UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Fate and Effects of Emerging Contaminants in Agricultural Systems, Faculty of Environment and Social Sciences



Salary: Grade 7 (£41,064 – £48,822 p.a.)

Reference: ENVGE1287

Full-time, fixed-term until 30 September 2028

Closing date: Sunday 21 November 2026

We will consider job share / flexible working arrangements

Research Fellow in Fate and Effects of Emerging Contaminants in Agricultural Systems, School of Geography.

Are you an ambitious researcher looking for your next challenge? Do you have expertise in the environmental fate and effects of emerging contaminants?

We are seeking a highly motivated Post-Doctoral Research Fellow to join the research group of Professor Laura Carter, UKRI Future Leaders Fellow, and contribute to the pioneering UK Research and Innovation-funded project, Closing the Loop: Emerging Contaminants in Agricultural Environments.

Sustainable agricultural practices, including the use of treated wastewater for irrigation and organic waste-derived soil amendments, are increasingly being adopted to address global challenges such as water scarcity and the need to reduce reliance on synthetic fertilisers. However, these approaches can inadvertently introduce emerging contaminants into agricultural systems. Understanding the environmental and human health implications of these contaminants is therefore critical as their use becomes more widespread.

This project will investigate the fate, uptake, and effects of emerging contaminants in agricultural systems, with a particular focus on pharmaceuticals. Through a mechanistic understanding of contaminant behaviour in agro-ecosystems, the research will provide new insights into how these substances influence soil health, crop productivity, and potential human exposure through food consumption. By integrating expertise across environmental chemistry, plant and soil sciences, and human health, the project aims to transform how environmental risks associated with emerging contaminants are assessed.

Working within a collaborative and interdisciplinary research environment at the University of Leeds, you will design and deliver a programme of innovative research examining contaminant uptake, transformation, and biological effects in agricultural systems. The outcomes will help inform sustainable agricultural practices and future environmental risk assessment frameworks.



We are looking for an enthusiastic and talented researcher with a background in Environmental Chemistry, Environmental Science, Environmental Biology, or a closely related discipline. You should hold a PhD and have experience in environmental contaminant research, alongside a strong interest in understanding and addressing the environmental risks posed by emerging contaminants.

What does the role entail?

As a Research Fellow, your main duties will include:

- Developing innovative and independent research ideas, methodologies, and approaches in environmental pollution in agricultural systems, contributing to the strategic growth of the research group's portfolio and future funding opportunities;
- Designing and delivering a programme of research to investigate the fate, behaviour, and impacts of emerging contaminants on ecosystem and human health, using a combination of controlled laboratory studies and field-scale experiments;
- Collecting, processing, and analysing environmental samples, and quantifying emerging contaminants using appropriate analytical and laboratory techniques;
- Collating, managing, analysing, interpreting, and visualising complex datasets to support project objectives, inform research direction, and generate high-quality scientific outputs;
- Critically evaluating existing literature, methodologies, and experimental findings, and applying this knowledge to refine research approaches and advance project outcomes;
- Working independently and collaboratively within a multidisciplinary team, while establishing and maintaining effective research collaborations with academic, industry, governmental, and other external partners;
- Disseminating research findings through publications in high-quality international peer-reviewed journals, presentations at national and international conferences, and engagement with stakeholders and project partners;
- Contributing to knowledge exchange, impact, and outreach activities that enhance the visibility and application of research findings beyond academia;





- Supporting the development of new research opportunities through the preparation of research proposals, funding applications, and collaborative funding initiatives;
- Maintaining a commitment to continuing professional development and contributing to a positive and inclusive research culture within the School;
- Providing training, supervision, and mentorship to undergraduate, postgraduate, and early-career researchers where appropriate, supporting their technical and professional development.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As a Research Fellow, you will have:

- A PhD (or be close to completion, with the thesis submitted before the proposed start date) in Environmental Chemistry, Environmental Science, Environmental Biology, or a closely related discipline;
- Demonstrated ability to independently design and deliver research on the fate and effects of emerging contaminants in environmental systems, including developing innovative experimental approaches, analysing and interpreting complex datasets, and translating findings into an improved understanding of environmental and human health risks;
- Proven expertise in mass spectrometry-based analysis of contaminants in environmental samples, including sample preparation, analytical method development and optimisation, quality assurance and quality control procedures, data processing, and statistical analysis;
- Experience designing, establishing, and managing controlled plant growth experiments in greenhouse, growth chamber, and/or field settings, including experimental design, data collection, and interpretation;
- Excellent written and verbal communication skills, including the ability to communicate complex scientific environmental chemistry concepts effectively to academic and non-academic audiences through presentations and reports, with a developing track record of publications appropriate to career stage;



- Strong organisational, project management, and time-management skills, with the ability to prioritise competing demands, work to deadlines, and contribute effectively both independently and as part of a multidisciplinary team.

You may also have:

- Experience of developing research proposals and contributing to applications for external research funding;
- Experience applying molecular biology techniques relevant to environmental research, including quantitative PCR (qPCR) and 16S rRNA gene sequencing workflows, encompassing DNA extraction, library preparation, gene expression and microbial community analysis, sequencing data processing, and the use of bioinformatics tools to analyse and interpret microbiome data;
- Experience integrating chemical and biological datasets to evaluate the impacts of contaminants on ecosystem or human health.

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

To explore the post further or for any queries you may have, please contact:

Professor Laura Carter, UKRI Future Leader Fellow and Professor of Environmental Chemistry
Tel: +44 (0)113 343 3205
Email: l.J.Carter@leeds.ac.uk

Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.





Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information please visit: **www.gov.uk/skilled-worker-visa**.

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: **https://www.gov.uk/global-talent**

Find out more about the Faculty of Environment.

Find out more about the School of Geography.

Find out more about our Research and associated facilities.

Find out more about equality in the Faculty.

A diverse workforce

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Environment we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Environment has received a prestigious Athena SWAN silver award from Advance HE, the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

Working at Leeds

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our Working at Leeds information page.



Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974
A criminal record check is not required for this position, however, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.



