



Post Specification

Post Title:	Post Doctoral Researcher
Post Status:	Specific Purpose Contract – Full-time or Part-time.
Research Group / Department / School:	Optical and Wireless Network Architectures CONNECT, Trinity College Dublin, the University of Dublin
Location:	CONNECT, Trinity College Dublin, the University of Dublin College Green, Dublin 2, Ireland
Reports to:	Prof. Marco Ruffini
Salary:	Appointment will be made on the Post Doctoral Researcher (Level 2A) at a point in line with Government Pay Policy €40,023 to €46,109 per annum

Post Summary

In recent years, network virtualisation and software defined control have developed at an impressive pace, with implementations already making their ways into live networks. This project will consider virtualisation of Passive Optical Networks, and require innovations both at the control plane level and at the data plane level. The ideal candidate will have working experience with Passive Optical Networks and Dynamic Bandwidth Allocation (DBA) design and simulation. Working knowledge of data plane architectures (DPDK, embedded system and FPGA) is also required.

Standard Duties and Responsibilities of the Post

One Post Doctoral researcher position is available for work in the **area of passive optical networks virtualisation.**

The work will involve the **development of new scheduling and capacity orchestration algorithms and testbed implementation of data plane scheduling features.**

The applicants should have a solid background and working experience in the design and programming of network embedded systems (including FPGA programming) and simulations.

The position will be based in the CONNECT research centre at Trinity College Dublin, Ireland and will be funded for 1 year, and contract continuation will depend on available funds. The student will also be part of the School of Computer Science and Statistics in TCD.

The position will be under the direction of **Prof. Marco Ruffini.**

Funding Information

The post is funded by Science Foundation Ireland (SFI), as part of a collaboration between the CONNECT research centre and Intel Ireland.

Person Specification

Qualifications

The candidate must have a PhD Computer Science, Computer Engineering, Electronic Engineering, or a related field. Equivalent experience to a PhD will also be considered. The post is applicable to both new or experienced PhD holders, and salary will be commensurate with experience and achievement. The successful candidate will join a team of highly skilled and innovative researchers in next generation wireless and optical networks.

Knowledge & Experience (Essential & Desirable)

Essential

- Experience in the development and use of network simulations tools.
- Knowledge of passive optical networks at the control and data plane (scheduling).
- Working knowledge of python programming language and Linux operating system.
- Working knowledge of OpenFlow and SDN control plane.
- Working knowledge of DPDK.
- Excellent written and oral communication skills
- The ability to work well in a group.
- Strong self motivation and willing to learn attitude.

Desirable

- Experience with FPGA programming.
- Working knowledge of programming languages such as c++, java.

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

Prof. Marco Ruffini,
CONNECT Telecommunications Research Centre,
Dunlop Oriel House,
Trinity College Dublin,
Fenian Street,
Dublin 2

Further Information for Applicants

URL Link to Area	www.tcd.ie
URL Link to Human Resources	https://www.tcd.ie/hr/

Trinity College Dublin, the University of Dublin

Trinity is Ireland's leading university and is ranked 108th in the world (QS World University Rankings 2020). 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; Engineering, Mathematics and Science; and Health Sciences.

Trinity is ranked as the 17th most international university in the world (Times Higher Education Rankings 2020) and has students and staff from over 120 countries.

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. Trinity has developed 19 broad-based multidisciplinary research themes that cut across disciplines and facilitate world-leading research and collaboration within the University and with colleagues around the world. Trinity is also home to 5 leading flagship research institutes:

- Trinity Biomedical Sciences Institute (TBSI)
- Trinity College Institute of Neuroscience (TCIN)
- Trinity Translational Medical Institute (TTMI)
- Trinity Long Room Hub Arts and Humanities Research Institute (TLRH)
- Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN)

Trinity is the top-ranked European university for producing entrepreneurs for the past five successive years and Europe's only representative in the world's top-50 universities

(Pitchbook Universities Report).

Trinity is home to the famous Old Library and to the historic Book of Kells as well as other internationally significant holdings in manuscripts, maps and early printed material. The Trinity Library is a legal deposit library, granting the University the right to claim a copy of every book published in Ireland and the UK. At present, the Library's holdings span approximately 6.5 million printed items, 400,000 e-books and 150,000 e-journals.

With over 120,000 alumni, Trinity's tradition of independent intellectual inquiry has produced some of the world's finest, most original minds including the writers Oscar Wilde and Samuel Beckett (Nobel laureates), the mathematician William Rowan Hamilton and the physicist Ernest Walton (Nobel laureate), the political thinker Edmund Burke, and the former President of Ireland Mary Robinson. This tradition finds expression today in a campus culture of scholarship, innovation, creativity, entrepreneurship and dedication to societal reform.

Rankings

Trinity is the top ranked university in Ireland and ranked 108th in the world (QS World University Rankings 2020). Trinity ranks in the top 50 in the world on 4 subjects and in the top 100 in 18 subjects (QS World University Rankings by Subject 2020). Full details are available at: 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 1 day of submitting your application online, please contact the named Recruitment Partner 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 and are issued no later than 5 working days following the selection day.

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.

