



Ollscoil Mhá Nuad Maynooth University

Respiratory Physiology and Sleep Laboratory Kathleen Lonsdale Institute for Human Health Research Post-Doctoral Researcher in Human Physiology (Full time, Specified Purpose Contract, 4 Years)

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 a Post-Doctoral Researcher in Human Physiology to work on a four-year project investigating *“The Role of Upper Airway Mechanoreceptors in the Regulation of Upper Airway Patency in Humans during Wakefulness and Sleep”*, in the Respiratory Physiology and Sleep Laboratory, Maynooth University. The Laboratory is a newly-established facility and research programme, led by Professor Philip Nolan (<https://www.maynoothuniversity.ie/people/philip-nolan>).

Obstructive sleep apnoea (OSA) is a common disorder, where the collapsible part of the upper airway, the pharynx, becomes repeatedly blocked during sleep. This results in frequent short episodes where, despite continued attempts to breathe, air cannot enter the lungs (obstructive apnoea). These episodes are each ended by a brief arousal from sleep which clears the airway. The reduced blood oxygen (hypoxia), the strain on the cardiovascular system during these episodes, and the repeated awakenings, are associated with debilitating excessive daytime sleepiness and a significantly increased risk of hypertension, type II diabetes, heart attack and stroke.

The pharynx is normally held open during sleep in healthy people by the action of surrounding skeletal muscle, including muscles of the tongue, the palate and the pharyngeal wall. If the pharynx starts to collapse, the transmural pressure below the obstruction becomes more negative (relative to atmospheric pressure) and this stimulates an important reflex response. Sensory receptors concentrated in the wall



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of the larynx sense the change in pressure, causing a reflex activation of the pharyngeal muscles to stabilise the pharyngeal wall. While this reflex has been extensively studied in animal and human models, there remain important questions about its mechanism and significance in humans. The purpose of this research programme is to better characterise and understand the reflex responses to changes in upper airway pressure changes in humans. It is fundamental research, designed to better elucidate the underlying physiological control mechanisms which keep the pharyngeal airway open in wakefulness and sleep in healthy adults. However, it is likely that this better understanding will lead to better and more personalised treatments for people with OSA.

We are seeking a talented and inventive researcher, with doctoral training in Physiology or a cognate discipline, to work with the Principal Investigator in the design and execution of this innovative programme of fundamental research.

Principal Duties and Person Specification

Duties:

The principal duties of the role include:

- Working with the Principal Investigator and collaborators on the detailed design and further development of the programme of research;
- Overseeing and conducting physiological studies of respiratory and upper airway function in human volunteers during wakefulness and sleep;
- Stewardship of the data generated during these studies according to open science principles;
- Analysis of experimental data;
- Preparation of results and findings for dissemination and publication;
- Day-to-day oversight of the experimental work of PhD students;
- Working with the Principal Investigator to ensure adherence to University policies and best practice in research ethics, openness and integrity;
- Teaching undergraduate and postgraduate students, as may be agreed with the Principal Investigator.

The ideal candidate will have:

Essential

- A PhD in Physiology or a cognate discipline;
- Evidence of the ability to design, oversee and conduct research studies and experimental work in Physiology;
- The statistical knowledge and data analytic skills required to analyse and draw conclusions from biomedical data;
- Evidence of the ability to publish and disseminate research in the biomedical sciences;
- Strong communication and presentation skills.



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Desirable

- Prior experience of experimental physiology and/or physiological measurement in human volunteers;
- An interest in or skills in computer programming and data analytics.

Maynooth University Respiratory Physiology and Sleep Laboratory

This is a newly-established state-of-the-art laboratory dedicated to measurements of respiratory and upper airway function during wakefulness and sleep in human volunteers. It is equipped with a high-sample-rate multi-channel data acquisition and analysis system to provide for the sophisticated and automated analysis of physiological signals. The measurements available include: sleep staging (electroencephalogram, EEG; electrooculogram, EEG; and submental electromyogram, EMG); respiratory airflow, pressures and end-tidal CO₂ and O₂; respiratory muscle EMG (surface and where applicable fine-wire intramuscular electrodes); and pharyngeal airway pressure (transducer-tip catheters). A wide variety of perturbations of the respiratory control system is available, including resistive and pressure loading, and hypoxic and hypercapnic challenges.

Maynooth University Faculty of Science and Engineering

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 the School of Nursing. The Research Institutes associated with the faculty are the Maynooth University Kathleen Lonsdale Institute for Human Health Research and the Maynooth University Hamilton Institute, which is dedicated to providing a bridge between mathematics and its applications in ICT, biology and other disciplines. The Faculty offers undergraduate and taught postgraduate programmes in the natural sciences, mathematics and statistics, psychology, sport science, nutrition and nursing.

The Faculty is home to outstanding researchers and pioneering research projects across a broad spectrum of research from pharmaceutical and biomedical sciences to robotics and intelligent devices and much in between. Research within the Faculty is driven by a commitment to innovation and excellence, supported by dedicated Institutes and Research Centres that promote collaboration across the various scientific disciplines and engineering fields within the Faculty. These efforts ensure that our work has a lasting impact both within academia and the wider world.

Maynooth University Kathleen Lonsdale Institute for Human Health Research

The Kathleen Lonsdale Institute for Human Health Research comprises over 50 faculty members and a large number of doctoral students and post-doctoral researchers, bringing together the University's strengths in Human Health Research into one



collaborative network, bringing a wide variety of disciplinary perspectives to bear on advancing our understanding the fundamental aspects of health and disease.

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 17,000 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 17,000 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



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- Freedom of expression
- Ambition

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 treochar 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>

Our Strategic Plan sets out an ambition to be an excellent place to learn and work, and an inclusive community where students and staff can flourish and make a distinctive contribution to the national system of higher education and the public good. Achieving this requires staff to have a strong sense of connection to the University and support from colleagues. We recognise that our people are our greatest resource and actively seeks to attract, develop, and retain a talented workforce by creating a positive and welcoming University environment. As well as offering a competitive salary, access to a public sector pension scheme, and annual leave allowance, the University also provides other facilities and benefits including, but not limited to:

- Family-friendly leave schemes
- Tax Saver travel scheme and Cycle to Work scheme
- On-campus crèche
- On-campus restaurants and coffee shops
- Employee Assistance Programme
- Health and Well-Being programmes
- Education support opportunities



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- Continuous Professional Development opportunities, including leadership programmes, mentoring, Aurora programme.
- Study and Exam leave
- Sports facilities and gym

To learn more about being part of the Maynooth University team, please visit our website at <https://www.maynoothuniversity.ie/human-resources/come-work-with-us>

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 March 2026;
- The appointment is expected to be effective from May 2026.

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.

Maynooth University is an equal opportunities employer and is committed to supporting applicants to enable their full participation in the recruitment process. Applicants are invited to disclose a disability during the recruitment process to ensure adequate measures are in place to enable their full participation.

Terms and Conditions

Tenure	This a full time, temporary post for a specified purpose, anticipated to be 4 years (48 months) duration.
Location	The place of work is the campus of Maynooth University, Maynooth, Co. Kildare.
Salary	Post-doctoral researcher Level 1 €46,305 – € 52,862 p.a. (6 points with annual increment) Appointments will be made in accordance with public sector pay provisions.



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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>Applications from non-EEA citizens are welcomed. 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>

Athena
Swan
IrelandAthena
SWAN
Bronze Award

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	<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 **Friday 27th February 2026.**

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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