



Ollscoil Mhá Nuad Maynooth University

Department of Electronic Engineering Senior Postdoctoral Researcher (Specified Purpose Contract)

The Role

Maynooth University is committed to a strategy in which the primary University goals of excellent research and scholarship and outstanding education are interlinked and equally valued.

We are seeking to appoint an energetic and enthusiastic Senior Post-Doctoral Researcher in high frequency cellular communication network infrastructure. This role will lead efforts in the study of the methods for optimizing performance of future cellular communication networks. The research will identify the technical challenges and limitations with the RF front-end and seek to implement solutions to overcome them. The work will be in close collaboration with complementary research being carried out by a world leading PA design team in Cardiff University, Wales, UK and with other academics and students in Maynooth University's Department of Electronic Engineering.

The appointee will work under the supervision of Dr John Dooley, in a Research Ireland-EPSCRC funded grant, in the Department of Electronic Engineering, Maynooth University. The environment is highly supportive. The Future Telecommunications Research Group at Maynooth has a wide range of national and international collaborators. Most of the groups' work is industry informed or led. There are a number of current research projects on topics from Economics of 6G to solid state circuit design for 6G. While each researcher works to an agreed set of research deliverables, synergies between the various strands of research are used for everyone's benefit. Researchers also enjoy an environment where their own personal development is encouraged and supported.

Principal Duties

Administrative and other duties:

This will include:

- Performance optimisation of high frequency power amplifiers - testbench development;
- Digital Pre-distortion (DPD) algorithm development;
- Hardware testbench build and control - implementation and refinement;
- Programming of embedded hardware (e.g. FPGA or similar boards for test signal generation)
- Guidance of PhD students in prioritising work, conducting experiments and publishing results
- Communication and dissemination activities (Education and Public Engagement - EPE);



HR EXCELLENCE IN RESEARCH

- Collaboration and interfacing with academic and industrial partners on a regular basis.
- Travel to Cardiff in Wales, United Kingdom, on occasion.

The ideal candidate will have:

Essential

- A PhD in any of the following, or related, disciplines (Electronic Engineering, Physics, Computer Engineering).
- To be appointed at the grade of Senior Post-Doctoral Researcher, candidates must have a minimum of two years post PhD relevant research experience.
- Have experience in studying the non-linear behaviour of high frequency circuits.
- An understanding of the operational requirements for a successful research project.
- Ability to work as part of a multi-disciplinary team and communicate research to diverse stakeholders
- Have strong writing, communications and analytical skills

Desirable

- Record of scholarly publication and academic excellence
- Experience in implementing digital pre-distortion (DPD) for power amplifiers
- Experience in training neural networks
- Experience with embedded hardware and programming
- Experience with field programmable gate arrays
- Experience in high-frequency circuit design (EDA tools ADS, HFSS, MWO etc.)
- Experience with tape-out of PA

Faculty and Research Institutes

The Faculty of Science and Engineering comprises the Departments of Biology, Chemistry, Computer Science, Electronic Engineering, Mathematics and Statistics, Physics, Psychology, Sport Science and Nutrition and School of Nursing. The role of the Faculty is to co-ordinate the academic activities of individual departments, to oversee the strategic development of departments, and to support interdepartmental activities and programmes. The University has also developed a number of interdisciplinary Institutes to support excellent research and to build research capacity across disciplines. The most relevant institutes for this role are the Hamilton Institute and the Innovation Value Institute.

Department

The Department of Electronic Engineering was established in 1999 and operates within the rich and diverse engineering sector in Ireland. The Department offers accredited undergraduate degrees in Electronic Engineering and, in partnership with the Department of Computer Science, a BSc degree programme in Robotics and Intelligent Devices. The Department also provides a taught Masters programme in Electronic Engineering (Robotics & Embedded AI), as well as structured research degrees at Masters and PhD level.

The Department of Electronic Engineering has a vibrant research activity with over 30 PhD students working in the areas of control and dynamical systems, ocean energy systems, robotics, radio and wireless communications, analog and digital signal processing, microelectronics, and biomedical engineering. The Department has a range of well-equipped research labs, while the Future Telecommunications Research Group has two measurement labs and hosts RadioSpace, Irelands National 5G Test Centre. The group has multiple EDA tools such as HFSS, ADS etc. The Future



HR EXCELLENCE IN RESEARCH

Telecommunications Research Group also has access to other testing facilities locally, nationally and internationally, and is part of the national ADVANCE Centre for Research Training and CONNECT: Research Centre for Future Networks, both Research Ireland funded research centres.

