

Research Associate in *Signal Processing for 6G Networks*

Job Ref: REQ240888

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.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

This project is on developing USRP-based hardware implementation of signal processing techniques for 6G networks. This is a collaborative research project (PerCom and TITAN extension) with several UK academic partners. This project is funded by the Engineering and Physical Sciences Research Council

Job Description

Job Grade: Specialist and Supporting Academic Grade 6

Job Purpose

The focus will be on the development of signal processing algorithms and implementation of them in a USRP-based communication system. In particular, the Research Associate will be expected to perform research and develop algorithms for physical layer of 6G networks. The Research Associate will collaborate with several project partners including University of Southampton, among other potential academic and industrial partners.

Job Duties

- To conduct research in physical layer of a communication system
- To propose and develop signal processing algorithms for 6G networks
- To implement algorithms in a USRP-based hardware system.
To demonstrate algorithm implementation
- To take responsibility for conducting the day to day running of the project.
- To formulate detailed plans for the project based on broad guidance from the project team.
- To feed back to the project team on progress, to make recommendations for next steps.
- Write up regular progress reports and present outcomes to all Investigators and Collaborators.
- Travel to attend meetings and make presentations both within the project partners working group and to external stakeholders.
- To write research technical articles suitable for publication in high quality academic journals.
- To attend and contribute to conferences.
- Maintain confidentiality at all times and ensure that intellectual property (IPR) agreements are not violated.
- Engage in training programmes in the University (or elsewhere) that are consistent with the needs and aspirations of the project and those of the Department.
- Undertake other duties as may be reasonably requested and 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.

Organisational Responsibility

Reports to Dr Mahsa Derakhshani

Person Specification

Your application will be reviewed with respect to meeting the essential and desirable criteria listed below. 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:

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

Essential Criteria

Area	Criteria	Stage
Experience	Research experience in signal processing for wireless communications.	1,3
	Experience in implementation of signal processing algorithms in USRP	1,3
	Experience of publishing research results in high impact international journals	1,3
Skills and abilities	Excellent written and oral communication, and IT skills	1,3
	Software and hardware skills	1,3
	Ability to work independently and as part of a team, interacting with different academic and industrial partners	3
	Self-motivated with ability to meet deadlines	3
Training	Willingness to undertake appropriate further training and to adopt new procedures as and when required	3
Qualifications	A PhD (or near completion) in Electronic Engineering or relevant Engineering field.	1
Other	Commitment to observing the University's Equal Opportunities policy at all times.	3

Desirable Criteria

Area	Criteria	Stage
Experience	Experience of developing and analysing signal processing techniques and/or machine learning methods.	1,3
	Practical experience of working on wireless communication algorithms in USRP	1,3
Skills and abilities	Authoring original work, in the highest quality refereed academic journals	1
	A strong publication track record	1
	Knowledge of beyond 5G standards	1,3
Qualifications	PhD degree (or near completion) in signal processing or wireless communications or machine learning.	1
Other	Travel / Able to travel for attending project meetings and collaborative research	3

Conditions of Service

The position is FULL TIME and FIXED TERM for 8 months. Salary will be on Specialist and Supporting Academic Grade 6, 34,866 to 45,163 per annum, at a starting salary to be confirmed on offer of appointment. The appointment will be subject to the University's Terms and Conditions of Employment for STAFF GRADES 6 AND ABOVE, details of which can be found [here](#).

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which can be found [here](#).

The University offers a wide range of employee benefits which can be found [here](#).

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 see <http://www.lboro.ac.uk/services/hr/athena-swan/>

Applications

The closing date for receipt of applications is as per the advert.