



# Ollscoil Mhá Nuad Maynooth University

## Department of Physics 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.

We are seeking a postdoctoral researcher in theoretical physics, in the field of condensed matter theory. The successful applicant will be joining the research group led by Dr. Joost Slingerland, which has a focus on topologically ordered phases of condensed matter systems, as well as their applications to quantum information processing. The project which funds this position focuses particularly on the interplay of strong correlations and geometric fluctuations in quantum materials with topological order, such as fractional quantum Hall systems. The position has been funded by Research Ireland for a period of 36 months and is available immediately.

### Principal Duties

The successful applicant will perform research in theoretical physics, playing a major role in the RI/EPSC funded project "Emergence of partons in topological quantum matter far from equilibrium", Grant 24/EPSC/4006. The work will proceed in collaboration with Dr. Slingerland and his team and in coordination with the Team of Prof. Zlatko Papić at the University of Leeds.

The successful candidate will work both independently, developing their personal research profile, and in collaboration with the team. It is foreseen that in addition to research, the successful candidate may take on some teaching or mentoring duties, as part of their professional development. They should also contribute to the active scientific culture within the department and take an important role in the dissemination of the research results.

### Administrative and other duties:

Specific duties may include

- Conduct a specified programme of research under the supervision and direction of the Principal Investigator. Engage in the outreach and dissemination of the research at project meetings, workshops and conferences and contribute to writing reports and academic papers for publication and broader research dissemination.
- Mentor and assist, as appropriate and as directed, graduate research students
- Liaise with members of the IR-EPSC project team and other collaborators, locally and internationally.



Engineering and  
Physical Sciences  
Research Council



Taighde Éireann  
Research Ireland

- Assist in developing and submitting new research proposals to EU and national funding agencies.
- Carry out additional duties as may reasonably be required within the general scope and level of the post.
- Contribute as appropriate to the progress reports for the project.

We also hope to enable the candidate to take on light teaching duties as part of their professional development. However, the extent of this will not adversely impact the primary research role.

### **The ideal candidate will have:**

#### **Essential**

- Ph.D. in Theoretical Physics or a related subject.
- Excellent verbal and written communication (English language) skills
- Excellent interpersonal and communication skills
- Ability to work both independently and as part of a team.
- Research experience in the physics of topologically ordered systems.
- Experience with numerical analysis of quantum matter, for example using exact diagonalization, MPS methods, or machine learning techniques.

#### **Desirable**

- A record of scientific publication and dissemination of results.
- Knowledge of topological field theory, both abstractly and in terms of microscopic models and their potential physical realizations

## **Faculty and Research Institutes**

The Faculty of Science and Engineering comprises the Departments of Physics, Biology, Chemistry, Computer Science, Electronic Engineering, Mathematics and Statistics 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 to support excellent research and to build research capacity across disciplines.

## **Department**

The Department of Physics was recently formed from the merger of pre-existing separate departments of Experimental Physics and Theoretical Physics. There is a long tradition of natural science in Maynooth, stretching back to the founding of the college in 1795 and the department of Mathematical Physics (later Theoretical Physics) was founded in 1960. The Physics department now has 16 permanent members of academic staff, as well as a strong complement of technical and support staff. There is a strong research ethos and an active community of Ph.D. students and postdoctoral fellows.

The department offers a full range of graduate and undergraduate courses in a vibrant learning environment, including degree programmes in Theoretical Physics, Experimental Physics, Physics with Astrophysics and an accelerated programme in Theoretical Physics and Mathematics through B.Sc. and M.Sc. levels. The Department also provides service courses to students in other departments, e.g. in Electronic Engineering and Product Design.

Research strengths in Theoretical Physics include Quantum Condensed Matter Physics, including Topological Phases of Matter, Quantum Information Processing, Astrophysics and Cosmology and non-perturbative and computational Quantum Field Theory. Experimental research focuses on



Athena  
Swan  
Ireland



Athena  
SWAN  
Bronze Award



Engineering and  
Physical Sciences  
Research Council



Taighde Éireann  
Research Ireland

astronomical instrumentation, observational astronomy, terahertz optics, environmental physics, cryogenic detectors and molecular physics. The department has excellent facilities on the Maynooth University North campus, including a dedicated computing laboratory.

For more information on the Department, please visit [www.maynoothuniversity.ie/physics](http://www.maynoothuniversity.ie/physics)

## 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 18<sup>th</sup> century roots and 21<sup>st</sup> 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

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/>



Athena  
Swan  
Ireland



Athena  
SWAN  
Bronze Award



Engineering and  
Physical Sciences  
Research Council



Taighde Éireann  
Research Ireland

## 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.
- Appointments will be approved by the President based on the report of the selection board;
- It is anticipated that interviews will be held in October.
- The appointment is expected to be effective 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](#) / [Polasáí 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

<b>Tenure</b>	This a full time, temporary post for a specified purpose, anticipated to be 36 months duration.  Project end date is anticipated to be 30/11/2028.
<b>Location</b>	The place of work is the campus of Maynooth University, Maynooth, Co. Kildare.
<b>Salary</b>	Post Doctoral Researcher (2025) €46,305 p.a. (1 point with increment)  Appointments will be made in accordance with public sector pay provisions.
<b>Hours of work</b>	A 37-hour working week is in operation in respect of full-time positions (pro-rated for part-time positions).  This can be reviewed or adjusted from time to time through national agreements.
<b>Annual Leave</b>	Annual leave and public holidays are provided for in the University policy: <a href="https://www.maynoothuniversity.ie/human-resources/policies/annual-leave-policy">https://www.maynoothuniversity.ie/human-resources/policies/annual-leave-policy</a>  Annual leave will be allocated on a pro-rata basis for part-time and temporary positions.

<b>University policies and schemes</b>	<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><a href="https://www.maynoothuniversity.ie/university-policies">https://www.maynoothuniversity.ie/university-policies</a></p> <p><a href="https://www.maynoothuniversity.ie/human-resources/policies">https://www.maynoothuniversity.ie/human-resources/policies</a></p>
<b>Pension</b>	<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:</p> <p><a href="https://www.maynoothuniversity.ie/human-resources/pension-information">https://www.maynoothuniversity.ie/human-resources/pension-information</a></p>
<b>Eligibility</b>	<p>Applicants should note that eligibility is determined by the Department of Enterprise, Trade and Employment. Further information regarding eligibility is available at:</p> <p><a href="https://enterprise.gov.ie/en/what-we-do/workplace-and-skills/employment-permits/employment-permit-eligibility/">https://enterprise.gov.ie/en/what-we-do/workplace-and-skills/employment-permits/employment-permit-eligibility/</a></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><b>Former Irish Public Service employees - Certain Restrictions on Eligibility</b></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"> <li>• Collective Agreement: Redundancy Payments to Public Servants</li> <li>• Incentivised Scheme for Early Retirement (ISER)</li> <li>• Department of Health and Children Circular (7/2010)</li> <li>• Department of Environment, Community &amp; Local Government (Circular Letter LG(P) 06/2013)</li> </ul> <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>
<b>Garda vetting</b>	Garda vetting or clearance may be required by the University.
<b>Medical</b>	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 21<sup>st</sup> September 2025.**



Engineering and  
Physical Sciences  
Research Council



Taighde Éireann  
Research Ireland

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.

**Your application should include a cover letter addressing your interest and suitability for the role and your CV should include all qualifications and research experience.**

**Maynooth University is an equal opportunities employer**

**The position is subject to the Statutes of the University**



Engineering and  
Physical Sciences  
Research Council

