

Job Title: Research Associate
Salary: £39,906 to £43,482 per annum
Grade: 7
Department: SoBBS
Hours/Contract: Full time fixed term contract for 22 months
Job Family: Teaching and Research
Job Reference: 13763

Role Purpose

The Health and Environmental Impacts of Particulate Emissions from Automotive Tyres (HEI-PET) project is a two-year interdisciplinary UKRI cross research council project held between Universities of Loughborough and Leicester.

The project aims to understand the effects of tyre particulates on people and places, using an interdisciplinary experimental approach to quantify particulate impacts as a function of tyre state and road surface characteristics. By integrating expertise from engineering, biological and environmental sciences, key factors will be identified linking particulate characteristics to both tyre operating conditions and their health/environmental impacts. The results of the project will help guide policies for effectively mitigating the impact of tyre wear matter on the environment and its inhabitants.

The Research Associate based at Leicester will build on our discovery that particulate pollutants interact with a range of bacterial species to increase colonisation, potentiating infection. We will investigate the toxicity of road and tyre particulates on human and bacterial cells, and the effect of exposure on bacterial behaviour and interaction with human respiratory epithelia and immune response.

The candidate will have specific responsibilities within an exciting new research program to work collaboratively and independently as part of a biology, engineering and geography research team to achieve defined milestones and produce high quality research.

Main Duties and Responsibilities

Research

- To undertake an active role in day-to-day management of a research project or projects
- To take a leading role in performance, experimental design, statistical and data analysis.
- Responsible for the advancement of the multi-disciplinary research, resulting in significant contributions to journal papers and conference presentations.
- To lead in writing up research findings for dissemination amongst the research team and broader national and international community and develop ideas and contributions for future grants.
- To contribute as a team member to the development of a broader programme, this may include contributing to the writing of research bids/grants





- To actively seek opportunities to carry out multi-disciplinary research with other research groups at the University or stakeholders external to the University, with the approval of the line manager.
- To participate in general laboratory activities to ensure the efficient functioning of the lab.
- To adhere to health and safety procedures at all times, and to help the Lab Safety Officer, enforcing good safety practice in the lab.
- To train and supervise new members of the lab, including undergraduate students, PhD students and work experience trainees.

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 Early Career Researchers and research students.

Internal and External Relationships

- Regular meetings with members of the programme research group
- Meeting members of the department for critical discussion of the research and exchange of new ideas and approaches that might benefit the research
- Liaison with external collaborators

Planning and Organising

You will be required to effectively manage your time to plan your research activity and to deliver on the priorities of the project:

- Prioritise tasks within agreed work schedules;
- Plan for specific aspects of research incorporating issues such as deadlines, project milestones and overall research aims;
- Adapt daily and weekly plans to accommodate new developments and be flexible to the changing priorities of the research project;
- Prepare reports, manuscripts, grants applications and a project final report





Qualifications, Knowledge and Experience

Essential

- PhD, or PhD near completion, in Microbial Genetics*
- Extensive molecular microbiology experience working with clinically-relevant pathogenic bacteria, and specialist knowledge of human pathogen physiology and genetic regulation to environmental conditions *
- Extensive experience of 'omics and next generation data analysis *.
- Experience of bacterial- human continuous cell tissue culture to study bacterial and human responses*
- Proven ability of training and supervision of new members of the lab, including undergraduate students, PhD students and work experience trainees*
- Evidence of research productivity (e.g. papers, national/international conference seminars, grant applications etc) *

Desirable

- Expertise in bacterial imaging e.g. electron microscopy.
- Proven ability to contribute to and work well in an interdisciplinary team

Skills, Abilities and Competencies

Essential

- Evidence of working effectively as part of an interdisciplinary team and the ability to work independently*
- Extensive molecular microbiology skills working with human bacterial pathogen and extensive knowledge of bacterial adaptation*
- Experience in 'omics analysis (e.g. transcriptomics, proteomics, mutagenesis)*
- Extensive experience in human-bacterial interaction in continuous cell tissue culture*

Desirable

- Expertise in bacterial imaging e.g. electron microscopy*.
- Proven ability to contribute to and work well in an interdisciplinary team

****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 expected to support key university activities such as clearing, graduation ceremonies, student registration and recruitment open days. We expect all staff as citizens to work flexibly across the University if required.

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.

