Research Centre

PRECISION

Plasma Technology for Nano Manufacturing

Post title
Postdoctoral Researcher

Plasma Processing

Level on Framework
Level 1

Post duration
Contract up to December 2013

As part of this role the researcher will be required to participate in the DCU Research Career Framework. This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path.

Background & Role

Precision is a Strategic Research Cluster supported by Science Foundation Ireland and our Industrial partners. The Cluster is hosted by the National Centre for Plasma Science and Technology (NCPST) at Dublin City University and the Surface Engineering Group at University College Dublin. The Cluster aims to develop the scientific and technological knowledge needed for present and future manufacturing applications using plasmas, with a specific emphasis on nano-scale products, process reliability, manufacturing costs and advanced materials processing. This project aims to develop a number of processes and control systems for the synthesis, patterning of materials for advanced nano-electronic fabrication.

Principle Duties and Responsibilities

Reporting to his/her Principal Investigator the Postdoctoral Researcher will conduct a specified programme of research under the supervision and direction of the Principal Investigator, which will include the following:

- Design and engineering of plasma processes and control systems
- Complete the characterisation and implementation of a variety of sensors and instruments
- Study the impact of post-processing, such as etch and ashing, on the materials composition and properties
- Assist in identifying and developing future research and funding initiatives
- Engage in the dissemination of the results of the research in which he/she is engaged with the support of and under the supervision of the Principal Investigator
- Supervise and assist undergraduate students working in this area with their research
- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University.
- Engage in teaching and teaching support as assigned by the Head of School under the direction of the Principal Investigator
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators
- Carry out administrative work associated with the programme of research as necessary

Minimum Criteria
Applicants should have a PhD in Electronic Engineering, Physics, Materials Science, Applied Physics, Chemistry or a cognate discipline. In addition, it is essential that the candidate has experience in the development, management and control of plasma processes and equipment. It is also desirable that the candidate has experience in optical and electrical sensors/diagnostics, including optical emission spectroscopy, optical emission radio spectroscopy, phase resolved optical emission spectroscopy and Langmuir and hairpin probes.

The candidate will also need to have good hardware and software skills and experience with labview and matlab software packages.

Salary: €37,750 - €46,255
Closing date: 20th March 2012

Candidates will be assessed on the following competencies:

**Discipline knowledge and Research skills** – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline.

**Understanding the Research Environment** – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications

**Communicating Research** – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students

**Managing & Leadership skills** - Demonstrates the potential to manage a research project including the supervision of undergraduate students.

**Application Procedure**

Application forms are available at:
http://www.dcu.ie/vacancies/APPLICATION FORM 8pg.doc and from Human Resources Department, Dublin City University, Dublin 9. Tel: (01) 700 5149; Fax: (01) 700 5500 Email: hr.applications@dcu.ie

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