

Research Associate



OPPORTUNITY

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Reference: 0239-24

Grade: 08

Salary: £38,205 per annum, depending on experience

Contract Type:

Fixed Term: 6 Months, Full Time (36.5 Hours)

Fixed Term: 9 Months, Part-Time (27 hours)

Job description

Job Purpose:

This role involves the modification and testing of catalyst materials for hydrothermal liquefaction of sewage sludge and aqueous-phase reforming of derived wastewaters as a combined conversion route to produce fuel gases and clean water. The project is funded by OFWAT (Water Services Regulation Authority) through the Water Discovery Challenge Competition. REvAR II is one of the 10 finalists that got awarded at the last stage of the competition.

Applications are invited for a full-time (6 months) or part-time (9 months) Research Associate position in the Sustainable Fuels and Chemicals research team within Energy and Bioproducts Research Institute (EBRI). EBRI is one of Aston University's flagship research institutes and is part of the College of Engineering and Physical Sciences. The Institute boasts a vibrant team of experienced and young researchers, and the successful candidate will join a team exploring research in aspects of bioenergy and sustainable chemicals. For this role, the researcher will carry out laboratory-based investigation of two-stage hydrothermal liquefaction and aqueous-phase reforming of sewage sludge with the aim of producing fuel gases, particularly methane (and hydrogen). Initial work will involve the assessment of previous work done under REvAR I to understand the current state of the project. Thereafter, the researcher will work on developing and applying appropriate catalysts to generate and confirm data for process optimisation. The role will involve the use of batch and continuous reactors, detailed analytical characterisation of feedstock and reaction products, and mass and energy balances calculations. The optimised data will be shared with industrial partners and used to develop kinetic and thermodynamic models for scale-up to a demonstration plant.

The post requires a motivated individual with the right skills, expertise, and aptitude with demonstrable experience in delivering projects within tight deadlines. Where necessary, additional training opportunities will be provided to enhance chances of delivery.

Main duties and responsibilities

- ▶ Develop research objectives and taking a project leadership role including literature reviews, laboratory work and writing of reports and papers.
- ▶ Conduct laboratory experiments with highly efficient catalysts appropriate for hydrothermal and aqueous-phase reforming conditions.
- ▶ Maintain detailed and accurate records of research work.
- ▶ Acquire and interpret data from a range of applicable analytical techniques.
- ▶ Analyse and present data in both a clear and concise manner that is visually appealing.
- ▶ Work closely with staff within EBRI as well as external project partners.
- ▶ Present results at conferences and partner meetings, seminars and conferences.
- ▶ Prepare project reports and where applicable, peer-reviewed manuscripts for dissemination.
- ▶ Build and develop links with industry and the professions and to secure research funds from external sources.
- ▶ Supervise and manage research projects within the team and assisting in all aspects of research development within the team, including developing proposals for research programmes consistent with EBRI's research strategy and priorities.

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	A PhD in chemical engineering (or a closely related discipline such as chemistry)	Application form
Experience	<p>Experience of initiating and conducting research up to doctoral level.</p> <p>Research experience in bioenergy, catalysis and analytical techniques (related to both catalysts and bioenergy research products, particularly, biomass-derived gases and liquids).</p> <p>Experience in conducting experiments safely and successfully under hydrothermal and aqueous-phase reforming conditions to produce liquids and gaseous products.</p> <p>Experienced in writing up/contributing to the write up of research for high quality publications.</p> <p>Experienced in kinetic and/or thermodynamic modelling and statistical analyses of research data for optimisation.</p> <p>Experience of positive collaboration within and outside of candidate's immediate research team.</p> <p>Experience of supervising other personnel in a research team.</p>	Application form and interview
Aptitude and skills	<p>Ability to interpret and present research data in both a clear and concise manner that is visually appealing, and on the basis of the underpinning sciences.</p> <p>Ability to prepare written communications to a high standard.</p> <p>Ability to develop and maintain a research programme and to prepare high-quality publishable materials from the research findings.</p> <p>Ability to harness IT as a research tool for analyses of research data and for the safe storage and retrieval of research data.</p>	Application form and interview

Essential	Method of assessment
	A willingness to undertake further training as appropriate and to adopt new procedures as and when required.

Contact information

Enquiries about the vacancy:

Name: Jude Onwudili

Job Title: Reader

Email: j.onwudili@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: [Benefits and Rewards | Aston University](#)

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: You should ensure that you meet the eligibility requirements, including meeting the [English language standards](#). If you do not meet the eligibility criteria, any application for a work visa would be unsuccessful. Please see UKVI guidance for further information on eligibility, knowledge of English requirements and approved test centres <https://www.gov.uk/tier-2-general>

With the end of free movement for EU/EEA/Swiss nationals from 1 January 2021, the UK's new immigration system applies to all non-UK/Irish nationals who require a visa.

Where an individual is subject to UK immigration control, they will require a visa to work in the UK.

The following individuals do not need a visa for the UK, but do still have to prove their right to work before employment can commence:

- **British Citizens or Irish Nationals**
- **EU/EEA/Swiss nationals with Settled or Pre-settled status under the EU Settlement Scheme**
- **Non-EEA nationals with Indefinite Leave to Remain/Settlement in the UK**

The main routes available for those who need a visa to work in the UK are **Skilled Worker**, **Global Talent** and the **Graduate Route**.

You can find further information about each of these visa routes on our [candidate immigration page](#).

If you will conduct research in your role, you may need to apply for and obtain ATAS clearance before Aston can issue a Certificate of Sponsorship for your visa application. Please see below for further details.

Academic Technology Approval Scheme (ATAS): If you will conduct research in your role and you apply for a Skilled Worker or Temporary Worker GAE visa, you may need to apply for and obtain ATAS clearance before Aston can issue a Certificate of Sponsorship for your visa application.

This process can take at least 6 weeks to process, and Aston will consider this when confirming your expected start date. Processing times will increase between April and September and can longer to complete.

There is no fast-track option available. ATAS certificates will be processed in order of receipt.

You can find more information about ATAS on our [candidate immigration page](#).

Before you start and Right to Work

90-day entry vignette

If you have applied for your visa outside of the UK, you will receive a vignette in your passport which is usually valid for 90 days. Please make sure to travel to the UK within the 'valid from' and 'valid to' dates on this visa. If you entered the UK before or after these dates, you would not 'activate' the visa and you would need to leave and re-enter the country.

You will also receive a decision letter confirming details about your immigration permission and where to collect your Biometric Residence Permit.

Cost of Living - Estate and Letting Agents

There are numerous Estate and Letting Agents in and around Birmingham that can help you find suitable accommodation. The [Midland Landlord Accreditation Scheme](#) provides a list of professional agencies and landlords who have applied with them for accreditation. Whilst accreditation is not a guarantee of quality, it provides some reassurance about the standard of the service they provide.

You can also use property search websites such as [Rightmove](#) or [Zoopla](#).

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>

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