



IPIC PhD Studentships - Monolithic and Heterogeneous Integration Theme

PMO-16 IPIC PhD Studentships - Monolithic and Heterogeneous Integration Theme

Contract: Full Time/Fixed Term

We have **3 prestigious PhD Studentships** available that will commence in October 2020. Students will join the Irish Photonics Integration Centre (IPIC), Ireland's centre of excellence for research and innovation in photonics, as it undergoes a rapid expansion programme to grow to 220 researchers, to become one of Europe's top photonics integration research centres.

Each studentship will offer the opportunity for you to:

- Complete a cutting edge research project in one of the areas listed below
- Collaborate with our 17 Principal Investigators and their research teams
- Access Tyndall's world-class research facilities
- Publish in leading journals and present at top international conferences
- Complete advanced training courses, e.g. semiconductor fabrication
- Develop translational skills, e.g. project management, communication & dissemination and entrepreneurial skills
- Connect with our global network of 30 industry and more than 100 academic partners
- Join a diverse community of young researchers from across the world and participate in one of our vibrant student chapters

Our core Platform Research Programme is composed of four Themes, each tasked to develop game changing technologies that will be deployed across multiple applications, from optical communications to medical devices, and each with an investment of about €3M. We are entering a very exciting time for photonics, with the use of light addressing many critical issues for today's society. The key to achieving the best results is the integration of photonic components into circuits, the approach that has revolutionised electronics over the last 50 years. We are at the start of a similar journey for photonics with new semiconductor technologies, and while the integration strategies will enable multiple applications, IPIC will address two areas in particular; namely, highly energy-efficient high-bandwidth communications for use in advanced data centres and ultraviolet light sources for precision biomedical diagnostics.

Our research in the Monolithic and Heterogeneous Integration Theme, led by [IPIC Deputy Director Brian Corbett](#), will cover the full range of theory, through devices and integration, to demonstrations in real applications.

We are now seeking 3 dynamic PhD students who will work together as a team to tackle these scientific challenges and to help us achieve our goals in the following areas:

- Design & modelling of semiconductor materials for feedback insensitive lasers (Supervisor – Prof. Eoin O'Reilly, Position HET-4)
- Semiconductor growth of materials for feedback insensitive lasers (Supervisor – Dr. Emanuele Pelucchi, Position HET-5)
- Theory of nitride-based semiconductor nanostructures emitting in the ultraviolet spectral

range (Supervisor - Dr. Stefan Schulz, Position HET-12)

Closing dates: HET-5 : End of 2020

HET-12 : 31st May 2020

An annual student stipend of €18,500 applies for this successful candidate for this position.

All of the studentships will be based at Tyndall National Institute, University College Cork.

If you are interested in helping us achieve our ambition, complete and submit an application form and motivation letter, highlighting your preferred project.

Application Instructions

Step 1 - Click [here](#) to download and complete the Application form and indicate the Job Reference PMO-16

Step 2 – Return the completed Application form, together with your CV and motivation letter to careers@tyndall.ie.

Postgraduate applicants whose first language is not English must provide evidence of English language proficiency as per UCC regulations

(<https://www.ucc.ie/en/study/comparison/english/postgraduate/>). Certificates should be valid (usually less than 2 years old) and should be uploaded with their application. In special circumstances the panel may consider a prior degree in English (e.g. Master thesis written in English) as evidence of English language proficiency.

Please note that Garda vetting and/or an international police clearance check may form part of the selection process.

The University, at its discretion, may undertake to make an additional appointment(s) from this competition following the conclusion of the process.

Please note that an appointment to posts advertised will be dependent on University approval, together with the terms of the employment control framework for the higher education sector.

At this time, Tyndall National Institute does not require the assistance of recruitment agencies.

Tyndall National Institute at University College, Cork is an Equal Opportunities Employer.