The Department is successful in attracting research funding from national and international agencies as well as from industrial partners. The Future Telecommunications Research Group currently has active projects in Economics of 6G, Signal Modulation and Coding, Digital Signal Processing, RF Front-end Design, Network Optimisation and Quantum Networking.

The University

Maynooth University is a very distinctive university, a collegial institution focused on science and engineering, humanities, and social sciences, and equally committed to research, teaching and community engagement. Located in Ireland's only university town, its distinctive features and character owe much to its unique history and heritage. It provides a high-quality educational experience to over 15,000 students on a campus with 18th century roots and 21st century dynamism.

The strategic trajectory and accomplishments of Maynooth University, in the 25 years since its establishment as an autonomous public university, are exceptional, and a source of great pride to the university community, staff, students and alumni. Maynooth University in 2024 ranked in the top 90 global Times Higher Education (THE) Young University rankings, placing 86th in the world. Maynooth University's growing global reputation is based on the originality, quality, importance and impact of its research and scholarship, commitment to teaching and learning, the quality of academic programmes, and its leadership in widening participation in higher education. The sources of success are the dedication of its staff and the energy and engagement of its students.

Maynooth University is a place of lively contrasts – a modern institution, dynamic, rapidly-growing, research-led and engaged, yet grounded in historic academic strengths and scholarly traditions. With over 15,000 students Maynooth offers a range of programmes at undergraduate, postgraduate and doctoral level in the humanities, science and engineering and social sciences, including business, law and education. The University also offers a range of international programmes and partnerships.

Maynooth's unique collegial culture fosters an interdisciplinary approach to research, which its world-class academics bring to bear in tackling some of the most fundamental challenges facing society today. The University's research institutes and centres consolidate and deliver this impact as vibrant communities of learning, discovery and creation. Research at Maynooth also is very much central to its teaching and the University prides itself on placing equal value on its research and teaching missions.

Maynooth University's Values

Our values define who we are, what we believe in and how we act as a community. They underpin our future success and guide our expectations of ourselves and each other. Our values apply to everyone in the University community:

- Integrity
- Collegiality
- Responsibility
- Freedom of expression
- Ambition



HR EXCELLENCE IN RESEARCH

Maynooth University Strategic Plan 2023 – 2028

The University's Strategic Plan 2023 - 2028 builds on our rich academic history and strong foundations to set out an ambitious and forward-looking path for the future of our University. This roadmap underscores our commitment to adapt to a changing world while staying true to our values.

Our vision is to be a university of excellence, opportunity and impact, having a significant stake in all three.

For more information about Maynooth University's future direction, please visit: <https://strategy.maynoothuniversity.ie/>

Plean Straitéiseach Ollscoil Mhá Nuad 2023 - 2028

Tógann Plean Straitéiseach na hOllscoile 2023 - 2028 ar ár stair acadúil shaibhir agus ar ár mbunchlocha láidre chun conair uailmhianach agus cheannródaíoch a leagadh amach do thodhchaí ár nOllscoile. Soiléiríonn an treochlár seo ár dtiomantas do dhul i dtaithí ar dhomhan atá ag síorathrú agus ár ngníomhaíochtaí a chur in oiriúint dó, agus san am céanna a bheith dílis dár luachanna Ollscoile. Is í an fhís atá againn a bheith mar ollscoil feabhais, deiseanna agus tionchair, agus lámh láidir a bheith againn i ngach ceann de na trí ghné seo.

Léigh anseo le haghaidh breis eolais faoi thodhchaí Ollscoil Mhá Nuad: <https://strategy.maynoothuniversity.ie/?lang=ga>

Selection and Appointment

- Only shortlisted candidates will be invited to attend for interview;
- Candidates invited for interview will be required to make a brief presentation;
- Appointments will be approved by the President based on the report of the selection board;
- It is anticipated that interviews will be held week commencing 12th May 2025;
- The appointment is expected to be effective from 3rd June 2025 or as soon as possible thereafter.

