



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Simulation of Agricultural Systems,
School of Geography, Faculty of Environment



Salary: Grade 7 (£33,797 – £40,322 p.a.)

Due to funding limitations an appointment will not be made above spine point 33 - £36,914 p.a

Reference: ENVGE1123

Fixed-term until Feb 2023

We will consider job share / flexible working arrangements

Research Fellow in Simulation of Agricultural Systems

School of Geography, Faculty of Environment

Do you want to be part of a project aiming to improve the sustainability of European agriculture?

The European Common Agricultural Policy (CAP) support the livelihood of 11 million farmers while maintaining environmental standards and good agricultural practices over half of the European Union (EU) land. Yet, pressures including land-use intensification, abandonment and climate change remain a challenge to the current CAP and its implementation. Existing impact assessment models do not appropriately address the complexity of decisions made by farmers and ignore the wider impacts of policy on natural, social and cultural assets in rural areas.

The BESTMAP (Behavioural, Ecological and Socio-Economic Tools for Modelling Agricultural Policy) project funded by the European Union's Horizon 2020 research and innovation programme will develop new modelling framework that will transform future EU rural policies' design and monitoring, promoting a sustainable future for the EU agricultural sector. BESTMAP will

- Develop a behavioural theoretical modelling framework to take into account complexity of farmers' decision-making;
- Develop, adapt and customize a suite of open-source, flexible, interoperable and customisable computer models linked to existing data e.g. LPIS/ IACS and remote sensing e.g. Sentinel-2;
- Link economic, individual-farm agent-based, biophysical ecosystem services and biodiversity and geostatistical socio-economic models;
- Produce a simple-to-use dashboard to compare scenarios of Agri-Environmental Schemes adoption;
- Improve the effectiveness of future EU rural policies' design, monitoring and implementation.

We are looking for an enthusiastic Post-Doctoral researcher with a background in computer simulation, agent-based modelling, farmer behavioural modelling or microsimulation to join the BESTMAP team in the University of Leeds and contribute to the development of individual-farm agent-based modelling on farmer decision



making, in dealing with challenges in land-use intensification, sustainable agriculture and climate change.

You should have a PhD (or be very close to obtaining a PhD) in Geography, Computer Science, Economics, Ecology, Agricultural Science, Behavioural Science, Mathematics/Statistics, Physics – or a related discipline with a significant component of computational modelling – and be able to demonstrate a combination of enthusiasm and expertise in computational modelling.

What does the role entail?

Contributing to the development of individual-farm agent-based modelling on farmer decision making

- Contributing new ideas and perspectives to BESTMAP team and research group in Leeds;
- Writing high quality, robust, well documented computer software;
- Producing high quality research papers for publication in academic journals;
- Disseminating findings from the research project by preparing and delivering research presentations at conferences or other forums;
- Contributing to the development of new research funding applications, either in a leading role or as a co-investigator;
- Planning and managing your own research activity in collaboration with the project investigator and other members of the BESTMAP team;
- Working both independently and as part of a larger team of researchers in BESTMAP consortium, 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;
- Contributing to the training of both undergraduate and postgraduate students, where appropriate, including assisting with the supervision of projects in areas relevant to the project.



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 Research Fellow you will have:

- A PhD (or be very close to obtaining i.e the initial thesis needs to have been handed in at the point of application) in Geography, Computer Science, Economics, Ecology, Agricultural Science, Behavioural Science, Mathematics/Statistics, Physics – or a related discipline with a significant component of computational modelling;
- An ability to think creatively when standard techniques or libraries are not suitable, in order to develop novel, innovative solutions to complex problems;
- Expertise in a range of computational modelling approaches, in particular agent-based modelling or individual-based modelling;
- Experience in developing new computer software for modelling and knowledge of languages that are commonly used in the research group such as Python, C++, Java;
- An ability to write high-quality research papers with an emerging track record in the publication of scholarly articles in peer-reviewed journals;
- Excellent communication skills including evidence of having presented work at a high academic level and an ability to explain complicated technical work to colleagues in diverse fields;
- A proven ability to work closely with a small group of scientists and collaborate with a wider, multidisciplinary team;
- A strong commitment to your own continuous professional development;
- Ability to use initiative to develop and pursue new research ideas and algorithms in line with the requirements of the project;
- Willingness to travel within the UK and internationally to attend residential international conferences, project meetings and dissemination events.



You may also have:

- Experience with agent-based modelling platforms such as NetLogo, Repast, or MASON;
- Knowledge and experience using high-performance computer clusters;
- Evidence of giving conference presentations;
- Experience with working in a collaborative project involving remote partners.

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:

[Prof. Guy Ziv](#), Chair in Socio-Environmental Systems

Email: G.Ziv@leeds.ac.uk

Additional information

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 [Athena Swan in the Faculty of Environment](#)

Find out more about our [Faculty initiatives](#)



A diverse workforce

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.

