UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Applied Mathematics (Mathematical Biology, Statistical Physics), Faculty of Engineering and Physical Sciences

Salary: Grade 7 (£33,797 – £40,322 p.a.) Due to funding restrictions an appointment is unlikely to be made higher than £35,845 p.a.

Reference: EPSMA1048

Closing date: Thursday 30 September 2021

Fixed-term for 3 years, with start date of 01 December 2021 (or shortly earlier / after)

We will consider job share / flexible working arrangements

Research Fellow in Applied Mathematics (Mathematical Biology, Statistical Physics), School of Mathematics.

Are you an ambitious researcher looking for your next challenge? Do you have a strong background in either mathematical biology or statistical physics? Do you want to further your career in one of the UK's leading research-intensive universities?

We are looking for a Research Fellow to join our EPSRC-NSF funded project DMS-EPSRC Eco-Evolutionary Dynamics of Fluctuating Populations, led by Dr Mauro Mobilia (University of Leeds) in collaboration with Professors Alastair Rucklidge (University of Leeds), Uwe Täuber and Michel Pleimling (both at Virginia Tech, USA). Population dynamics traditionally ignores fluctuations and considers static and homogeneous environments. As part of this project, you will investigate the eco-evolutionary dynamics of fluctuating populations shaped by the coupling of demographic noise, arising from random birth and death events, and environmental variability. This is particularly relevant to understand the evolution of antimicrobial resistance. You will deploy a multidisciplinary approach to develop a suite of theoretical tools to describe biologically-relevant models leading to testable predictions in lab-controlled experiments (to be carried out by the group of our project partner Dr Jose Jimenez, Imperial College, London).

With a PhD (or close to completion) in Applied Mathematics, Theoretical Physics or a closely related discipline, you will have a strong background in either mathematical biology or statistical physics.

What does the role entail?

As a Research Fellow, your main duties will include:

- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;

- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Organizing events (workshops, conferences) and seminars in collaboration with colleagues;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project;
- Preparing proposals for funding in collaboration with colleagues.

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 close to completion) in Applied Mathematics, Theoretical Physics or a closely allied discipline;
- A strong background in either mathematical biology (evolutionary processes, evolutionary game theory, partial differential equations) or statistical physics (master equation, stochastic processes, stochastic simulations), and proven excellent scientific programming skills;
- A track record of peer-reviewed publications in scientific journals or conference proceedings;
- A keen interest in interdisciplinary research (mathematics, physics, biology, ecology);
- Excellent written and verbal communication skills including presentation skills;
- Good time management and planning skills, with the ability to meet tight deadlines and work effectively under pressure;
- A proven ability to manage competing demands effectively, responsibly and without close support;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.


You may also have:

- Background in theoretical modelling of interacting populations;
- Experience or interest in learning or adapting methods and techniques from other disciplines;
- Experience or interest in interacting with a group of experimental biologists, and with undergraduate and postgraduate students;
- Experience or interest in organizing, or co-organizing, scientific events such as workshops, conferences, seminar series;
- Experience of pursuing external funding to support research.

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:

Dr Mauro Mobilia, Associate Professor in Applied Mathematics
Tel: +44 (0)113 343 1591
Email: M.Mobilia@leeds.ac.uk

Additional information

Faculty and School Information
Further information is available on the research and teaching activities of the Faculty of Engineering & Physical Sciences, and the School of Mathematics.

A diverse workforce
The Schools in the Faculty of Engineering & Physical Sciences are proud to have been awarded the Athena SWAN Bronze or Silver Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our equality and inclusion webpage provides more information.

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.

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.

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.