Equality and Diversity

Maynooth University actively works to ensure equality, celebrate the diversity of our community, and promote inclusion. To learn more about our commitment to Equality and Diversity, please read the Maynooth University [Equality and Diversity Policy](#) / [Polasaí Comhionannais agus Éagsúlachta](#), our policy on the [Employment of People with Disabilities](#), and our [Gender Equality Action Plan 2023-2026](#). We aim to reflect the diversity of the community we serve and welcome applications from all individuals across our society.

Terms and Conditions

Tenure	This a full time, temporary post for a specified purpose, anticipated to be 30 months duration.	
	The overall project end date is anticipated to 30/11/27	
Location	The place of work is the campus of Maynooth University, Maynooth, Co. Kildare.	
Salary	Postdoctoral Researcher (2025)	€45,847 – €52,339 p.a. (6 points)



HR EXCELLENCE IN RESEARCH

	<p>Senior Postdoctoral Researcher (2025) €53,770 p.a. (1 point)</p> <p>Appointments will be made in accordance with public sector pay provisions.</p>
Hours of work	<p>A 37-hour working week is in operation in respect of full-time positions (pro-rated for part-time positions).</p> <p>This can be reviewed or adjusted from time to time through national agreements.</p>
Annual Leave	<p>Annual leave and public holidays are provided for in the University policy: https://www.maynoothuniversity.ie/human-resources/policies/annual-leave-policy</p> <p>Annual leave will be allocated on a pro-rata basis for part-time and temporary positions.</p>
University policies and schemes	<p>Employees of the University will be subject to the terms of the University policies and schemes, available on the University website at:</p> <p>https://www.maynoothuniversity.ie/university-policies</p> <p>https://www.maynoothuniversity.ie/human-resources/policies</p>
Pension	<p>This is a pensionable post. Employees of the University will enter into a public sector pension scheme, and as such, applicants must ensure they are eligible to become a member of a public sector pension scheme for the duration of the appointment. Details of the public sector pension schemes are available at: https://www.maynoothuniversity.ie/human-resources/pension-information</p>
Eligibility	<p>Applicants should note that eligibility is determined by the Department of Enterprise, Trade and Employment. Further information regarding eligibility is available at: https://enterprise.gov.ie/en/what-we-do/workplace-and-skills/employment-permits/employment-permit-eligibility/</p> <p>Non-EEA applicants are responsible for ensuring they can secure a visa to travel to Ireland. Any offer of employment is conditional on applicants securing the appropriate employment permissions.</p> <p>Former Irish Public Service employees - Certain Restrictions on Eligibility</p> <p>Eligibility of applicants formerly employed by an Irish Public Sector body, and who availed of an Irish Public Service Redundancy or Incentivised Retirement Scheme under the Schemes below, may be affected:</p> <ul style="list-style-type: none"> • Collective Agreement: Redundancy Payments to Public Servants • Incentivised Scheme for Early Retirement (ISER) • Department of Health and Children Circular (7/2010) • Department of Environment, Community & Local Government (Circular Letter LG(P) 06/2013) <p>Applicants should ensure that they are eligible to be re-engaged in the Irish Public Service under the terms of such Schemes. Applicants should address queries with their former Irish Public Sector employer.</p>



Garda vetting	Garda vetting or clearance may be required by the University.
Medical	The University may require a medical examination as a condition of employment.

Data Protection Law

Applications to the University will be treated in accordance with the University Data Protection Policies. For information on the University's Data Protection Policies and Privacy Notice, please see our website: <https://www.maynoothuniversity.ie/data-protection>

Application Procedure

Closing Date:

23:30hrs (local Irish time) on **Sunday, 4th May 2025**.

Please note all applications must be made via our **Online Recruitment Portal** at the following link:

<https://www.maynoothuniversity.ie/human-resources/vacancies>

Applications must be submitted by the closing date and time specified above. Any applications which are still in progress at the closing time on the specified closing date will be cancelled automatically by the system.

Late applications will not be accepted.

Maynooth University is an equal opportunities employer

The position is subject to the Statutes of the University



HR EXCELLENCE IN RESEARCH