



## Post Specification

<b>Post Title:</b>	Research Fellow (Postdoctoral)
<b>Post Status:</b>	Specific Purpose Contract – Full-time, for 30 months
<b>Research Group / Department / School:</b>	Statistics Group, Discipline of Statistics and Information Systems, School of Computer Science and Statistics.
<b>Location:</b>	Trinity College Dublin, the University of Dublin, College Green, Dublin 2, Ireland
<b>Reports to:</b>	Professor Caroline Brophy
<b>Salary:</b>	Appointment will be made on the IUA Post-Doctoral Researcher Level PD1 pay scale at point 1 (€42,783 per annum).
<b>Hours of Work:</b>	39 hours per week, full-time
<b>Closing Date:</b>	17:00 (GMT) on Friday 22 <sup>nd</sup> March 2024. Late applications will be considered while the post remains unfilled.

## Post Summary

This post is a Postdoctoral Researcher in Statistics position to collaborate on the Multi4More and LegacyNet projects. The successful candidate will support statistical analyses within the Multi4More project, and will develop statistical methodologies and apply them to data from the international multi-site experiment ongoing within the LegacyNet project. This post provides a unique opportunity to develop an extensive collaborative network both within Ireland through Multi4More and internationally through LegacyNet. The ideal candidate will have a PhD in Statistics (or similar quantitative discipline) and experience or interest in analysing ecological or agricultural data.

### *Summary of the Multi4More and LegacyNet projects*

Multi4More aims to understand the impacts of species diversity and fertiliser application rate on multi-species grassland mixtures to enhance agronomic performance, reduce nitrous oxide emissions, and increase environmental sustainability of forage-based livestock systems under lower-nitrogen conditions. The project is led by Teagasc with collaborating partners Trinity College Dublin, University College Dublin and the Agri-Food and Biosciences Institute. Funding for Multi4More is from the Department of Food Agriculture and Marine (Republic of Ireland) and the Department of Agriculture, Environment and Rural Affairs (Northern Ireland). The experimental work within Multi4More includes a three-site multi-species mixtures grassland experiment where the plant diversity of grasses, legumes, herbs is manipulated across plots and outcomes including yield production, weed invasion, nitrous oxide emissions and forage quality are measured. As pressure mounts to improve the sustainability of agricultural production systems, Multi4More has high potential impact with multiple stakeholders. Further details are available on the Multi4More website: <https://multi4more.ie/>.

LegacyNet is an international project investigating the role of species diversity in agronomic grassland leys within crop rotations. There are 30 sites across Europe, Asia, New Zealand and Canada, and the experiment is either completed or is at an advanced stage at each site; all data collection will be finished during 2024. The Postdoctoral Researcher will join the statistics team of the LegacyNet project and will collaborate with the international network of LegacyNet members. LegacyNet is led by its three Directors: Professor Caroline Brophy, Dr John Finn, and Dr Carsten Malisch. The experiment being conducted in LegacyNet has two phases: a grassland ley phase and a follow-on crop phase. During the grassland ley phase at each site, 52 experimental plots were established across a gradient of species diversity of up to six species, and measured for many outcomes for a minimum of 18 months. The six species included two grasses, two legumes and two herbs. In the follow-on crop phase, a crop was sown uniformly across all plots and measurements to quantify the impact or “legacy” of the grassland ley phase treatment were measured. Further details are available on the LegacyNet website: <https://legacynet.scss.tcd.ie/>.

Multi4More partners with LegacyNet and the work undertaken by the Postdoctoral Researcher will be a crucial connection between the two consortia.

### *Research objectives*

The Postdoctoral Researcher will develop multivariate modelling techniques for analysing multi-site data across spatial gradients and will take responsibility for multiple key analyses to be applied to the LegacyNet data. This work will include the following.

- A review of current literature to identify optimal grass and legume proportions for productive grassland mixtures for multiple responses.
- The development and application of multivariate models for observations collected across space and time in the LegacyNet international-scale network of experiments to:
  - quantify the additional contribution of increased species and functional group diversity compared to *Lolium perenne* monocultures, and *Lolium perenne* plus *Trifolium repens* mixtures;
  - identify the optimal grassland ley design for promoting follow-on crop outcomes; and
  - identify optimal grass, legume, and herb proportions in grassland leys for multivariate outcomes measured across a crop rotation.

