



Post Specification

Post Title:	Post-Doctoral Researcher
Post Status:	4 year renewable contract
Department/Faculty:	CONNECT research centre, School of Computer Science & Statistics
Location:	CONNECT research centre
Salary:	€37,750 - €51,716 (commensurate with experience)
Closing Date:	12 Noon on 20 th December 2014

Post Summary

CONNECT (formerly CTVR – www.ctvr.ie) is Ireland's largest telecommunications research centre. The Centre carries out industry-informed research focusing on wireless and optical networks of the future with a strong emphasis on the technologies that will underpin these networks. This position, under the direction of Dr. Marco Ruffini and Prof. David Payne, is funded by Science Foundation Ireland (SFI).

Background to the Post

A post-doctoral researcher position is available in **digital design and FPGA implementation of network protocols and algorithms**, at the optical networking and communications laboratory of the CONNECT research centre, based in Trinity College Dublin. The position is funded by Science Foundation Ireland, and will be appointed as post-doctoral researcher or research fellow, depending on the candidate's experience.

Standard duties of the Post

- Lead the development of FPGA design and prototyping in the lab;
- Preparation of project funding proposal at European and national level;
- Collaborate with other academic and industry partners;
- Co-supervision of PhD students.

Funding Information

€37,750 - €51,716 (commensurate with experience)



Person Specification

Qualifications

The candidate must have a **Ph.D. or equivalent technical experience** in the area of Electrical Engineering, Computer Engineering, Computer Science, or a related field, with a track record of research in optical communications and networks. The candidate must be an independent researcher willing to take a leadership role in the optical and telecommunications laboratory.

Knowledge & Experience (Essential & Desirable)

- 5+ years experience in digital design and FPGA hardware programming (Verilog and VHDL).
- Experience with PON and TDM protocols is highly desirable.
- Good working knowledge of software programming languages (e.g., c++, python, matlab)
- Solid written and oral communications skills;
- It is expected that applicants with academic background will have:
 - Established track record of publication in leading journals/conferences, on topics such as PON protocols, switching and routing, optical access and core networks;
 - Proven experience in mentoring junior researchers, such as Ph.D. students.

Skills & Competencies

The ideal candidate will have a background in optical communications and networks and experience in FPGA hardware programming.

Department Summary

General Department Information

CONNECT is Ireland's largest telecommunications research centre. We carry out industry-informed research in the telecommunications field. We focus on optical and wireless networks of the future with a strong emphasis on the technologies that will underpin these networks. We pride ourselves in carrying out research that is of the highest quality and that has international impact. We also pride ourselves in being an inclusive, diverse, creative, and friendly place to work.



Trinity College Dublin

Founded in 1592, Trinity College Dublin is the oldest university in Ireland and one of the older universities of Western Europe. On today's campus, state-of-the-art libraries, laboratories and IT facilities, stand alongside historic buildings on a city-centre 47-acre campus.

Trinity College Dublin offers a unique educational experience across a range of disciplines in the arts, humanities, engineering, science, human, social and health sciences. As Ireland's premier university, the pursuit of excellence through research and scholarship is at the heart of a Trinity education. TCD has an outstanding record of publications in high-impact journals, and a track record in winning research funding which is among the best in the country.

TCD has developed significant strength in a broad range of research areas including the 18 broadly-based multi-disciplinary thematic research areas listed below.

Sustainable Environment	Next Generation Medical Devices	Identities in Transformation
Smart and Sustainable Cities	Creative Technologies – Digital Media, Arts and Entertainment	International Development
Cancer	Neuroscience	Immunology and Infection
Nanoscience	Telecommunications	Creative Arts Practice
Inclusive Society	Mathematics of Complexity	Intelligent Media and Human Communication
Ageing	International Integration	Digital Humanities

Its current flagship interdisciplinary research institutes are in areas such as biomedical science, arts and humanities, neuroscience, international integration studies, and nanostructures and nanodevices. The construction of Ireland's first purpose built nanoscience research institute, CRANN, was opened in January 2008, which houses 150 scientists, technicians and graduate students in specialised laboratory facilities.

The building also includes an innovative public venue, the Science Gallery. In 2011, it received the Shorty Award for Best Cultural Institution on Twitter globally and the Irish Web Award for Best Education and Third Level Website. These joined a list of awards that includes European Museum of the Year Award – Special Commendation 2010 and National IT award for best use of technology in education, 2009.

The recently opened Trinity Biomedical Sciences Institute (TBSI) is an unprecedented development for Biomedical Research in Ireland, both in terms of scale and ambition. It



provides a facility for TCD to continue its upward trajectory in both basic and translational research programmes, notably in the areas of Immunology, Cancer and Medical Devices.

The Library of Trinity College is the largest research library in Ireland and is an invaluable resource to scholars. In addition to purchases and donations accrued over four centuries, the College has had 200 years of legal deposit. By this right Trinity can claim a copy of every book published in Ireland the UK. The Library has over 4.25 million books, 22,000 printed periodical titles and access to 60,000 e-journals and 250,000 e-books. The Library's research resources also include internationally significant holdings in manuscripts (the most famous being the Book of Kells), early printed material and maps. Its collections and services support the College's research and teaching community of 15,000+ students and academic staff.

Trinity continues to attract intellectually strong students from Ireland and abroad. More than half of its incoming undergraduates have earned in excess of 500 out of a maximum 600 points in the national Leaving Certificate examination. The accessibility of a Trinity education to all students of ability is also very important. Trinity College was the first university in Ireland to reserve 15% of first year undergraduate places for students from non-traditional learning groups – students with a disability, socio-economically disadvantaged students as well as mature students. The College has met its target in this respect. There is also an exciting international mix of its student body where 16% of students are from outside Ireland and 40% of these students are from outside the European Union. TCD students also have an opportunity to study abroad in other leading European universities through Trinity's partnership agreements.

Students also benefit from a scholar teacher model where they have the opportunity of being taught by world-leading experts in their field. Interdisciplinarity forms a key element in the College strategy in increasing Trinity's international standing as a research-led university.

Many of Trinity College Dublin's alumni have helped shape the history of Ireland and Western Europe. They include author, Jonathan Swift, philosopher, George Berkeley, political philosopher, Edmund Burke, wit and dramatist, Oscar Wilde, historian, William Lecky, religious scholar, James Ussher, scientists, John Joly, George Johnstone Stoney, William Rowan Hamilton and physicians, William Stokes and Denis Burkitt.

Two of Trinity College's alumni have won Nobel prizes – Ernest Walton for Physics in 1951 and Samuel Beckett for Literature in 1968. The first President of Ireland, Douglas Hyde was a graduate as was the first female President of Ireland, Mary Robinson.

Equal Opportunities Policy

Trinity College Dublin is an equal opportunities employer and is committed to the 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.



Application Procedure

Candidates should submit a cover letter together with a full curriculum vitae to include the names and contact details of 3 referees (email addresses if possible) to marco.ruffini@tcd.ie

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