tasks will include identifying and exploring the use of appropriate AI materials discovery tools to further enhance our capabilities. | 30 % |
|  | Plan and develop personal and career development opportunities including innovative research proposals and projects. | 10 % |
|  | As appropriate and in consultation and collaboration with external customers and partners, establish an international reputation by sustaining the regular dissemination of findings through leading peer-reviewed publications, presenting results at conferences, or exhibiting work at other appropriate events. Plan and develop innovative new research proposals, either as self-contained items or as part of wider programmes, identifying potential funding sources and lead, co-lead or contribute to income proposals. | 15 % |
|  | Develop and engage in research methodologies that add to the knowledge/understanding of the subject area. | 5 % |
|  | Provide expert advice in own subject area to other staff and students. | 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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| As a senior member of the project team, you will coordinate the day-to-day activities of research and supervise or contribute to the supervision of postgraduate students and/or research assistants as delegated by the project director.  Externally, engage with project partners through regular meetings and report key findings to the community and the project funders. Design, develop and deliver high-quality knowledge exchange and/or enterprise activities and outputs that meet stakeholder requirements and complement wider knowledge exchange and enterprise programmes or strategies, individually or as part of a wider project, team or unit. |

| Special Requirements |
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| Work in Class 100, 1000 and 10000 cleanrooms. Willingness to undertake Health and Safety training specific to the role. Attend national and international conferences for the purpose of disseminating research results. |

**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, chemistry, engineering or materials science.  Track record of published research.  Significant experience performing optical measurements and physical characterisation of glasses.  Knowledge of glass and fibre fabrication techniques.  Significant experience in advanced materials fabrication.  Growing and consistent national reputation in advanced materials. | PhD in glass fabrication, preferably on the development of bulk chalcogenides.  Experience with materials discovery AI simulation and modelling tools. | CV & Interview |
| Planning and organising | Proven ability to organise a range of high-quality research activities to deadline and quality standards, ensuring plans complement broader research strategy.  Proven ability to develop innovative research proposals and attract research funding. | Able to build and manage a research team. | CV & Interview |
| Problem solving and initiative | Able to identify broad trends to assess deep-rooted and complex issues  Able to apply originality in modifying existing approaches to solve problems |  | CV & Interview |
| Management and teamwork | Able to manage, motivate and coordinate research team, delegating effectively. Able to formulate staff development plans, if appropriate.  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development. | Able to undertake coordinating role in School/Department/university.  Able to monitor and manage resources and budgets. | CV & Interview |
| Communicating and influencing | Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience  Track record of presenting research results at group meetings and conferences  Able to provide expert guidance to colleagues in own team, other work areas and institutions to develop understanding and resolve complex problems | Able to resolve tensions/difficulties as they arise  Able to persuade and influence at all levels in order to foster and maintain relationships | CV & Interview |
| Other skills and behaviours | Compliance relevant Health & Safety issues  Positive attitude to colleagues and students |  | CV & Interview |
| Special requirements | Able to attend national and international conferences to present research results |  | CV & 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) | X |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below:  Solvents, acids, and fumes related to optical fibre fabrication |  | 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 | X |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  | X |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  | X |  |
| Fine motor grips (eg: pipetting) |  | X |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height | X |  |  |
| Repetitive reaching at shoulder height | X |  |  |
| Repetitive reaching above shoulder height | X |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public |  |  |  |
| Lone working | X |  |  |
| ## Shift work/night work/on call duties |  |  |  |