

Research Associate in Reconfigurable Microwave Systems.

Job Ref: **REQ230285**

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.

Project Description

The EME Hub innovates world-class generation after next capability on the wireless delivery of desired effects and effect assessment in the in defence and security sector. It develops, expands and consolidates robust and diverse information networks and pipelines between academia, industry and government agencies. Furthermore, the Hub supports and enhances skills of the UK workforce in the defence and security sector through science and technology outreach and training. The Hub is sponsored by the Defence Science and Technology Laboratory (Dstl) and is based at the Loughborough University East Midlands Campus. The Hub consortium includes Queen's University Belfast, Queen Mary University of London, University of Leeds, and University of Glasgow. A community of Defence Primes and SMEs are affiliated to the Hub.

Job Description

Job Grade: Specialist and Supporting Academic Grade 6

Job Purpose: Conduct cutting-edge research on designing, building and testing novel reconfigurable microwave systems, with an initial focus on reconfigurable microwave surfaces.

Job Duties:

Specific and Technical

- Design and simulate novel reconfigurable microwave systems.
- Develop analytical models based on fundamental theory.
- Conduct test and measurement, and critically analyse results.

General Technical

- Formulate detailed plans for projects based on broad guidance from the project team.
- Liaise with Dstl staff, consortium colleagues and affiliated industrial partners, to prepare and carry out research projects independently.
- Develop experimental demonstrators.
- Produce periodic technical progress reports.
- Present technical reports at project meetings as required.

Teaching

- Supervise/co-supervise undergraduate and postgraduate student projects.
- Assist students in their use of the lab spaces and equipment.
- Assist with software and hardware guided labs in taught classes.

- Deliver lectures where required to support the hub objectives.

Other

- Contribute ideas to discussions on the future technical activities and future direction of the EME Hub.
- Share responsibility for the daily maintenance and upkeep of equipment and laboratory space.
- Ensure that a safe working environment is maintained at all times through compliance with Health and Safety at Work Regulation and the University's Operational Procedures.
- Take responsibility as requested for the sourcing and procurement of stock and specialist items to support the Hub's research activities.
- Write high quality conference and journal papers.
- Contribute to the writing of research grant proposals.
- Actively participate in and aid in the running of summer schools and themed workshops.
- Aid in the running of the annual Operating in the Future Electromagnetic Environment symposium
- Aid in the delivery of outreach projects to industry.
- Participate in Loughborough University training as required.
- Carry out specific duties as may be reasonably requested by the project leader and Hub manager that are commensurate with the nature and grade of the post.

Points to Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

As this position is sponsored by the Defence Science and Technology Laboratory with associated security implications, it is only open to UK nationals. Appointment to this post is conditional on the selected candidate being approved to work on the project by the sponsor.

Organisational Responsibility

Reports to Prof James Flint, EME Hub's principal investigator.

Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows

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- 1 – Application
- 2 – Test/Assessment Centre/Presentation
- 3 – Interview

Essential Criteria

Area	Criteria	Stage
Experience	Previous experience of working within a university engineering or physics department, facility, or equivalent research environment	1, 3
	Significant postgraduate research experience in microwave engineering	1, 3
	Postgraduate research experience of using microwave test equipment	1,3
	Experience of using full-field electromagnetic simulation/design software, such as CST Microwave Studio, HFSS, Comsol etc.	1, 3
	Authoring original work for academic journal papers and conference presentations	1
	Multitasking across different independent projects	1, 3
Skills and abilities	Proven ability to plan and self-manage the execution of a substantial research project	1, 3
	Proven ability to build experimental setups including electronics and software interfaces	1, 3
	Proven ability to develop and implement mathematical models	1, 3
	Ability to produce written research reports	1, 3
	Demonstrable ability to work effectively to firm deadlines	1, 3
	Excellent interpersonal and communication skills	3
	Ability to show initiative and work independently but also make a full contribution as a team player	1, 3
Training	Be prepared to undertake further training both internally and externally	3
Qualifications	PhD (or near completion) in Engineering with a topic related to microwave engineering	1
Other	To observe the University's Equal Opportunities policy at all times	3
	To comply with Health and Safety regulations	3
	Commitment to maintain confidentiality at all times	3
	Willingness to undergo security clearance	1, 3

Desirable Criteria

Area	Criteria	Stage
Experience	Current relevant work experience at a postdoctoral level in an academic or industrial environment across multiple microwave engineering fields.	1, 3
	Evidence of publishing in high quality journals, such as IEEE Transactions	1, 3

	Formal/informal supervision of UG students	1, 3
Skills and abilities	Understanding of current Health and Safety legislation, risk management and COSHH regulations	1, 3
	Willingness to travel	3

Conditions of Service

The position is full time, fixed term for 39 months. Please note, funding for this position may be extended. Salary will be on Research Grade 6, £33,348 to £43,155 per annum, at a starting salary to be confirmed on offer of appointment.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Technical staff, details of which can be found <http://www.lboro.ac.uk/services/hr/a-z/conditions-of-service.html>.

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which are available at <http://www.lboro.ac.uk/services/hr/a-z/family-leave-policy-and-procedure---page.html>.

We also offer an on-campus nursery with subsidised places, subsidised places at local holiday clubs and a childcare voucher scheme (further details are available at: <http://www.lboro.ac.uk/services/hr/a-z/childcare-information---page.html>)

In addition, the University is supportive, wherever possible, of flexible working arrangements. We also strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN <http://www.lboro.ac.uk/services/hr/athena-swan/>.