

# Research Assistant



**OPPORTUNITY**

Where change  
gets real.



**Reference: 0149-25**

**Grade: 07**

**Salary: £ 33,482 - £36,130, per annum, pro rata, depending on experience**

**Contract Type: Fixed Term (18 months)**

**Basis: Part-time (4 days/week)**

## Job description

### Job Purpose:

The aim of this project is to develop novel lipid-based nanoparticles designed to enhance drug delivery to the brain for the treatment of Alzheimer's disease. The successful candidate will contribute to the design, preparation, characterisation, and validation of these nanocarriers using high-throughput methodologies.

The role requires proven expertise in lipid-based nanoparticle formulation, including experience in generating targeted lipid-based nanoparticles, working with cell lines, and conducting advanced data analysis. The successful candidate will also be responsible for preparing research outputs and effectively communicating findings.

A key aspect of this position is ensuring the reproducibility and reliability of research outcomes while maintaining high-quality standards in all experimental procedures. The role presents an excellent opportunity to contribute to cutting-edge nanomedicine research in a collaborative academic environment.

### Main Duties/Responsibilities

- ▶ Design and formulate lipid-based nanoparticles for targeted drug delivery to the brain.
- ▶ Optimise nanoparticle properties to enhance stability, targeting efficiency, and drug loading capacity.
- ▶ Perform physicochemical characterisation of nanoparticles, including size, charge, encapsulation efficiency, and release kinetics.
- ▶ Validate nanoparticle formulations using high-throughput methods and analytical techniques such as dynamic light scattering (DLS), zeta potential analysis, and fluorescence/luminescence assays.
- ▶ Maintain and work with relevant cell lines to assess the cellular uptake, toxicity, and efficacy of the nanoparticles.
- ▶ Conduct in vitro assays to evaluate nanoparticle performance and intracellular drug delivery.
- ▶ Analyse experimental data using appropriate statistical and computational tools.
- ▶ Contribute to research publications, reports, and presentations.
- ▶ Communicate findings effectively within the research team and at relevant scientific meetings.
- ▶ Collaborate closely with the research team to deliver project milestones, ensuring adherence to timelines and deliverables.
- ▶ Ensure all research activities meet high-quality standards, with rigorous documentation of laboratory procedures and reports ensuring reproducibility.
- ▶ Adhere to laboratory safety protocols and regulatory guidelines.
- ▶ Assist in project planning, including scheduling experiments and maintaining research records.
- ▶ Support grant reporting and funding applications as needed.
- ▶ Assist in training and supervising junior researchers and students where required.
- ▶ Undertake other duties appropriate to the role of Research Assistant as needed.

### Additional responsibilities

- ▶ Engage in continuous personal and professional development in line with the demands of the role, including undertaking relevant training and development activities.
- ▶ 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
<b>Education and qualifications</b>	A Bachelor's degree (2:1 or above) in a relevant scientific discipline. (e.g., Pharmaceutical Sciences, Biochemistry, Chemistry, Molecular Biology, Biomedical Sciences, or related field).	Application form and interview
<b>Experience</b>	<ul style="list-style-type: none"> <li>▶ Proven experience in the design, formulation, and optimisation of lipid-based nanoparticles for drug delivery applications.</li> <li>▶ Hands-on experience with high-throughput methods for nanoparticle analysis, including dynamic light scattering (DLS), zeta potential measurement, encapsulation efficiency, and drug release studies.</li> <li>▶ Experience using NRM methods for targeting characterisation is essential.</li> <li>▶ Experience in functionalising lipid-based nanoparticles for targeted drug delivery.</li> <li>▶ Demonstrated ability to work with cell lines to evaluate nanoparticle uptake, cytotoxicity, and therapeutic efficacy.</li> <li>▶ Experience using fluorescence/luminescence-based assays for nanoparticle tracking. Knowledge and expertise in confocal microscopy is essential.</li> <li>▶ Proficiency in statistical analysis and data processing using relevant software (e.g.,</li> </ul>	Application form and interview

	Essential	Method of assessment
	<p>GraphPad Prism, ImageJ, or similar).</p> <ul style="list-style-type: none"> <li>▶ Experience in writing research reports, manuscripts, and contributing to scientific publications.</li> <li>▶ Strong written and verbal communication skills, with the ability to present findings clearly and collaborate effectively within a multidisciplinary team.</li> <li>▶ Familiarity with laboratory safety, quality control, and standard operating procedures (SOPs) in nanomedicine research.</li> </ul>	
<b>Aptitude and skills</b>	<ul style="list-style-type: none"> <li>▶ Strong analytical and problem-solving skills related to drug formulation and pharmacokinetics.</li> <li>▶ Excellent organisational skills with attention to detail and data management.</li> <li>▶ Ability to work independently and as part of a multidisciplinary team.</li> <li>▶ Effective communication skills (written and oral) for technical documentation and scientific dissemination.</li> </ul>	Application form and interview

	Desirable	Method of assessment
<b>Education and qualifications</b>	<ul style="list-style-type: none"> <li>▶ A PhD degree in a relevant scientific discipline (e.g., Pharmaceutical Sciences, Biochemistry, Chemistry, Molecular Biology, Biomedical Sciences, or related field).</li> </ul>	Application form

	Desirable	Method of assessment
<b>Experience</b>	<ul style="list-style-type: none"> <li>▶ Experience with brain-targeted drug delivery systems.</li> <li>▶ Knowledge of luminescence-based assays for nanoparticle tracking.</li> <li>▶ Previous involvement in grant writing or research funding applications.</li> </ul>	Application form and interview
<b>Aptitude and Skills</b>	<ul style="list-style-type: none"> <li>▶ Willingness to learn new techniques.</li> <li>▶ Strong interpersonal skills to work effectively with interdisciplinary research teams, including chemists, biologists, and clinicians</li> </ul>	Application form and interview

## University values

All staff are expected to demonstrate/promote the University's values and expectations, which are an integral part of our strategy and underpin the culture of the University. In addition, our leaders are expected to be accountable, help to execute strategic visions of the University and share and set clear expectations that inspire those around them.

Values + Behaviours



### Innovation

We strive for excellence within ourselves and others, providing solutions to new and existing challenges.



### Collaboration

We work best when we are collaborative, working together to contribute to the Aston community.



### Ambition

We strive together for improvement and innovation looking ahead to see the bigger picture.



### Inclusion

We treat everyone in our community equally and how they would like to be treated.



### Integrity

We are open, honest and fair. We take ownership of the way we work and how we treat each other.

## 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 23.59 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 [recruitment@aston.ac.uk](mailto:recruitment@aston.ac.uk).

## Contact information

### **Enquiries about the vacancy:**

Name: Dr Lissette Sanchez-Aranguren

Job Title: Lecturer

Email: [sanchel2@aston.ac.uk](mailto:sanchel2@aston.ac.uk)

### **Enquiries about the application process, shortlisting or interviews:**

Recruitment Team via [recruitment@aston.ac.uk](mailto:recruitment@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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