



**PhD student position in:
Plasma Process Sensors for Molecular-scale Manufacturing**

National Centre for Plasma Science and Technology (NCPST), Dublin City University, Ireland

This project aims to enhance plasma processing performance through the development of inline process measurement. In the chip industry, precise molecular-scale manufacturing processes are increasingly essential, requiring detailed and diverse data for effective machine learning-based process control. Companies need to incorporate diagnostic techniques, especially those seamlessly integrated into existing manufacturing processes. By employing deeper analysis of optical sensor outputs, valuable information about plasma processes and their effects on device manufacturing can be extracted. Implementing these measurements for real-time process metrology allows optimisation of process parameters and the development of more efficient techniques for manufacturing high-performance devices.

A fully funded PhD student position is available at Dublin City University, jointly funded through Oxford Instruments and Dublin City University. The project will be primarily based at the National Centre for Plasma Science and Technology (NCPST) at Dublin City University and the successful candidate will also spend time at Oxford Instruments.

Students, with or expecting to gain, at least an upper second-class honours degree in a relevant subject area, or equivalent, are invited to apply. Shortlisted applicants will be invited for an interview. The candidate will be enrolled at Dublin City University and for EU candidates fees are covered through the project.

Location: Dublin City University (Ireland)
Supervisors: Prof Deborah O'Connell and Prof Timo Gans (Dublin City University), Dr James Ellis (Oxford Instruments)
Duration: 3-4 years
Stipend: €25,000 p/a (tax free)
Start date: available immediately
Closing date: 24/01/2024
Contact: deborah.oconnell@dcu.ie, timo.gans@dcu.ie

Further details and links are available at:

<https://ncpst.ie>

<https://www.dcu.ie/physics/people/deborah-oconnell>

<https://www.dcu.ie/physics/people/timo-gans>

<https://www.oxinst.com/>

Funding: The PhD scholarship is fully funded for three to four years and covers (i) a tax-free stipend and (ii) tuition fees at the EU rate.

The School of Physical Sciences holds an Athena SWAN Bronze Award and is committed to supporting equality and diversity for all staff and students.