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**Faculty of Science**

**Centre for Enzyme Innovation, School of Biological Sciences**

**SENIOR RESEARCH ASSOCIATE (ENZYME DEPLOYMENT – BIOPROCESSING)**

**ZZ005312**

**Information for Candidates**

**THE POST**

Please see the attached job description and person specification.

**TERMS OF APPOINTMENT**

Full-time

Fixed-term

Salary is in the range from £30,395 to £34,189 per annum and progress to the top of the scale is by annual increments payable on 1 September each year. Salary is paid into a bank or building society monthly in arrears.

Working hours are normally from 8.30 a.m. to 5.15 p.m. Monday to Thursday and 8.30 a.m. to 4.15 p.m. Friday with one hour and ten minutes for lunch. As this post is research based, working hours will vary depending on the needs of the project so a flexible approach is required. Specific working hours will be agreed once an appointment has been made. Overtime is not normally payable but time off in lieu may be given.

Annual leave entitlement is 35 working days in a full leave year. The leave year commences on 1 October and staff starting and leaving during that period accrue leave on a pro-rata basis. In addition, the University is normally closed from Christmas Eve until New Year’s Day inclusive and on bank holidays.

The Appointee will be entitled to join the Local Government Pension Scheme. The scheme's provisions include a final salary based, index-linked pension with an option to exchange some pension for a lump sum on retirement together with dependants’ benefits. Contributions by the employee are subject to tax relief.

There is a probationary period of six months during which new staff are expected to demonstrate their suitability for the post.

There is a comprehensive sickness and maternity benefits scheme.

**All interview applicants will be required to bring their passport or full birth certificate and any other 'Right to Work' information to interview where it will be copied and verified.** The successful applicant will not be able to start work until their right to work documentation has been verified.

Please note if you are the successful candidate once the verbal offer of employment has been made and accepted, references will be immediately requested. It is the University’s policy that all employment covering the past three years is referenced. A minimum of two references is required to cover this three-year period of employment or study (where there has been no employment). One of your referees must be your current or most recent employer.

The successful candidate will need to bring documentary evidence of their qualifications to Human Resources on taking up their appointment.

To comply with UKVI legislation, non-EEA candidates are only eligible to apply for this post if it has been advertised for a total of 28 days.

If the position has a requirement for Disclosure and Barring Service check (DBS), this will be stated in the advert. The DBS Application Form will be provided once the selection process has been completed.

All applications must be submitted by 23:59 (UK time) on the closing date published.



**UNIVERSITY OF PORTSMOUTH – RECRUITMENT PAPERWORK**

1. **JOB DESCRIPTION**

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| **Job Title:** | Senior Research Associate(Enzyme Deployment - Bioprocessing) |
| **Grade:** | 6 |
| **Faculty/Centre:** | Science |
| **Department/Service:****Location:** | Centre for Enzyme Innovation (CEI)School of Biological Sciences |
| **Position Reference No:** | ZZ005312 |
| **Responsible to:** | Principal Investigator/CEI Director/Head of School |
| **Responsible for:** | Junior researchers and postgraduate students within the CEI research group |
| **Effective date of job description:** | March 2019 |

