



Maynooth University Ollscoil Mhá Nuad

Department of Mathematics and Statistics Post-Doctoral Researcher (Predicting Sea Levels) (Contract until 30/11/2024)

The Role

Maynooth University are seeking to recruit a post-doctoral researcher to work in Dr Niamh Cahill's research group. The candidate will work on a project titled "Predicting Sea Levels and Sea Level Extremes for Ireland". The project, which will run for 3 years, aims to exploit existing methodologies for estimating current and future sea-level extremes and to expand upon them in order to produce state-of-the-art, accessible software packages and a web-application that will aid in the estimation and interpretation of the variability in Irish sea-levels and sea-level extremes in the past, present and future.

The candidate is expected to develop statistical models that provide estimates and projections of extreme sea levels (ESLs) considering the influences of mean sea-levels under different climate scenarios. Model development will require the use of Bayesian methods, spatial methods, and extreme value methods. The candidate will also contribute to the development of a user-friendly web-application, interactive maps, R software and databases.

Principal Duties

Administrative and other duties:

- Conduct a specified programme of research and scholarship under the supervision and direction of your Principal Investigator.
- Engage in appropriate training and professional development opportunities as required by your Principal Investigator, your School or Institute, or the University.
- Determine appropriate methodologies for research and write up results from own research activity, with advice and support as appropriate.
- Engage in the dissemination of the results of the research in which you are engaged as directed by and with the support of and under the supervision of your Principal Investigator.
- Engage in the wider research and scholarly activities of your research group, School and Institute.



- Mentor and assist, as appropriate and as directed, the research graduate students in your group, School and Institute.
- Carry out administrative work associated with your programme of research.

The ideal candidate will have:

Mandatory:

- A Post-doctoral degree completed or in the final stages of completion (please give date of Viva in application) in statistics, mathematics, applied mathematics, data science or related field with significant statistical and/or machine learning content.
- Experience working with data and in one or more of: Bayesian data analysis, spatial data analysis, multilevel modelling, extreme value theory, statistical climatology.
- Strong programming skills in R, Python or equivalent.
- A demonstrated commitment to research and publications
- Sufficient administrative skills to manage projects and contribute to the common workload of the project.
- Excellent communication skills (oral, written, presentation etc)

Desirable:

- Experience of working with climate models
- Experience working with non-statisticians/non-data scientists
- Good presentation and communications skills
- Experience in setting own research agenda

Faculty and Research Institutes

The Faculty of Science and Engineering comprises eight Departments. The role of the Faculty is to coordinate 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.

The Department

The Department of Mathematics and Statistics has twenty academic staff, including six statisticians. Based on its research strengths in Statistics, Pure Mathematics, and Mathematics Education, the Department offers undergraduate and postgraduate degrees in a vibrant learning environment.

Statistics degrees are offered in both the BA and BSc programmes, and these degrees are currently undergoing expansion and redevelopment. A new cross-disciplinary undergraduate Data Science degree came on stream in 2019. The Department also runs taught postgraduate programmes in Data Science and Analytics. The Department has strong links with other parts of Maynooth University, including the Hamilton Institute and the National Centre for Geocomputation.

The Statistics research group in the Department performs a vibrant mix of applied and theoretical research. The group plays a major role in the €22M Science Foundation Ireland Centre for Research Training in the Foundations of Data Science, which offers a steady stream of funded PhD studentships and pre-existing relationships with industry and enterprise to members of the group. Furthermore, members of the department are principal and funded investigators in Science Foundation Ireland

national research centres such as the Insight Centre for Data Analytics, the I-Form centre for Advanced Manufacturing, and the Connect Centre for Future Networks. Recent research successes in the group concern Bayesian modelling in ecology and climatology, Bioinformatics for plant genotype data, Anomaly detection for 3D printing, and visualisation techniques in machine learning models.

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 13,500 students on a campus with 18th century roots and 21st century dynamism.

The strategic trajectory and accomplishments of Maynooth University, in the twenty 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 is now acknowledged to be one of the leading young universities in the world, ranked 43rd in the latest Times Higher Education (THE) 'Young Universities' list. 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 13,500 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.

Principles and Values

Maynooth University is committed to the following values:

- Scholarly rigour;
- Academic freedom;
- Integrity and ethical behaviour;
- Collegiality, transparency and trust;
- Equality, inclusiveness and social justice;
- Operational excellence, organisational flexibility and responsiveness;
- Dignity, respect and care for the individual.

Strategy 2018 - 2022

The University's Strategic Plan 2018-22 builds from a position of confidence. Maynooth University is a University with ambition, vision and values, a clear identity and sense of purpose, a history of achievement, and a future of considerable promise. The Strategy builds on the University's accomplishments and concentrates institutional energy and resources on further development of research and postgraduate education.

For more information please visit <http://www.maynoothuniversity.ie/about-us/university-strategic-plan>

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 week beginning 28th February 2022.
- The appointment is expected to be effective from March 2022.

Equality and Diversity

Maynooth University values the enrichment that comes from a diverse community and seeks to promote equality, prevent discrimination and protect the human rights of each individual. To learn more about our commitment to Equality and Diversity, please read the Maynooth University [Equality and Diversity Policy](#). Additionally, as an [Athena SWAN Bronze Award](#) Institute, we are committed to advancing gender equality across the University.

We aim to reflect the diversity of the community we serve and welcome applications from all individuals.

Terms and Conditions

The appointment will be made at the grade Post-Doctoral Researcher (Level 1) on a contract until 30 November 2024.

Data Protection Law

Maynooth University will process any personal data provided by you in connection with an application for this role in accordance with the General Data Protection Regulation and the Data Protection Acts 2018.

If your application is successful and you accept an offer of employment at Maynooth University, then your personal data will continue to be processed in accordance with Maynooth University's Staff Data Privacy Notice.

Both the privacy notices and further information relating to data protection, including Maynooth University's other data protection policies and processes, can be viewed at <https://www.maynoothuniversity.ie/data-protection>

Salary

Post-Doctoral Researcher: €39,132 per annum (1 point) with annual increments

Appointment will be made in accordance with the Department of Finance pay guidelines.

Application Procedure

Closing Date:

23:30hrs (local Irish time) on **Sunday, 13 February 2022**

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