

# PhD Studentship

## Optical Switching Network Modelling and Optimisation

Applications are invited for a **funded three-year PhD Studentship** position with the Research Institute for Networks and Communications Engineering (**RINCE**), **Dublin City University**, Ireland. Candidates should hold a higher honours degree in engineering, computer science or mathematics and have a strong interest in pursuing new knowledge and solving problems in the general areas of **mathematical modelling and optimisation of optical switching networks**. The successful candidate will be highly motivated and have an enthusiasm for the challenges of conducting international-level research on this leading-edge topic. The closing date for applications is **July 31<sup>st</sup> 2008**. The position will commence in **autumn 2008**.

### Research Description

The choice of technologies to implement the future Internet core will be driven by considerations of both performance and cost. Optical Burst Switching (OBS) is a promising candidate to fulfil this need but its properties give rise to a trade-off between potentially efficient use of available optical fibre capacity against potentially high packet loss and non-optimal use of expensive optical network resources. In this research project, the PhD candidate will investigate, develop and validate mathematical methods for guaranteeing cost/performance levels in OBS networks through use of analytic network resource modelling, multi-objective non-linear optimisation techniques and design/implementation of discrete-event simulations.

### About the Research Institute

RINCE ([www.rince.ie](http://www.rince.ie)) is a national centre for excellence in Information and Communications Technology (ICT), conducting international-standard research in key ICT areas. The Institute is located in a purpose-built, state-of-the-art laboratory facility in the School of Electronic Engineering, Dublin City University ([www.dcu.ie](http://www.dcu.ie)) and currently is home to 20 academic staff members, 18 research fellows, and over 40 postgraduate research students.

### Funding Notes

A studentship of **€17,000** per annum is offered with university fees paid and a budget provided for travel to international conferences. This project is supported by the **Science Foundation of Ireland (SFI) Research Frontiers Programme** under grant number 08/RFP/CMS1402.

### Contact

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