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| Last updated: | <date> |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow** | | |
| Standard Occupation Code: (UKVI SOC CODE) | 2119 - Natural and social science professionals | | |
| School/Department: | School of Engineering/Department for Civil, Maritime and Environmental Engineering | | |
| Faculty: | Faculty of Engineering and Physical Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Dr Yongqiang Liu | | |
| Posts responsible for: | N/A | | |
| Post base: | Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| This position is part of the **BBSRC-funded Environmental Biotechnology Innovation Centre (EBIC)**, focusing on the application of engineered biofilms for the enhanced removal of **emerging and recalcitrant pollutants** from wastewater. A solid foundation in fundamental biofilm research, microbial community assembly and manipulation, and biofilm reactor operation is essential. Experience in metabolic engineering is desirable.  In particular:   * To carry out the project on biofilm engineering for emerging/recalcitrant pollution removal to achieve efficient bioremediation and wastewater treatment * To undertake leadership, management and engagement activities. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | To develop and carry out the specific research work on biofilm engineering, regularly disseminate findings by taking the lead in preparing publication materials for referred journals, and present results at appropriate events, collaborate/work on original research tasks with colleagues in other institutions | 80 % |
|  | 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 | 5 % |
|  | Contribute to the writing of bids for research funding. | 5 % |
|  | Support PGRs in the team by providing training, monitoring and co-supervising when suitable under the direct guidance of the line manager. | 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 or academic supervisor.  May have additional reporting and liaison responsibilities to external funding bodies or sponsors.  Establish meaningful connections both internally and externally within the international scientific community to foster collaborations and facilitate the widespread dissemination of our research outcomes. Collaborators/colleagues in other work areas and institutions. |

| Special Requirements |
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| To be available to participate in fieldwork as required by the 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 biofilm engineering  A strong background in biofilm engineering and some of the following skills:  Expertise in critical literature review and use of databases to access open-source research  Proven ability to carry out high-level and different types of fundamental biofilm study, bioreactor operation and relevant parameters analysis  Proven ability to design experiments  Proven ability to process experimental data with statistics tools  Publication track record | PhD in Environmental Biotechnology  Experience in carrying out biofilm reactor operation  Knowledge of biological processes for wastewater treatment especially about emerging/recalcitrant pollutants  Experience in bioinformatics analysis  Experience in the strain isolation and cultivation of pure cultures | 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  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 academic events/workshops/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: for liquid waste sample analysis, some solvents and chemicals will be used, but risk assessment for each specific task needs to be completed before the appointee starts her work | 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) | X |  |  |
| 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 |  |  |  |