



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

**Research Fellow in Bioacoustics Sensing,
Faculty of Engineering & Physical Sciences**



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

Reference: EPSEE1014

Closing date: Monday 02 March 2020

Fixed-term until 31 July 2020

We will consider flexible working arrangements

Research Fellow in Bioacoustics Sensing School of Electrical Engineering

Are you an ambitious researcher looking for your next challenge? Do you have an established background in electrical engineering and sensor development? Do you want to further your career in one of the UKs leading research intensive Universities?

Technological approaches to large-scale biological monitoring are essential to catalogue the changing responses of the natural world to human activity. The University of Leeds is recruiting an excellent early career researcher as part of a project to use acoustic sensors to monitor biodiversity in African agricultural landscapes. This project, funded by UK Research and Innovation through the [Global Challenges Research Fund](#) (GCRF), will combine our institution's research strengths in sensor technology and biodiversity conservation to produce a step change in the way in which biodiversity is monitored.

As part of this exciting project, we are searching for a dynamic and skilled electrical engineer with strong skills in machine learning, hardware development and experience of data analysis to help lead on the design of a bioacoustic sensor for field deployment. The successful applicant would join a small but growing number of interdisciplinary scientists working at the interface of technology and biodiversity, and would gain considerable skills throughout the project.

The wider project will involve a combination of techniques that are brought together to deliver a high impact, novel approach to biological monitoring. These will include acoustic recording of birds, bats and insects, machine learning to detect and classify biological sounds, and visualisation of data for a lay audience. The bioacoustic data will be groundtruthed using field surveys of biodiversity carried out by partners at an African institution. The core output of the project will be the delivery of a hardware and software solution that can operate in low infrastructure regions with a view to a larger funding bid to develop the project further.

The work has the potential to revolutionise the way in which biological diversity is monitored, with a high degree of impact through large-scale networks of similar devices and integrated data pipelines. The successful applicant would join a thriving research group where they would also have opportunities to work across disciplines.



What does the role entail?

As a Research Fellow, your main duties will include:

- Designing, constructing and programming a bioacoustic sensor according to design parameters appropriate to the area of deployment in consultation with Dr Syed Zaidi, Dr Christopher Hassall, Professor Keith Hamer, and Professor Bill Kunin;
- Assisting with the deployment of the hardware solution and work collaboratively with colleagues in the Faculty of Biological Sciences to evaluate the value of the approach;
- Generating independent and original research ideas and methods in bioacoustic biodiversity monitoring with an aim to strength links between Engineering and Ecology colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- Contributing 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 close to completion) in electrical engineering or a closely allied discipline;



- Experience in sensor hardware design (preferably acoustic sensors), and experience of machine learning;
- Strong initiative and a pro-active approach, with excellent organisational, planning and self-management skills, including the ability to prioritise workloads to meet deadlines/demand and deliver high quality under pressure;
- The ability to work accurately and carefully, designing, executing and writing up research independently;
- A developing track record of peer reviewed publications in international journals;
- Excellent communication skills, both written and verbal and the ability to communicate your research at national and international conferences;
- The ability to work well both independently and as part of a team;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience in developing bioacoustic sensors;
- Experience analysing acoustic data for quality assurance;
- Interest and experience of working in an interdisciplinary team;
- Evidence 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 Syed Zaidi](#), University Academic Fellow

Tel: +44 (0)113 343 5578

Email: S.A.Zaidi@leeds.ac.uk



Additional information

Faculty and School Information

Further information is available on the research and teaching activities of the [Faculty of Engineering](#) and the [School of Electronic and Electrical Engineering](#).

A diverse workforce

The Faculty of Engineering is 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.

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

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.

