

PhD Opportunity in Data Governance

(48 months fully funded)

Project: Socio-Technical Governance Models for Data-Intensive Adaptive Systems

Maynooth University

Supervisors:

Prof Markus Helfert (Maynooth University)

Prof. Brian Donnellan (Maynooth University)

Description:

We offer an exciting opportunity to join a project on **Socio-Technical Governance Models for Data-Intensive Adaptive Systems** as part of an interdisciplinary team in [Lero](#), the Science Foundation Ireland Research Centre for Software and in collaboration with [EMPOWER](#), the Science Foundation Ireland funded Programme on Data Governance. The aim of the project is to investigate **the design and governance of Data-intensive adaptive systems**. Funded by the **Science Foundation Ireland Lero Research Centre**, this project examines the emergence of Data ecosystems addressing how we manage and use data, and how we design and implement intelligent systems that leverage “shared” data within their operation. Solutions need to respect the rights and freedoms of data subjects (i.e. GDPR) while at the same time, turning personal data into an asset for the population and society. The challenges go beyond technical issues to issues of data ownership, privacy, ethics, and authorised reuse by third parties.

The PhD candidate will address one specific challenge investigating the relationship between data quality and trustworthiness of systems, forming both a theoretical explanation model as well as a practice-oriented assessment approach for measuring trustworthy systems. This will contribute to research related to data governance aiming to improve data governance practices. The research will include reviewing literature and practices focused on the broader context of information quality and trustworthy systems. It is expected that empirical data will be gathered (in collaboration with our enterprise partners) to develop a mapping between data quality and trustworthiness with the aim to develop a prototype implementation or experimental system that allows to investigate the relationship between data quality and trustworthy systems. The research contribution will help to identify core attributes of trustworthiness and the development of an assessment approach for measuring trustworthy systems.

The successful candidate will be hosted at the Innovation Value Institute at Maynooth University, offering a modern, world-class and interdisciplinary research Environment. Additionally, the candidate will be affiliated with Lero – the Science Foundation Ireland Research Centre for Software. Lero brings together expert software teams from universities

and institutes of technology across Ireland in a co-ordinated centre of research excellence with a strong industry focus.

Benefits:

The fully funded PhD position offers¹

- a 18.500 Euro stipend per annum (for maximum of 4 years),
- Tuition fees for maximum 4 years of study (fees beyond 4 years duration are the responsibility of the student).
- funding for equipment and conferences/publications (subject to approval and within budget limitations)

The candidate will gain access to exceptional training programmes, support mechanism, student facilities and services (such as, clubs, concerts, sports centre, campus pubs, etc.) available at Maynooth University.

Requirements and eligibility:

We are particularly seeking a person who possesses the following attributes/ skills:

1. A degree (level 8 NFQ – 1st class or MSc) in Computer Science or Information Systems or similar discipline
2. Ability to work as part of an inter-disciplinary team.
3. Be self-motivated, output driven, excellent writing competences and have good communication and presentation skills (in English).
4. Students must satisfy all entry requirements and be able to prove the minimum English language competence required at Maynooth University for enrolling in the respected [PhD programme](#).
5. Knowledge and experience in three or more of the following areas:
 - Data Modelling and Data Management
 - Familiarity with Data Governance and Trustworthy Software Systems
 - Software Development and experience with programming languages/paradigms
 - Process Modelling and/or Enterprise Architecture concepts and tools
 - Data science/analytics, information system design and development
 - Understanding of a Design Science oriented Research Approach

Desirable competences:

The following attributes are desirable, but not required:

- Experience and understanding of cyberphysical or smart systems
- Evidence of report writing skills
- Evidence of workshop facilitations and/or case study research
- Research experience with industry / non-academic organisations

¹ Subject to sufficient research progress reviewed at least annually

- Track record of publications and/or conference papers in data governance or information systems.

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.

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.

The **Innovation Value Institute (IVI)** at Maynooth University is a multidisciplinary research centre focused on digital transformation, technology management & adoption challenges. The institute was founded in 2006 in collaboration with Intel and has a strong track record of industry collaboration both locally and internationally. IVI has an excellent dissemination capability including education and training and has a close working relationship with academic institutions internationally.

Lero, the Science Foundation Ireland Research Centre for Software

The project is part and funded by the SFI Research centre for Software - Lero (<http://lero.ie>). Lero brings together expert software teams from universities and institutes of technology across Ireland in a co-ordinated centre of research excellence with a strong industry focus. Lero's research spans a wide range of application domains from driverless cars to artificial intelligence, cybersecurity, fintech, govtech, smart communities, agritech and healthtech. Hosted by University of Limerick, Lero's academic partners include Dublin City University, Trinity College Dublin, University College Dublin, Maynooth University, National University of Ireland Galway, University College Cork, Dundalk Institute of Technology, Munster Technological University, Waterford Institute of Technology, Limerick Institute of Technology and Galway-Mayo Institute of Technology.

Duration: 48 Months

Status: Full-time

Location: Maynooth University / Innovation Value Institute

Stipend: €18,500 /year (normally tax free if no other sources of income)

Commencement: June 2022 (or as soon as possible after)

For informal information enquiries please feel free to contact: markus.helfert@mu.ie

Application procedure:

To apply, please submit your CV to markus.helfert@mu.ie, including the following information:

- A cover letter describing how you meet the criteria, with a description of your previous software development experience
- Details of at least two referees.
- Full transcript of records of your university-level studies so far
- Previous publications or previous significant work (thesis, final year project, or similar). Links to an online free access repository are sufficient.

Shortlisted applicants may be invited to interview (online or where possible in person).

On receiving an offer, the successful applicant will be required to submit supporting documentation (e.g., Copies of degree certificates and English language competency where required) and apply for the relevant PhD programme at Maynooth University. Any offer is subject to acceptance to the relevant PhD Programme at Maynooth University.

Application End Date: Applications will be accepted until the position is filled. Interviews will be carried out as soon as a suitable candidate is identified.



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