#### *Post location*

The Postdoctoral Researcher will be based in the School of Computer Science and Statistics at Trinity College Dublin, Ireland and will report to Professor Caroline Brophy.

#### *Queries*

For informal inquiries, please contact [caroline.brophy@tcd.ie](mailto:caroline.brophy@tcd.ie).

#### **Standard Duties and Responsibilities of the Post**

This post will involve:

- Providing statistical support and training to researchers in the Multi4More project.
- Contributing to the construction and quality control measures of the LegacyNet database.
- Developing novel statistical methodologies for analysing the LegacyNet data.
- Leading multiple statistical analyses of the LegacyNet data.
- Participating in dissemination of the research outcomes of Multi4More and LegacyNet, including the preparation of journal publications and presentation of the work at national and/or international conferences.

#### **Funding Information**

The post is funded by the Multi4More research project. Multi4More is funded by the Department of Food Agriculture and Marine (Republic of Ireland) and the Department of Agriculture, Environment and Rural Affairs (Northern Ireland).

## **Person Specification**

### **Qualifications**

The successful candidate must have (or expect to have soon) a PhD in Statistics or a closely related quantitative field.

### **Knowledge & Experience (Essential & Desirable)**

- Experience of working with and managing real world datasets [essential], ideally including experience working with agricultural or ecological data [desirable].
- Experience developing and applying statistical models to data with complex structures [essential], ideally with experience of data from within ecology or agriculture [desirable].
- Excellent programming skills using statistical software [essential].
- Experience and ability to translate statistical modelling analyses in an applied sciences context [essential], ideally within ecology or agriculture [desirable].
- Experience teaching statistics to undergraduate or postgraduate university students, or delivering statistics training events in a non-university setting [desirable].

### **Skills & Competencies**

- Excellent research skills.
- Excellent written and oral communication skills and social media experience.
- Excellent interpersonal skills including experience in collaborating with international and multi-cultural teams.
- Strong problem-solving skills including anticipating and preventing problems as well as ability to think laterally and propose innovative solutions.
- Ability to manage competing priorities and a dynamic workload, and capacity to maintain high level of professionalism when working under pressure.
- Resourceful / conscientious and self-motivated with a 'can do attitude' and willingness to learn.
- Understands the importance of high performance and pro-actively delivers this.
- Pays close attention to quality standards.
- Takes pride in providing a helpful and courteous approach to all colleagues and collaborators.
- Committed to achieving results, putting in necessary effort as required.

### **Application Procedure**

Applications should be compiled into a single pdf document. The pdf document should include (only) the following:

- A maximum 2-page cover letter outlining your suitability for the post, with reference to relevant qualifications or experience.
- Detailed curriculum vitae, including qualifications and experience, publications and the name and email contacts of two academic referees.
- Transcripts of degrees held.

The pdf document should be sent by email to Professor Caroline Brophy at [caroline.brophy@tcd.ie](mailto:caroline.brophy@tcd.ie). Do not include additional documents and do not include substantive information in the body of the email. For the subject of your email, please use: Postdoctoral Researcher application – [your surname].

The deadline for applications is **22<sup>nd</sup> March 2024**.

Applicants that do not follow these guidelines might not be considered for shortlisting.

### **Further Information for Applicants**

The post will be hosted by the School of Computer Science and Statistics at Trinity College Dublin, a collegiate, friendly, and research-intensive environment for academic study and research excellence. The School of Computer Science and Statistics at Trinity College Dublin is a proud recipient of a Bronze Athena Swan award, attained in 2021. For further information about the School, see <https://www.scss.tcd.ie/>.

URL Link to Area	<a href="https://www.scss.tcd.ie/">https://www.scss.tcd.ie/</a>
URL Link to Human Resources	<a href="https://www.tcd.ie/hr/">https://www.tcd.ie/hr/</a>

### **Trinity College Dublin, the University of Dublin**

Trinity College Dublin, the University of Dublin is Ireland’s leading university, one of the top ranked universities in Europe and a member of the League of European Research Universities. It is currently ranked 81<sup>st</sup> in the QS World University Rankings 2024. Founded in 1592, the University is steeped in history with a reputation for excellence in education, research, and innovation.

