

Reference: R210136

Salary: £33,797 to £35,845 Grade 8

Contract Type: Fixed Term

Basis: Full Time

Closing Date: 23:59 GMT on 03/06/2021

Interview Date: Tbc

Postdoctoral Research Associate

Candidate brief



Job description

Job Purpose:

To create and contribute to the creation of knowledge by undertaking a specified range of activities within an established research programme and/or specific research project.

Magnetosomes of magnetotactic bacteria (MTB) are magnetic nanomaterials with exceptional properties such as; narrow size distribution, ferrimagnetic behaviour, allow for one-step functionalisation and are coated by an organic layer that prevents self-aggregation, which makes them extremely attractive for many nanobiotechnology and nanomedicine sectors. However, their real world application is hindered by the poor availability, due to the difficulty of growing MTB to high cell densities.

To address this challenge, this project aims to investigate the mechanisms that limit productivity of both, biomass and magnetosomes, by understanding the metabolomics and transcriptomics of the MTB model *Magnetospirillum gryphiswaldense* (Mgryph), along with elucidating the dynamics in which iron is taken up and turned into magnetosomes. This information will be used to engineer the metabolism of Mgryph using genetic engineering tools and develop improved magnetosome bioprocessing methods.

Main Duties and Responsibilities

The responsibilities of the postholder are outlined below:

- ▶ Develop research objectives and proposals for own or joint research, with assistance of a mentor if required
- ▶ Contribute to writing bids for research funding
- ▶ Analyse and interpret data
- ▶ Apply knowledge in a way which develops new intellectual understanding
- ▶ Disseminate research findings for publication, research seminars, etc
- ▶ Supervise students on research related work and provide guidance to PhD students where appropriate to the discipline
- ▶ Contribute to developing new models, techniques, and methods
- ▶ Undertake management/administration arising from research
- ▶ Contribute to Departmental/School research-related activities and research-related administration
- ▶ Collect research data; this may be through a variety of research methods, such as scientific experimentation, and literature reviews
- ▶ Present research outputs, including drafting academic publications or parts thereof, for example at seminars and as posters
- ▶ Provide guidance, as required, to support staff and any students who may be assisting with the research
- ▶ Deal with problems that may affect the achievement of research objectives and deadlines

Additional responsibilities

- ▶ Engage in continuous personal and professional development in line with the demands of the role, including undertaking relevant training and development activities to develop themselves and support the development of others.
- ▶ Ensure and promote the personal health, safety and wellbeing of staff and students.
- ▶ Carry out duties in a way which promotes fairness in all matters and which engenders trust.
- ▶ Promote equality of opportunity and support diversity and inclusion as well as working to support the University's environmental sustainability agenda and practices.

Person specification

	Essential	Method of assessment
Education and qualifications	First degree in a bioscience, biotechnology or process engineering discipline and a PhD (or will obtain within the next 4 months, or equivalent doctoral qualification, eg EngD) in Biochemical Engineering, Biotechnology or a related area. Previous postdoctoral experience is not essential.	Application form
Experience	<p>Excellent written English evidenced through publications or similar.</p> <p>Extensive experience of microbiology and molecular biology</p> <p>Experience in one or more of the following: qPCR, flow cytometry; X-Ray, TEM, confocal microscopy; microbial fermenters; magnetic separation; elemental analyser (i.e. ICP).</p> <p>High level analytical capability</p> <p>Ability to communicate complex information clearly</p> <p>Fluency in relevant models, techniques or methods and ability to contribute to developing new ones</p>	Application form and interview
Aptitude and skills	<p>Ability to assess resource requirements and use resources effectively</p> <p>Understanding of and ability to contribute to broader management/administration processes</p> <p>Contribute to the planning and organising of the BBSRC New Investigators research project</p> <p>Decide in consultation with the principal investigator as appropriate, on the most appropriate way of undertaking the specified research activities</p> <p>Decide in consultation with the principal investigator as appropriate how to analyse and interpret the data from the specified research activities</p> <p>Decide in consultation with the principal investigator as appropriate what knowledge to draw on and how to apply it to develop new intellectual understanding</p>	Application form and interview

	Essential	Method of assessment
	<p>Decide in collaboration with co-authors which aspects of the research findings to include in a presentation or a publication and how to convey the findings</p> <p>Give guidance, support and advice to students on research related work including PhD and MEng students and decide the most appropriate method of providing this supervision.</p> <p>Co-ordinate own work with project collaborators (Aston, UoB and UoN)</p> <p>Liaise with research staff and support staff on research-related matters</p> <p>Give presentations and/or contribute to presentations at project meetings with other project collaborators</p> <p>Give presentations and/or contribute to presentations at national and/or international conferences</p> <p>Referee articles for peer-reviewed academic journals</p> <p>Maintain contact with (including membership of) appropriate professional bodies</p> <p>Liaise with the relevant external research community via seminars and conferences</p> <p>Ensure compliance with health and safety in all aspects of work</p>	

