

CONNECT, the National Communications Research Centre in Ireland (<http://connectcentre.ie>), has **two open Ph.D. student positions starting on September 1, 2016** to conduct research within the general area of wireless communication networks.

The PhD student is expected to explore one of two areas of research:

1. **In first PhD project**, the goal is to investigate use of energy harvesting in future wireless communication systems. In 5G networks, due to emergence of Internet of Things, the wireless nodes need to be self-sustainable to reduce the cost of battery replacement. Wireless energy harvesting is considered a promising technology to provide such solutions. The focus of the project is to develop and analyse link/MAC layer schemes for various network scenarios; and investigate trade-offs in energy harvesting and transmission to realize wireless powered networks.
2. **The second PhD project** focuses on exploring radio resource management and network sharing problems in the context of 5G networks. Meeting diverse QoS demands related to the 1000X traffic increase expected in 5G networks poses new challenges in the context of network deployment and architecture. This project investigates different solutions to handle such high volume of traffic by incorporating solutions like, network sharing mechanisms (cloud RAN), caching and network coding in wireless networks, and ultra-dense networks.

CONNECT is a flagship research centre for communications networking, services, applications and technologies. CONNECT is co-funded by the Irish government, through Science Foundation Ireland, and by industry. It is receiving initial funding of €50 million, which supports 165 researchers. CONNECT research areas are: Future networks, including wireless and optical technologies; Network-aware services and service-aware networks; Internet of Things and Testbed-based experimentation. CONNECT works with about **40 industry partners**.

Trinity College Dublin, is Ireland's No.1 University (QS World University Ranking, THE World University Ranking), ranked 78th in the World, and 27th in Europe in the 2016 QS World University Ranking across all indicators.

What we offer:

- 3 years PhD programme.
- An excellent international working environment.
- Stipend in line to that of the Trinity College Dublin and Irish Universities standards.

Successful candidates should have:

- Strong mathematical skills.
- Strong knowledge of communication theory, probability and stochastic processes.
- Strong programming skills in Matlab.
- Basic knowledge of wireless systems simulation methodology and tools.
- Basic knowledge of radio resource management.
- Basic knowledge of cellular networks.
- Strong oral and written English communication skills.

Both of the positions will jointly be supervised by Prof. Nicola Marchetti and Dr. Majid Butt. Interested candidates should submit the following via email to Dr. Majid Butt (buttm@tcd.ie):

- Maximum two page curriculum vitae with major Master level telecommunication courses grades
- Maximum one page summary of master thesis or any publication in IEEE journal/conference
- Maximum one page cover letter stating motivations and qualifications
- Names and contact details of at least two references.

The deadline for application is 15th, July, 2016.