

UNIVERSITY OF LIVERPOOL

Postdoctoral Research Associate

Grade and salary: Grade 7 £40,704 - £46,970 per annum
Working hours: Full time 35 hours per week
Tenure: Fix term for 7 months
Location: Liverpool campus
Faculty: Faculty of Life and Health Sciences, Institute of Systems, Molecular and Integrative Biology, School of Pharmacy and Pharmaceutical Sciences

Recruiting department contact: Email: sheng.qi@liverpool.ac.uk
Job ref: 118474

The Role

Role overview and University context:

The University of Liverpool is seeking a highly motivated Postdoctoral Research Associate to support the further development and commercialisation of a novel chemical-free antimicrobial technology developed in Prof. Qi's lab. Funded through the IBIC Commercial Development Fund, the role will combine lab-based material and processing research, technology prototyping, and translational activities to accelerate market adoption.

The successful candidate will conduct experimental research to optimise and validate the technology, design and build prototypes, and generate data to support commercial development. Working closely with academic and industrial stakeholders, they will also identify potential application areas, engage with commercial partners, support business development activities, and contribute to intellectual property, regulatory, and commercialisation strategies.

This position offers an exciting opportunity to translate cutting-edge research into real-world impact while gaining experience at the interface of scientific innovation, product development, and industry engagement.

Key responsibilities:

- Conduct lab-based experimental work to further develop and validate the antimicrobial technology
- Design, fabricate, and optimise prototype materials and packaging devices and carry out key characterisation testing
- Plan and execute scalability manufacturing tests in collaboration with industrial partners
- Analyse, interpret, and report research findings through technical reports, publications, and presentations
- Engage with potential new industrial and commercial partners to explore application opportunities and market needs
- Support the development of commercialisation strategies and funding applications
- Mentor students and junior researchers involved in the project and contribute to a collaborative research environment
- Present the technology and scientific outputs at meetings, conferences, networking events, and industry engagement activities

Additional requirements:

Manual Handling

The post involves bending, stretching and the manual handling of loads up to 15kg. A system to control the risks is in place. The appointee will be required to complete a health questionnaire. Appointment will be subject to Occupational Health screening.

Food Handling / Preparation

The post involves food handling / preparation. A system to control the risks is in place. You will be required to wear protective hygiene clothing. Appointment will be subject to Occupational Health screening.

Bio Hazards

You will be working in an area where there may be a risk of infection, although appropriate measures will be in place to control the risk. You may be offered appropriate immunisations and/or records of your work with infectious material/infectious micro-organisms may be kept. Appointment will be subject to a risk assessment by the University's Safety Advisor's Office.

Pathogens

You will be required to handle pathogens or potentially infected specimens of unfixed human/animal tissue (including blood), although appropriate measures will be in place to control the risk. You may be offered appropriate immunisations and/or records of your work with infectious material/infectious micro-organisms may be kept. You will be advised in your offer letter to contact the occupational Health Department to check on your vaccination status.

Control of Noise

You will work in an area where noise has been identified as a potential hazard. A system to control the risks is in place. You may be required to wear hearing protection or to undergo checks on your hearing. Appointment will be subject to Occupational Health screening and clearance must be received before exposure.

Control of Vibration

You will work in an area where vibration has been identified as a potential hazard. A system to control the risks is in place. You may be required to limit work with vibration machinery or to undergo health checks. Appointment will be subject to Occupational Health screening and clearance must be received before exposure.

In addition to the above, all University of Liverpool staff are required to:

- Adhere to all University policies and procedures, completing all obligatory training and induction modules, including Equality & Diversity and Health & Safety.
- Support the University's vision to drive forward environmental and social equity through delivery of our Sustainability Strategy and associated action plans.
- Demonstrate customer service excellence and continuous improvement in engaging with all stakeholders.
- Respect confidentiality: all confidential information should be kept in confidence and not released to unauthorised persons.
- Participate in the University's Professional Development Review scheme and take a proactive approach to own professional development.
- Embody and uphold the University's Vision and Values.
- Demonstrate flexibility in on-campus-presence to enable participation in business-critical activities, including reasonable participation in such things as: open days, invigilation, welcome week activities, confirmation and clearing and financial year-end activities.

About you

Experience

Essential

1. Experience conducting independent research and managing research projects.
2. Demonstrated experience in the design, execution, and optimisation of material development research that is relevant to antimicrobial applications.
3. Experience in prototype development, testing, or validation of technologies.
4. Experience analysing and interpreting experimental data and preparing technical reports, publications, or grant applications.
5. Experience collaborating effectively within multidisciplinary teams.

