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**Faculty of Science and Health**

**School for Biological Sciences – Centre for Enzyme Innovation (CEI)**

**Senior Research Associate x 2**

**ZZ005310**

**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 £30,942 to £34,804 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) or Non-Police Personnel Vetting (NPPV), this will be stated in the advert. Further information 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  |
| **Grade:** | 6 |
| **Faculty/Centre:** | Science and Health |
| **Department/Service:****Location:** | School of Biological Sciences - Centre for Enzyme Innovation (CEI) – King Henry Building |
| **Position Reference No:** | ZZ005310 ZZ005311 |
| **Responsible to:** | Principal Investigator/CEI Director/Head of School |
| **Responsible for:** | Post-Doctoral staff, research assistants and postgraduate students within the CEI research group |
| **Effective date of job description:** | December 2019 |

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| **Purpose of Job**: |
| **Overview**To work autonomously with instruction from the research leader (Principal Investigator), who is ultimately responsible for the project (or group of studies). The Senior Research Associate roles will involve carrying out research, analysing data, developing new evaluation methods and determining how best to apply them. The Senior Research Associate’s will be responsible for regularly managing elements of the project, in line with the project terms of reference. Successful candidates 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 within the Engineer - Enzyme Production Group at the newly established Centre for Enzyme Innovation (CEI), where the post will be based. This post is funded until 31/07/2022 years. **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 website address is: <https://www.port.ac.uk/research/research-centres-and-groups/centre-for-enzyme-innovation>One of the key strengths of the CEI is that it draws together some of Portsmouth’s most exciting recent research innovations and focuses them on a common purpose. So whether it is the engineering of the high profile enzyme, PETase, or the development of a unique, patented, high-throughput array platform technology which has enormous potential to underpin advances in the field of synthetic biology – the opportunities within the CEI are many. The Senior Research Associate opportunity is available within the Engineer – Enzyme Production group which is exploiting the patented array technology1,2,3,4 for RNA synthetic biology applications of the CEI pipeline. While other phases of the CEI pipeline will identify and develop some important enzymes, it is this work manipulating transcription and translation using molecular switches (e.g. riboswitches, sRNAs, aptamers) which will increase the efficiency and effectiveness of their production, ensuring both commercial viability and the required global impact.**Project and Role**Building on the Engineer – Enzyme Production group’s recent innovative technological advances this work will involve designing, generating, testing and optimising the RNA molecular switch components of protein production systems. The ability to assemble versatile, programmable regulators into enzyme production circuits, in order to achieve precise and predictable control, is a major goal of this work. The main role of the Senior Research Associate will be to carry out research, as directed by the principal investigator. This will involve conducting guided *in vitro* experiments to generate, test and optimise RNA molecular switches which can be used to support enhanced enzyme production of key CEI enzymes and enzyme pathways, prior to *in vivo* studies. This will draw on the individual’s existing skills and experience working with RNA switches, and molecular biology approaches, 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**1. Callaghan AJ (2019) EU Patent EP2732047A1 & Callaghan AJ (2017) US Patent US9777268B2
2. Henderson CA, Rail CA, Butt LE, Vincent HA, Callaghan AJ. (2019) Generation of small molecule-binding RNA arrays and their application to fluorogen-binding RNA aptamers. Methods 167:39-53
3. Norouzi M, Pickford AR, Butt LE, Vincent HA, Callaghan AJ. (2019) Application of mRNA Arrays for the Production of mCherry Reporter-Protein Arrays for Quantitative Gene Expression Analysis. ACS Synthetic Biology. 8:207-215.
4. Phillips JO, Butt LE, Henderson CA, Devonshire M, Healy J, Conway SJ, Locker N, Pickford AR, Vincent HA, Callaghan AJ. (2018) High-density functional-RNA arrays as a versatile platform for studying RNA-based interactions. Nucleic Acids Research 46:e86
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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 provide information, appropriate to the role, to relevant stakeholders.
5. To solve problems that may occur during the length of the research project using guidelines or a set of procedures
6. To analyse research data and develop new evaluation methods. On occasions may select existing methodologies determining when they should be applied.
7. Can assist with supervising a research student/assistant/associate.
8. Can 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/Department/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 Department
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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 Head of School, Associate Head (Research), research/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.
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**2. PERSON SPECIFICATION**

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| **No** | **Attributes**  | **Rating** | **Source** |
| **1.** | **Specific Knowledge & Experience** |  |  |
|  | Ongoing research experience in biochemistry and molecular biology  | E | AF, S |
|  | Research experience of collecting and analysing qualitative and quantitative data | E | AF, S |
|  | Research experience working with RNA molecules  | E | AF, S |
|  | Practical knowledge of cloning, expressing and purifying RNA and protein molecules, and associated related techniques | E | AF, S |
|  | Knowledge of Microsoft Office computer packages | E | AF, S |
|  | Knowledge of relevant Health and Safety in the workplace | E | AF, S |
|  | Research experience of working on non-coding RNAs or aptamers or other RNA molecular switches to control protein production | D | AF, S |
|  | Research experience using array technologies | D | AF, S |
|  | Knowledge of specialist software including ImageJ, ImageQuant, Genetix programs. | D | AF, S |
|  | Previous experience of working in a 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 and molecular biology, or relevant experience | E | AF |
|  | PhD in relevant subject or relevant professional experience | D | AF |
| **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, highly 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)

**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)  |

**Completed by Line Manager/Supervisor:**

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| **Name (block capitals)** | Prof. Anastasia Callaghan |
| **Date** | 11th November, 2019 |
| **Extension number** | 2055 |

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.