	Desirable	Method of assessment
Education and qualifications	PhD Degree in relevant field	Application form
Experience	<p>Experience with microbial fermenters/ bioreactors</p> <p>Experience with microbial metabolomics and transcriptomics</p> <p>Ability or potential to contribute to the development of funding proposals in order to generate external funding to support research projects</p>	Application form and interview

	Desirable	Method of assessment
	<p>Previous expertise in genetics of magnetotactic bacteria and/or magnetosome bioprocessing will be an asset</p> <p>Previous experience in contributing to public engagement and outreach activities.</p>	
Aptitude and Skills	<p>Excellent verbal communication skills and the ability to deal with a wide range of people</p> <p>Ability to organise own work with minimal supervision</p>	Interview

How to apply

You can apply for this role online via our website <https://www2.aston.ac.uk/staff-public/hr/jobs>. Applications should be submitted by 23.59pm on the advertised closing date. All applicants must complete an application form, along with your CV.

Any CV sent direct to the Recruitment Team and Recruiting Manager will not be accepted. If you require a manual application form then please contact the Recruitment Team via jobs@aston.ac.uk.

Contact information

Enquiries about the vacancy:

Name: Alfred Fernandez-Castane

Job Title: Lecturer in Chemical Engineerin

Email: a.fernandez-castane1@aston.ac.uk

Enquiries about the application process, shortlisting or interviews:

Recruitment Team via jobs@aston.ac.uk or 0121 204 4500.

Additional Information

Visit our website <https://www2.aston.ac.uk/staff-public/hr> for full details of our salary scales and benefits
Aston University staff enjoy

Salary scales: <https://www2.aston.ac.uk/staff-public/hr/payroll-and-pensions/salary-scales/index>

Benefits: <https://www2.aston.ac.uk/staff-public/hr/Benefits-and-Rewards/index>

Working in Birmingham: <https://www2.aston.ac.uk/birmingham>

Employment of Ex-Offenders: Under the Rehabilitation of Offenders Act 1974, a person with a criminal record is not required to disclose any spent convictions unless the positions they applying for is listed an exception under the act.

Eligibility to work in the UK:

Post-Brexit transition period / EU Settlement Scheme

The post-Brexit transition period ended on 31 December 2020. If you are an EU/EEA citizen and you were a resident in the UK before 31 December 2020, you and your family members (including non-EU citizens need to apply to the EU Settlement Scheme to continue to live, work and study in the UK beyond 30 June 2021. The deadline for applying to the EU settlement scheme is 30 June 2021. You can apply via the Government webpage <https://www.gov.uk/settled-status-eu-citizens-families>

Irish Nationals do not need to apply for settlement as they retain the right to work in the UK.

New immigration system for EU/EEA and Swiss Nationals who were not resident in the UK before 31 December 2020

A new immigration system has been introduced for people arriving in the UK from EEA countries with effect from 1 January 2021. In addition to those who have always required a visa, EU citizens moving to the UK to work will need to get a visa in advance. You can find more information on the following website. Candidates should check their eligibility to enter or remain in the UK in advance of making any job application via the UKVI website <https://www.gov.uk/browse/visas-immigration/work-visas>. Before applying you should ensure that you meet the requirements. If you do not meet the eligibility criteria, any application for a work visa would be unsuccessful.

If you require a visa to work in the UK the most common types of visa are:

Skilled Worker Visa

<https://www.gov.uk/skilled-worker-visa>

Global Talent Visa

If you are a leader or potential leader in one of the following fields you may be eligible to apply for a Global Talent Visa:

- Academia or Research
- Arts and Culture
- Digital Technology

Please click the following link for further information and to check your eligibility for this visa.

<https://www.gov.uk/global-talent>

Equal Opportunities: Aston University promotes equality and diversity in all aspects of its work. We aim to ensure, through our admissions policies for students, and our staff recruitment and selection processes that

we encourage applications from all groups represented in the wider community at a local, national and international level.

The University will endeavour not to discriminate unfairly or illegally, directly or indirectly, against student or potential students, staff or potential staff. This commitment applies to all functions of the University and to any stage of an individual's career.

An Equal Opportunities Monitoring Form is included within the application form. Data you provide on the Equal Opportunities Monitoring Form will be included in a general database, for statistical monitoring purposes, enabling the University to monitor the effectiveness of its Policy, Codes of Practice and Guidelines on Equal Opportunities in Employment. Individuals will not be identified by name.

Data Protection: Your personal data will be processed in compliance with the Data Protection Act 2018 and the General Data Protection Regulation ((EU) 2016/679) ("GDPR"). The University's Data Protection Policy and Privacy Notices, including the Job Applicant Privacy Notice can be found at <https://www2.aston.ac.uk/data-protection>. Your application will only be used to inform the selection process, unless you are successful, in which case it will form the basis of your personal record with the University which will be stored in manual and/or electronic files. Information in statistical form on present and former employees is given to appropriate outside bodies.

Full details of our terms and conditions of service and associated policies and procedures are available online at <https://www2.aston.ac.uk/staff-public/hr/policies>



