



PhD Studentship in AI for Smart Cities

Applications are invited for a PhD position in the School of Computer Science and Statistics, Trinity College Dublin, associated with Enable, research programme on Connected Communities in CONNECT Centre. TCD is the top ranked University in Ireland, and CONNECT is the world leading SFI Research Centre for Future Networks and Communications.

PhD researcher will join the team developing novel artificial intelligence, learning and multi-agent techniques and applying them in a wide range of urban optimization problems. The candidate will focus on investigating how multi-agent systems and underlying AI techniques can be enhanced to enable optimization of resources in continuously changing urban environments, while utilizing unprecedented availability of sensor data. Application areas will include Sustainable Urban Mobility, investigating the shift away from car ownership to ride sharing, shared autonomous vehicles, and multi-modal Mobility being provided as a Service (MaaS).

The candidate is expected to start September 1st 2018.

Person Specification

Graduates applying for this position should have the following:

- B.Sc., M.Sc. or equivalent in Computer Science, Engineering. Mathematics, or a related field.
- Strong interest in artificial intelligence, multi-agent systems, large-scale optimisation, smart cities, intelligent mobility, and sustainability; prior related research experience or an undergraduate project in the area is desirable but not necessary.
- Excellent academic results (first-class honours or equivalent).
- Excellent software development skills in a variety of languages (C, C++, Python, Java)
- Very good level of spoken and written English.

Please note that successful candidate will have to satisfy TCD entry requirements (including English language requirements) as specified on <https://www.tcd.ie/globalrelations/international-non-eu/entryrequirements.php>

Stipend

This position comes with a 4-year scholarship which covers EU fees and 16,000-18,000 Euro stipend per annum (tax free, commensurate with experience). Non-EU candidates are welcome to apply, but the difference between EU and non-EU fees will



have to be subtracted from the stipend annually. More details on fees can be found on <https://www.tcd.ie/academicregistry/fees-payments/course-fees/>

Further Information for Candidates

www.scss.tcd.ie/lvana.Dusparic/

https://www.tcd.ie/Graduate_Studies/

Enable

ENABLE is a new Science Foundation Ireland Spoke on Smart Communities involving the collaboration of CONNECT centre with Lero and Insight – two other SFI research centres. ENABLE aims to connect communities to smart urban environments through the Internet of Things (IoT). It will address the challenges that currently limit the potential benefits of IoT for communities by enabling smarter buildings, more efficient transportation/mobility, better handling of environmental issues, better decision support, and enhanced cyber and infrastructure security and data privacy.

www.enable-research.ie

CONNECT

CONNECT is the Science Foundation Ireland Research Centre for Future Networks and Communications. Its mission is to research and develop innovative solutions for the communications challenges facing society today. The Internet of Things, 5G networks and new broadband architectures are the Centre's main areas of focus. Over 250 CONNECT researchers across 10 Higher Education Institutes are supported by €50 million of funding from the Science Foundation Ireland Research Centres Programme, the European Regional Development Fund and industry partners.

<https://connectcentre.ie/>

Future Cities: The Trinity Centre for Smart and Sustainable Cities

The Future Cities Research Centre undertakes multi-disciplinary research that enables, promotes and facilitates behavioural change for sustainability. The research is supported by the application of sensor, communication and analytical technological solutions to sustainability concerns in urban infrastructure such as energy, water, waste management and transportation systems. Unlike other research centres focussed on distinct elements of a Future City such as the energy grid, autonomous transport, or assisted living, the Future Cities Research Centre is taking a holistic view addressing all aspects of the challenge facing growing urban centres and involving researchers from computer science, statistics, information systems, engineering,



natural sciences, social science, chemistry, arts, nursing and midwifery, business and law.

<http://www.tcd.ie/futurecities/>

Trinity College Dublin, the University of Dublin

Founded in 1592, Trinity is at the nexus of tradition and innovation, offering undergraduate and postgraduate programmes across 24 schools and three faculties: arts, humanities, and social sciences; engineering, maths and science; and health sciences. Spread across 47 acres in Dublin's city centre, Trinity's 17,000-strong student body comes from all 32 counties of Ireland, and 16% of students come from outside the country. Of those, 40% are from outside the European Union, making Trinity's campus cosmopolitan and bustling, with a focus on diversity.

As Ireland's leading university, the pursuit of academic excellence through research and scholarship is at the heart of the Trinity education. Trinity is known for intellectual rigour, excellence, interdisciplinarity, and research-led teaching. Home to Nobel prize-winners such as scientist Ernest Walton and writer Samuel Beckett, Trinity draws visitors from across the world to its historic campus each year, including to the Book of Kells and Science Gallery which capture the university's connection to both old and new.

Trinity accounts for one-fifth of all spin-out companies from Irish higher education institutions, helping to turn Ireland into an innovation-intensive, high-productivity economy. That culture of innovation and entrepreneurship is a defining characteristic of our campus as we help shape the next generation of job creators.

Application Procedure

To apply, candidates should submit the following documents by email to Prof. Ivana Dusparic at ivana.dusparic@scss.tcd.ie

1. Full CV with contact details of 2 referees
2. Transcripts of previous degrees
3. Cover letter outlining their background and motivation for a PhD in the proposed topic

Application process will remain open until the position is filled, but the first round of review will include applications received by **August 15th 2018**.