Desirable

1. Experience developing and evaluating antimicrobial surface technologies.
2. Experience developing technologies for commercial or industrial applications.
3. Experience engaging with industry partners, end users, or external stakeholders.
4. Experience supporting patent applications, technology licensing, or commercialisation activities.
5. Experience supervising students or junior researchers.
6. Experience in antimicrobial technologies, surface engineering, water treatment, environmental technologies, or related fields.

Education, qualifications and training

Essential

1. PhD in Chemical Engineering, Materials Science, Chemistry, Biotechnology, Microbiology, Environmental Engineering, or a closely related discipline.
2. Demonstrated track record of research excellence, evidenced by peer-reviewed publications and/or technology development outcomes.
3. Training and experience in laboratory-based experimental research and data analysis.

Desirable

1. Experience in translational research, technology commercialisation, or entrepreneurship.
2. Training in intellectual property (IP), technology transfer, regulatory affairs, or innovation management.
3. Experience working in multidisciplinary or industry-linked research environments.

Skills, general and specialist Knowledge

Essential

1. Strong experimental and analytical research skills.
2. Knowledge of scientific methods, experimental design, and data interpretation.
3. Excellent written and verbal communication skills, including the ability to present technical information to both scientific and non-scientific audiences.
4. Strong project management, organisational, and problem-solving skills.
5. Ability to work independently while contributing effectively to collaborative research teams.

Desirable

1. Knowledge of technology commercialisation pathways, market validation, and product development processes.
2. Understanding of intellectual property, patents, and innovation ecosystems.
3. Experience with prototype design, scale-up, or pilot-scale testing.
4. Knowledge of regulatory and quality requirements relevant to technology deployment.
5. Skills in stakeholder engagement, partnership development, and business development

Personal attributes

Essential

1. Highly motivated, proactive, and self-directed.
2. Strong commitment to research excellence, innovation, and impact.
3. Demonstrated initiative and ability to drive projects to completion.
4. Excellent interpersonal skills and the ability to build productive working relationships.
5. Adaptability and willingness to work across both academic and commercial environments.

Desirable

1. Entrepreneurial mindset with a strong interest in technology translation and commercialisation.
2. Capacity to identify opportunities and develop strategic partnerships.
3. Enthusiasm for developing solutions with societal, environmental, and economic impact.
4. Ability to thrive in a dynamic and rapidly evolving research and innovation environment.

About us

Established in 1881, we are an internationally renowned Russell Group university recognised for our high-quality teaching and research. We are consistently ranked as one of the best universities both nationally and globally, and the majority of our research is rated world leading or internationally excellent. Find out more about us.

Why Work Here

We recognise, appreciate and celebrate the incredible work our staff do every day. As well as generous terms and conditions, we offer a range of enviable benefits and provide support for colleague's wellbeing and development. Discover more about working here.

Moving from abroad

As a global institute, we welcome applicants from all nationalities, moving from a different country can be challenging and we would like to help as much as we can, we have put together some information on eligibility to work documentation, accommodation, schools, healthcare, life in Liverpool and the UK as well as other practical information. Discover more about moving from abroad.

Our Staff

Whether it be their friendly colleagues, supportive managers or our outstanding facilities, our staff can explain better than anyone what it is like to work for us and why they enjoy their role. See what our colleagues have to say.

How to Apply

Application process

Our e-recruitment system enables you to register for an online account, where you can view, copy and edit your applications. Set up your account on our Vacancies Portal.

Once you submit your application you will receive an automatic email acknowledgment. You can view your application at any time by clicking into the application history section of your account.

The recruiting department will endeavour to respond to each application. However, if you have not heard within six weeks of the closing date, please take it that your application has not been successful on this occasion.

Job description

After the closing date this job description will be removed from our website. Should you wish to refer to this information at a later date please ensure you save a copy of this document.

Right to work

We have a legal responsibility to ensure that you have the right to work in the UK before you can start working for us. If you do not have the right to work in the UK already, any offer of employment will be conditional upon you gaining it. If the role is based outside the UK, you will need to demonstrate your right to work for the country in which you are to be based.

Disabilities and alternative formats

If you have any other requirements which will help you access the application or interview process or employment opportunities at the University, or if you require copies documentation in alternative formats, please email: jobs@liverpool.ac.uk or telephone 0151 794 6771.