Located on an iconic campus in the heart of Dublin’s city centre, Trinity has 18,000 undergraduate and postgraduate students across our three faculties – Arts, Humanities, and Social Sciences; Science, Technology, Engineering and Mathematics; and Health Sciences. The pursuit of excellence through research and scholarship is at the heart of a Trinity education, and our researchers have an outstanding publication record and strong record of grant success.

## Rankings

- Trinity College Dublin is Ireland's No.1 University - QS World University Ranking 2024; Times Higher Education World University Rankings 2024
- Trinity is ranked 81 in the World by the QS World University Ranking 2024
- Trinity is ranked 134 in the World by the Times Higher Education World University Rankings 2024.

Full details are available at: [www.tcd.ie/research/about/rankings](http://www.tcd.ie/research/about/rankings).

## The Selection Process in Trinity

The Selection Committee (Interview Panel) may include members of the Academic and Administrative community together with External Assessor(s) who are expert in the area. Applications will be acknowledged by email. If you do not receive confirmation of receipt within two working days of submitting your application online, please contact the named hiring lead on the job specification immediately and prior to the closing date/time.

Given the degree of co-ordination and planning to have a Selection Committee available on the specified date, the University regrets that it may not be in a position to offer alternate selection dates. Where candidates are unavailable, reserves may be drawn from a shortlist. Outcomes of interviews are notified in writing to candidates.

In some instances the Selection Committee may avail of telephone or video conferencing. The University's selection methods may consist of any or all of the following: Interviews, Presentations, Psychometric Testing, References and Situational Exercises.

It is the policy of the University to conduct pre-employment medical screening/full pre-employment medicals. Information supplied by candidates in their application (Cover Letter and CV) will be used to shortlist for interview.

Applications from non-EEA citizens are welcomed. However, eligibility is determined by the Department of Business, Enterprise and Innovation and further information on the Highly Skills Eligible Occupations List is set out in Schedule 3 of the Regulations <https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Highly-Skilled-Eligible-Occupations-List/> and the Ineligible Categories of Employment are set out in Schedule 4 of the Regulations <https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Ineligible-Categories-of-Employment/>. Non-EEA candidates should note that the onus is on them to secure a visa to travel to Ireland prior to

interview. Non-EEA candidates should also be aware that even if successful at interview, an appointment to the post is contingent on the securing of an employment permit.

### **Equal Opportunities Policy**

Trinity is an equal opportunities employer and is committed to employment policies, procedures and practices which do not discriminate on grounds such as gender, civil status, family status, age, disability, race, religious belief, sexual orientation or membership of the travelling community. On that basis we encourage and welcome talented people from all backgrounds to join our staff community. Trinity's Diversity Statement can be viewed in full at <https://www.tcd.ie/diversity-inclusion/diversity-statement>.

### **Pension Entitlements**

This is a pensionable position and the provisions of the Public Service Superannuation (Miscellaneous Provisions) Act 2004 will apply in relation to retirement age for pension purposes. Details of the relevant Pension Scheme will be provided to the successful applicant.

Applicants should note that they will be required to complete a Pre-Employment Declaration to confirm whether or not they have previously availed of an Irish Public Service Scheme of incentivised early retirement or enhanced redundancy payment. Applicants will also be required to declare any entitlements to a Public Service pension benefit (in payment or preserved) from any other Irish Public Service employment.

Applicants formerly employed by the Irish Public Service that may previously have availed of an Irish Public Service Scheme of Incentivised early retirement or enhanced redundancy payment should ensure that they are not precluded from re-engagement in the Irish Public Service under the terms of such Schemes. Such queries should be directed to an applicant's former Irish Public Service Employer in the first instance.

## Application Procedure

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- Detailed curriculum vitae, including qualifications and experience, publications and the name and email contacts of two academic referees.
- Transcripts of degrees held.

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