WiSAR LAB

JOB DESCRIPTION

Postdoctoral Researcher 5G RF

(2 year fixed – term contract depending on funding)

Background

The WiSAR Lab is an innovative research centre and an Enterprise Ireland funded national Technology Gateway focused on the research and development of emerging low power wireless technologies for deployment in many industry sectors. The WiSAR Lab is seeking to recruit a highly motivated Post-Doctoral Research Engineer to lead research and design work in the development 5G/6G RF and microwave devices for deployment in Internet of Things (IoT), in sectors such as Manufacturing 4.0, Smart Cities, Health and Wellbeing, Agriculture, and Marine.

The WiSAR Lab have recently acquired funding for an anechoic chamber which will add to an extensive suite of RF and microwave test equipment, and the successful applicant shall be responsible for the operation of the chamber in the development of both academic and industry client research.

The WiSAR Lab has a long history of academic and industrial research into low power wireless devices, antenna design, and body area networks (BANs). The successful applicant will be expected build on this going forward by developing research into emerging 5G and 6G networks and exploiting the opportunities that these higher frequencies and bandwidths will provide. This will include innovative antenna design, and the use and exploitation of metamaterials in achieving practical communications at 5G frequencies and beyond.

The successful candidate will join an exciting research effort and will work closely with other researchers to develop and implement for industry innovative wireless solutions in emerging communication systems. The successful applicant will join an experienced and growing team who have been delivering innovative wireless solutions to industry for over 14 years. The Post Doc Researcher will be expected to lead RF and microwave research by winning funding opportunities and building a team of postgraduate student researchers.

The focus of the successful candidate will be in:

- Undertaking leading edge research in partnership with academia and industry in 5G wireless systems.
- Managing and exploiting the anechoic chamber for academic and industrial research
- Implementing research outcomes on WiSAR Lab designed testbeds
- Identifying and winning future research and funding initiatives
- Developing commercial research with client companies
- Building a research team

Person Specification

Applicants should have a Ph.D in Telecommunications, Electronic or Computer Engineering or in a related discipline. It is essential that the candidate has at least three years post-graduate experience in research or industry with a record of research publication in high quality conferences and journals. Experience in the following domains is required:

- RF/microwave circuit and system design, simulation and implementation; preferably with low-power wireless devices
- Antenna design and test
- Experience of RF design/simulation tool such as Ansys or CST
- Experience of anechoic chamber testing and characterisation of wireless devices and antennas
- Wireless network planning and RF environment characterisation
- RF channel modelling
- Low-power protocols in wireless sensor networks: in particular, knowledge of IEEE 802.15 standards is required.
- Postgraduate student supervision
- A track record of winning research funding

Key Skills and Competencies

- Demonstrate strong analytical and problem-solving skills
- Competent programming skills
- Understanding of basic engineering principles.
- Excellent technical knowledge, analysis and debug skills within field of emphasis
- Highly skilled within design and development activities
- Innovative/Creative
- Effective communication skills.
- Research papers to peer-reviewed publication standard
- Ability to work both individually and collaboratively in a team environment

Key duties and responsibilities:

- To engage with industry to develop collaborative research projects.
- To win competitive research funding at a national and EU level under the direction of the Academic Directors
- Cost estimation of industry research grant proposals and industry direct funded projects.
- To assume a role in the design as well as the execution of research projects.
- To conduct and lead a specified programme of research under the supervision and direction of an Academic Director
- To engage in the dissemination of the results of the research through publication of quality peer reviewed journals and conferences, as directed by Academic Directors
- To interact closely with postgraduate research students and have an agreed role in supporting these students in their day-to-day research in conjunction with the supervisor or supervision team
- To conduct administrative and management work associated with the research project
- To engage in costing research grant proposal and financial management of projects.
- Participate in preparation of appropriate project documentation and design reviews to ensure accuracy and adherence to technical requirements.
- Assume responsibility for completing individual project milestones and maintaining schedule, once tasks are assigned.
- Provide technical and schedule estimates for individual design responsibilities on assigned project.
- To report to the Academic Directors of the WiSAR Lab as required.

Salary. **€39,523 – €45,609 p.a.** (depending on experience)

Selection Selection will be by interview. Short-listing may take place.

The completed application form should be submitted not later than Friday 22 April 2022.

Note: The University does not refund expenses incurred in relation to attendance at interview.

In line with the record retention policy of this University, paper records relating to the interview process are retained for a period of two years, at which point they are destroyed. Should you wish to make any enquiries in relation to this particular competition you will be required to do so within the next two years.

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