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| **Purpose of Job**: |
| **Overview**To work autonomously with instruction from the research leader who is ultimately responsible for the project (or group of studies). The role will involve carrying out research, analysing data, developing new evaluation methods and determining how best to apply them. The Senior Research Associate will be responsible for regularly managing elements of the project, in line with the project terms of reference. The individual will be expected to make contributions to research outputs and to contribute to the growing research culture in the School of Biological Sciences, and specifically the newly established Centre for Enzyme Innovation (CEI), where the post will be based. **The Local Environment and Team**The recently-established CEI creates a flagship research hub focused on delivering transformative enzyme-enabled solutions for circular recycling of plastics. The unique approach of the CEI pipeline is to Discover new enzymes from the environment that break down plastics; Engineer these enzymes and their production mechanisms to optimise their activity, stability and yield; and Deploy these enzymes through industrial-scale production and processing. The CEI website address is: <https://www.port.ac.uk/research/research-centres-and-groups/centre-for-enzyme-innovation> The Senior Research Associate opportunity is available within the Deploy group of the CEI pipeline. The group seeks to generate proof-of-concepts for scale-up enzyme production and processing. **Project and Role**The main role of the Senior Research Associate will be to carry out research, as directed by the group leader. There will be a focus on the conditions and processes essential to achieving production and operation of the engineered enzymes at an industrially relevant scale. It is essential that the enzyme production pathways are controlled and coordinated. Microbial culture conditions, bioreactor design, continuous flow reactors and in-situ techniques for substrate supply and product removal will be optimised. In-silico modelling will be essential to support efficient experimental design, alongside steps to generate lab scale demonstrations. This work will initially demonstrate proof-of-concept for our enzymes. Subsequent scale-up to 100L, to demonstrate the required downstream product processing capabilities.This will draw on the individual’s existing skills and experience, as well as upon additional skills they will be expected to gain during their time in the group. The Senior Research Associate will also be expected to make contributions towards outputs, and present findings at workshops and conferences. Further, s/he will be expected to assist in the supervision and support of junior research colleagues and students in the group. **References*** Occhipinti, A, Eyassu, F, Rahman, TJ[, Rahman, P](https://researchportal.port.ac.uk/portal/en/persons/pattanathu-rahman%2855fa3ce1-7c8f-4334-b1e5-0862b975e380%29.html) & Angione, C 2018, '[In silico engineering of *Pseudomonas* metabolism reveals new biomarkers for increased biosurfactant production](https://researchportal.port.ac.uk/portal/en/publications/in-silico-engineering-of-pseudomonas-metabolism-reveals-new-biomarkers-for-increased-biosurfactant-production%28150338ff-39ea-4ba1-aeae-c4d25bd216e1%29.html)', *PeerJ*. <https://doi.org/10.7717/peerj.6046>
* Austin, HP[, Allen, MD](https://researchportal.port.ac.uk/portal/en/persons/mark-allen%2828b99364-8d6a-4873-b3f9-3b541d27ff4c%29.html), Donohoe, BS, Rorrer, NA, Silveira, R, Kearns, F, Pollard, B, Dominick, G, Duman, R, Omari, KE, Mykhaylyk, V, Wagner, A, Michener, WE, Amore, A, Skaf, MS, Crowley, MF[, Thorne, A](https://researchportal.port.ac.uk/portal/en/persons/alan-thorne%284e650a13-c7e6-4516-8266-13e40cb7c151%29.html), Woodcock, HL, Johnson, CW[, McGeehan, J](https://researchportal.port.ac.uk/portal/en/persons/john-mcgeehan%281cb6fd19-bac4-471b-a40d-4f6e5ca7e13a%29.html) & Beckham, GT 2018, '[Characterization and engineering of a plastic-degrading aromatic polyesterase](https://researchportal.port.ac.uk/portal/en/publications/characterization-and-engineering-of-a-plasticdegrading-aromatic-polyesterase%28bc0e1e81-118c-4e91-b22b-b173cfa72281%29.html)', *Proceedings of the National Academy of Sciences*, vol. 115, no. 19, pp. E4350-E4357. <https://doi.org/10.1073/pnas.1718804115>
* Cragg, S, Beckham, GT, Bruce, NC, Bugg, T, Distel, DL, Dupree, P, Green Etxabe, A, Goodell, BS, Jellison, J, McGeehan, JE, McQueen-Mason, S, Schnorr, K, Walton, PH, Watts, J & Zimmer, M 2015, 'Lignocellulose degradation mechanisms across the Tree of Life', Current Opinion in Chemical Biology, vol. 29, pp. 108-119. https://doi.org/10.1016/j.cbpa.2015.10.018
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| **Key Responsibilities:**  |
| 1. To carry out research and manage elements of the project, as required for project delivery.
2. To present research project findings to a variety of stakeholders and to write reports and contribute to research papers submitted for publication.

**Additional expectations of the role holder**1. In line with the research project aims and objectives, the role holder is required to plan, prioritise and organise their own workload, regularly managing the progress of elements of the research project.
2. To communicate with team members and liaise and network with relevant others, ensuring effective working relations.
3. To attend team meetings when required, providing relevant and timely information in order to aid decision making.
4. To solve problems that may occur during the research project using guidelines or a set of procedures.
5. To provide information, appropriate to the role, to relevant stakeholders
6. To analyse research data and develop new evaluation methods. On occasions, may select existing methodologies, determining when they should be applied.
7. To assist with supervising a research student/assistant/associate.
8. To deliver introductory workshops to students on topics such as research methods.
9. To participate in and contribute to a performance & development review (PDR), ensuring that work produced is in line with the CEI/School/Faculty/University aims.
10. To comply with the University's Health and Safety Policy and pay due care to own safety and the safety of others. Report all accidents, near misses and unsafe circumstances to line management
11. To support the University’s commitment to equality, diversity, respect and dignity, creating an environment in which individuals will be treated on the basis of their merits, abilities and potential, regardless of gender, racial or national origin, disability, religion or belief, sexual orientation, age or family circumstances.
12. Any other duties as required by the Principal Investigator, CEI Director and/or Head of School.
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| **Working Relationships:**  |
| Supervised by the Principal Investigator.Working with other researchers in the Research Group, within the CEI, School of Biological Sciences and the Faculty of Science.Working with research collaborators locally, nationally and internationally. Liaising with research and academic colleagues and support/technical staff on day-to-day issues.Assisting with supervision of junior research colleagues and students operating in the same laboratory. |

