



Ollscoil Mhá Nuad Maynooth University

Department of Electronic Engineering Centre for Ocean Energy Research Senior Post Doctoral 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.

The Centre for Ocean Energy Research (COER) at Maynooth University, Ireland has a further opportunity for a well-qualified applicant on a prestigious, new Science Foundation Ireland ocean energy project:

Instant Force & Model Predictive Control for Ocean Energy Power take-off with high Fidelity (INFINITY)

Some project detail:

The INFINITY project aims to advance wave energy in Europe by developing a more efficient, reliable Power Take Off (PTO) system and control technology. Building on past projects, it focuses on designing durable systems, using advanced controls to adapt to wear and tear, and supporting a circular supply chain. With Operations & Maintenance (O&M) making up 30% of costs, INFINITY emphasizes reliability and predictive maintenance to extend service intervals from 2 to 5 years and cut costs by 50%. These innovations aim to overcome barriers to wave energy adoption, making it more practical, cost-effective, and a viable renewable energy source.

The project team is composed of leading academic and industry collaborators from: RISE Research Institutes of Sweden, Ocean Harvesting Technologies, Politecnico di Torino, The Technical University Denmark etc.

This project is funded through the EU's Clean Energy Transition Partnership with the Sustainable Energy Authority of Ireland, and the successful candidate will join a dynamic group of around 30 postdoctoral, PhD and other researchers in COER, who work on the development of wave energy technology, with projects funded from various national and international sources. COER has a wide range of eminent industrial and academic collaborators.



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Principal Duties

This will include:

- Produce hi-fidelity models for model-based control design and simulation evaluation
- Extend the solution of nonlinear moment-based control to include the effect of control actions on OpEx in the performance function
- Produce a controller, suitable for real-time implementation.
- Communication and dissemination activities
- Collaboration and interfacing with project academic and industrial partners.
- Some project management.

The ideal candidate will have:

Essential:

- Must hold a PhD in mechanical/electrical/electronic/control engineering or a closely related discipline. **To be appointed at the grade of Senior Post Doctoral researcher, candidates will need at least two years post-doctoral relevant relative research experience**
- Postdoctoral experience and a record of scholarly publication and academic excellence.
- Robust analytic and programming skills.
- Demonstrable experience with wave energy (control/modelling).
- Good organisational and communication skills.
- Ability to build relationships with the programme collaborators.

Faculty and Research Institutes

The Faculty of Science & Engineering comprises the Departments of Computer Science, Electronic Engineering, Experimental Physics, Theoretical Physics, Mathematics and Statistics, Biology, Chemistry and Psychology. 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 programmes. The University has also developed a number of interdisciplinary institutes, including the Maynooth University Hamilton Institute, and the National Centre for Geocomputation, to support excellent research and to build research capacity across disciplines as well as focussed research centres, such as the Centre for Ocean Energy Research.

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 (Embedded and Wireless Systems), 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 Centre for Ocean Energy Research has a range of demonstration wave tanks, 2 large bench-test rigs, a dedicated HPC facility and extensive CAD facilities for hydrodynamic modelling, control design, simulation and



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dedicated motion capture/control implementation hardware and software. COER also has access to a number of tank test facilities locally, nationally and internationally, and is part of the national MaREI (Marine and Renewable Energy Ireland, <https://www.marei.ie/>) SFI-funded research centre, and the EU-funded WECANet (<https://www.wecanet.eu/>) pan-European Network for Marine Renewable Energy with a Focus on Wave Energy.

The Department is successful in attracting research funding from national and international agencies as well as from industrial partners.

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

Maynooth University Strategic Plan 2023 – 2028



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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 during the month of the May;
- The appointment is expected to be effective from 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 27 months duration.
Location	The place of work is the campus of Maynooth University, Maynooth, Co. Kildare.
Salary	Post-Doctoral Researcher (2024): €44,847 – €51,313 p.a. (Point 1- 6) Senior Post-Doctoral Researcher (2024): €52,716 p.a. (Point 1 – with increment)



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	Appointments will be made in accordance with public sector pay provisions.
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.
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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, 27th April 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



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