

Job Title: Research Associate

Grade: 7

Salary: £39,906 - £46,049 per annum, pro rata

Department: Microbiology and Infection

Hours/Contract: Full Time, 37.5 hours a week till 30th June 2028

Job Family: Research

Reference: 13278

Role Purpose

This post is to conduct research funded by the LEO Foundation investigating bacteriophage-encoded endolysins, with particular emphasis on phages infecting *Staphylococcus* species that encode two distinct endolysins and the structural and functional relationships between these enzymes.

Main Duties and Responsibilities

Research:

- Conduct research to identify and characterise novel proteins encoded by clinically or environmentally relevant bacteriophages, with emphasis on endolysins from *Staphylococcus* phages.
- Design and perform experiments for the expression, purification, and biochemical characterisation of phage endolysins, including enzymes containing catalytic domains such as CHAP or related peptidoglycan hydrolases and associated cell wall binding domains.
- Carry out functional assays to assess endolysin lytic activity against *Staphylococcus* species, including turbidity reduction, plate lysis, or skin-related assays to quantify activity against staphylococcal cell walls.
- Investigate whether two endolysins encoded by the same phage form complexes or interact functionally, and evaluate how these interactions affect their lytic activity
- Apply molecular, microbiological, and biochemical approaches relevant to bacteriophage proteins and cell wall-degrading enzymes.
- Contribute to experimental design, data analysis, and interpretation while working independently to achieve project milestones.
- Work with project collaborators, contributing to the preparation of manuscripts, reports, and conference presentations to advance the research programme.
- Present findings at national and international meetings and contribute to peer-reviewed publications.
- Identify opportunities for future funding, including fellowships and research grants.
- Provide guidance to collaborators, students and/or junior researchers involved in the research project.

Professional Development:

- Duties and opportunities to engage in work that support your own professional development.





Impact and Knowledge Exchange:

- Network and contribute to the maintaining and furthering of the wider research programme and research area
- To contribute to industry collaborations
- To consult effectively on own specialism directly with people external to the University
- To engage positively and pro-actively in research impact

Leadership and Citizenship:

- Guidance to other team members both research staff and students
- Pro-actively build networks and collaborations.
- Providing mentoring and coaching to research students.

Internal and External Relationships

- Establish/maintain collaborations with other researchers at the University of Leicester, nationally and internationally.
- Participate in School/departmental and university-wide seminar and public engagement activities to stimulate dissemination of information and collaboration.
- Disseminate results at national and international conferences.

Planning and Organising

Plan and co-ordinate research with collaborators.

Plan and organise dissemination of information to both highly specialised academics and the lay public.

Plan, organise and submit grant applications for further and supplementary funding.

Qualifications, Knowledge and Experience

Essential

- A PhD in microbiology, or a closely related discipline, or equivalent experience*
- Extensive experience microbiology preferably in culturing and genetic manipulation of *S. aureus* and preferably experience of isolating relevant phages*
- Research experience in biochemistry or molecular microbiology, including application of biochemical techniques to protein characterisation, preferably in the context of bacteriophage or antimicrobial enzymes.*
- Strong experience in recombinant protein expression and purification, particularly for enzymatic or modular proteins such as phage endolysins containing catalytic (e.g. CHAP-type) and cell wall binding domains.*
- Proven experience in molecular cloning, including construct design, subcloning, and optimisation of expression systems for phage-derived or antimicrobial proteins.*
- Demonstrated experience in functional characterisation of enzymes, including activity assays relevant to cell wall degradation (e.g. turbidity reduction, plate lysis, or related assays), ideally against *Staphylococcus* species.*





- Experience working with bacterial colonisation or infection models, ideally including *Staphylococcus* colonisation of human skin or skin-equivalent models, and assessing antimicrobial or enzymatic interventions in these systems.*
- Expertise in relevant experimental approaches and analytical techniques, with the ability to adapt and develop new methods where required.*

Desirable

- Evidence of producing publishable-quality research outputs, including journal articles, grant applications, technical reports, or similar scholarly contributions.
- Experience investigating multi-domain or multi-enzyme systems, with the ability to assess functional interactions, synergy, or complex formation between proteins.
- Excellent communication skills, demonstrated through presentations at national/international conferences and/or broader research engagement.
- Evidence of strong network within the research field within the UK and internationally.

Skills, Abilities and Competencies

Essential

- Evidence, willingness and ability to work with internal and external stakeholders
- Evidence of continued development of subject expertise
- Excellent communication and presentation skills – written and verbal evidenced by the ability to communicate complex information to different audiences
- Evidence of working effectively as part of a team and the ability to work independently
- Working towards independence and ability to be involved in collaborative research
- Evidence and commitment to Continuous Professional Development (CPD) for yourself, and encourage commitment to learn and develop in others
- Collegiate member of a research team
- Experience of supervising and training MSc/PhD students or supervision and training of junior staff members

Desirable

- Budget management skills
- Experience in statistical analysis of data and bioinformatic analysis
- Ability to work well in a multisite team
- Proven ability of training and supervision of new members of the lab, including undergraduate MSc and PhD students
- Evidence of involvement in innovative research.

***Criteria to be used in shortlisting candidates for interview**

Reason for Fixed Term Contract

The reason for the fixed term contract is stated in section 1.9 in the summary of contractual terms in your contract of employment.

Criminal Declaration





If you become an employee, you must inform your manager immediately, in writing, if you are the subject of any current or future police investigations/legal proceedings, which could result in a criminal offence, conviction, caution, bind-over or charges, or warnings.

Supporting University Activities

As a University of Leicester citizen, you are encouraged to support key university activities such as clearing, graduation ceremonies, student registration and recruitment open days. We encourage all staff as citizens to work flexibly across the University if required. If supporting these activities is likely to affect your workload, please speak to your line manager in the first instance

University Values

Inclusive - We are diverse in our makeup and united in ambition. Our diversity is our strength and makes our community stronger.

Inspiring - We are passionate about inspiring individuals to succeed and realise their ambitions. We challenge our community to think differently, to get involved, and to constantly embrace new ideas.

Impactful - As Citizens of Change we will generate new ideas which deliver impact and empower our community

Freedom of Speech

The University is committed to upholding freedom of speech and academic freedom within the law throughout our recruitment processes. We ensure that all candidates are considered based on merit and suitability for the role, without regard to their lawful viewpoints or the expression of challenging or controversial ideas. Our recruitment policies and practices are designed to protect applicants from discrimination or adverse treatment on the basis of their opinions, and to foster an environment where open debate and diverse perspectives are valued as essential to our academic mission.

Equity and Diversity

We believe that equity, diversity and inclusion is integral to a successful modern workplace. By developing and implementing policies and systems that challenge stereotypes across all aspects of our work, we have a culture that recognises and values the diverse contributions of our staff which benefits everyone. Our strong values of inclusivity and equality support our efforts to attract a diverse range of high quality staff and students, and identify our University as a progressive and innovative workplace that mainstreams equality, diversity and inclusion.