1. **PERSON SPECIFICATION**

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| **No** | **Attributes**  | **Rating** | **Source** |
| **1.** | **Specific Knowledge & Experience** |  |  |
|  | Recent or ongoing research experience in Microbiology, bioprocessing, Scale-up, fermentation, biochemistry, molecular biology, or biophysics  | E | AF, S |
|  | Research experience of collecting and analysing qualitative data, aseptic handling of microorganisms, microbioreactors and scale-up | E | AF, S |
|  | Research experience working with purified enzymes and proteins | E | AF, S |
|  | Enzyme activity assays and interpreting results | E | AF, S |
|  | Practical knowledge of cloning, protein expression and purification, site-directed mutagenesis and related techniques | E | AF, S |
|  | Knowledge of Microsoft Office computer packages | E | AF, S |
|  | Knowledge of relevant Health and Safety in the workplace, Environmental safety regulations, COSHH, HACCP and GMP | E | AF, S |
|  | Critical knowledge about enzymatic and protein assays to support the activities of process/product development and manufacturing | D | AF, S |
|  | Practical knowledge of enzyme applications in industry | D | AF, S |
|  | Practical knowledge of enzyme assays | D | AF, S |
|  | Previous experience of working in a bioprocessing team | D | AF, S |
|  | Previous experience of contributing to publications | D | AF, S |
| **2.** | **Skills & Abilities** |  |  |
|  | Ability to predict and solve problems when they occur | E | AF, S |
|  | Ability to plan, organise and prioritise workloads | E | AF, S |
|  | Good Communication and Interpersonal skills | E | AF, S |
|  | Good report writing skills | E | AF, S |
|  | Statistical data analysis skills | E | AF, S |
|  | Presentation skills | E | AF, S |
|  | Project Management skills | D | AF, S |
| **3.**  | **Qualifications, Education & Training** |  |  |
|  | Postgraduate experience in biochemistry molecular biology, or biophysics, or relevant experience | E | AF, S |
|  | PhD in relevant subject or relevant professional experience | E | AF, S |
| **4.** | **Other Requirements** |  |  |
|  | Ability to work with minimum supervision | E | AF, S |
|  | Ability to work on own initiative and as part of a team | E | AF, S |
|  | Creative, motivated and committed to undertaking research | E | AF, S |
|  | Ability to work to tight deadlines | E | AF, S |

**Legend**

Rating of attribute: E = essential; D = desirable

Source of evidence: AF = Application Form; S = Selection Programme (including Test, Presentation)

1. **JOB HAZARD IDENTIFICATION FORM**

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| **Please tick box(s) if any of the below are likely to be encountered in this role. This is in order to identify potential job related hazards and minimise associated health effects as far as possible. Please use the** [**Job Hazard Information**](http://www.port.ac.uk/departments/services/humanresources/occupationalhealthservice/jobhazardinformation/filetodownload%2C164407%2Cen.doc) **document in order to do this and give details in the free text space provided.**  |
| 1. International travel/Fieldwork
 | X | 13. Substances to which COSHH regulations apply (including microorganisms, animal allergens, wood dust, chemicals, skin sensitizers and irritants, welding fume)  | X |
| 1. Manual Handling (of loads/people)
 |  | 14. Working at height |  |
| 1. Human tissue/body fluids (e.g. Healthcare settings, First Aiders, Nursery workers, Laboratory workers)
 |  | 15. Working with sewage, drains, river or canal water  |  |
| 1. Genetically Modified Organisms
 | X | 16. Confined spaces |  |
| 1. Noise > 80 DbA
 |  | 17. Vibrating tools  |  |
| 1. Night Working

 (between 2200 hrs and 0600 hrs) |  | 18. Diving |  |
| 1. Display screen equipment
 | X | 19. Compressed gases | X |
| 1. Repetitive tasks (e.g. pipette use etc)
 | X | 20. Small print/colour coding |  |
| 1. Ionising radiation/ non-ionising radiation/lasers/UV radiation

X | 21. Soil/bio-aerosols |  |
| 10. Asbestos and or lead  | 22. Nanomaterials  |
| 11. Driving on University business: mini-bus (over 9 seats), van, bus, forklift truck, drones only)  | 23. Workplace stressors (e.g. workload, relationships, job role etc) X |
| 12. Food handling  | 24. Other (please specify)  |

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**Completed by Line Manager/Supervisor:**

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| **Name (block capitals)** | Prof. John McGeehan |
| **Date** | 8th March 2019 |
| **Extension number** | 2042 |

Managers should use this form and the information contained in it during induction of new staff to identify any training needs or requirement for referral to Occupational Health (OH).

Should any of this associated information be unavailable please contact OH (Tel: 023 9284 3187) so that appropriate advice can be given.