



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

**Research Fellow in Distributed Multi-drone Coordination,
Faculty of Engineering and Physical Sciences**



Salary: Grade 7 (£39,105 – £46,485 p.a.)

Reference: EPSCP1167

Location: Leeds main campus (with scope for hybrid working)

Closing date: Thursday 13 March 2025

Fixed-term starting 01 July 2025 until 31 July 2026

We are open to discussing flexible working arrangements

Research Fellow in Distributed Multi-drone Coordination, School of Computer Science.

Are you an early career researcher looking for your first challenge? Do you have a background in multi-drone coordination via distributed approaches such as collective and reinforcement learning? Do you want to advance your career in one of the UK's leading research-intensive universities with industrial collaborations?

You will have a PhD or be a PhD candidate who has already submitted your thesis prior to starting the position, with a research track record on multi-drone coordination, in particular on distributed approaches such as collective and reinforcement learning.

You will be excited to model different multi-drone coordination problems for applications such as traffic management and last-mile delivery. You will focus on the software and algorithmic elements of multi-drone coordination, while you will have experience with hardware and real drones, including problems such as sensing, data collection, navigation, collision avoidance and energy management. You will know how to innovate and apply algorithms of distributed hard-constrained optimization, collective and multi-agent deep reinforcement learning to coordination problems of drones. You will be excited to work with real-world data as well as simulation scenarios.

What does the role entail?

As a Research Fellow, your main duties will include:

- Develop distributed intelligent algorithms, systems and architectures to support multi-drone coordination for complex application missions;
- Improve the efficiency of multi-drone operations such as navigation, recharging, collision avoidance, data collection, delivery of good and other;
- Write high-quality software code and documentation for the developed solutions, develop software demonstrators and outreach material to disseminate research to the broader public;
- Develop and support collaborations with industry to explore pathways to impact and knowledge exchange;
- 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 including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own research;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally, to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- 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, 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 a Research Fellow, you will have:

- A PhD (or have submitted your thesis before taking up the role) in distributed multi-drone coordination or a closely allied discipline;
- A strong background in distributed optimization, collective and multi-agent reinforcement learning;
- Research experience on multi-drone coordination problems including among others navigation, sensing, energy management, recharging and collision avoidance;
- Experience with writing open-source software code on distributed AI systems and multi-drone coordination;
- Experience with hardware, flying real drones (such as Crazyfly) and testbeds in controlled indoor/outdoor environments;
- Experience with applying distributed multi-drone coordination to traffic monitoring and last-mile delivery problems;



- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- A developing track record of peer-reviewed high-quality, high-impact publications in international journals;
- Excellent communication skills both written and verbal, and the ability to communicate your research at national and international conferences;
- A proven ability to work well both independently and in a team;
- A strong commitment to your own continuous professional development.

You may also have:

- 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:

[Professor Evangelos Pournaras](#), Professor of Trustworthy Distributed Intelligence

Tel: +44 (0)113 343 4810

Email: E.Pournaras@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 Computer Science](#).



Working at Leeds

We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our [Working at Leeds](#) information page.

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 Engineering and Physical Sciences 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 Engineering and Physical Sciences are proud to have been awarded the Athena SWAN [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.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our [How to Apply](#) information page or by getting in touch by emailing HR via hr@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.



Salary Requirements of the Skilled Worker Visa Route

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 [the Government's Skilled Worker visa page](#).

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit [the Government's page, Apply for the Global Talent visa](#).

