Research Centre

National Centre for Plasma Science & Technology

Post title

Postdoctoral Researcher Level 1

Fusion Physics & Engineering

Post duration

18 Months

As part of this role the researcher will be required to participate in the DCU Research Career Framework http://www.dcu.ie/hr/ResearchersFramework/index.shtml. 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

EUROfusion Ireland is the Irish research unit of the EUROfusion consortium, which is a pan-European association of laboratories concerned with the implementation of the EURATOM research programme in the field of magnetically confined fusion. The consortium connects some 26 national laboratories and has a budget for the period 2014-2018 of EUR424M. The research programme of the consortium is “reactor focussed” in that its aim is to support a demonstration of commercially useful power generation from magnetically confined fusion at the earliest possible date. In practice, this means that the goals of the programme are large-scale power production from fusion in the Iter experimental reactor, which is expected to occur around 2030, and beyond that the development of a prototype commercial fusion power plant by about 2040.

The Project

EUROfusion Ireland's research programme aims to address critical problems in selected areas of the wider EUROfusion consortium. In particular, there is an emphasis on issues affecting the edge plasma region of magnetically confined fusion devices. Owing to the high power densities expected in burning fusion plasmas, managing power flow across the edge plasma is expected to be a critical issue. Therefore, research activities that improve understanding and hence ability to predict the behaviour of this region are important. These include impurity transport in the edge plasma, and radio-frequency phenomena associated with electromagnetic plasma heating technologies. Doctoral research student projects are an important implementation instrument.
Principle Duties and Responsibilities

Reporting to the Head of the EUROfusion Research Unit, the Postdoctoral Researcher will:

- Execute particular research projects that may be agreed from time to time with the EUROfusion Programme Manager, including (but not limited to) computational projects associated with the EUROfusion High Level Support Team (HLST).

- Disseminate the outcomes of the research in which he/she is engaged including publishing in high quality peer reviewed journals of international standing.

- Explore new areas of the EUROfusion programme where Irish researchers and companies may become involved in fusion research. Where relevant, engage with other agencies in pursuit of the same goals. These other agencies could include Fusion for Energy, the international Iter Organisation, and Enterprise Ireland.

- Liaise with other international Research Units inside and outside the EUROfusion Consortium with the aim of developing mutually advantageous collaborative research programme.

- Assist with the supervision of doctoral students working in the general area of fusion science and technology.

- Liaise with the DCU Science and Technology Enhancement Platform (STEP) and with the EUROfusion Programme Management Unit on matters of technical and financial reporting of EUROfusion Ireland activities.

- Contribute to broader outreach and engagement activities across the field of fusion research, such as organising technical meetings, outreach to schools and other interested parties, etc.

- Contribute to the teaching activities of the School of Physical Sciences, in ways to be agreed with the Head of the School.

- Engage in appropriate training and development opportunities as required by the Head of Research Unit, the School or Research Centre, or the University.

- Carry out administrative work associated with the programme of research as necessary.
Minimum Criteria
Applicants should have a PhD in a discipline relevant to fusion science or technology. In addition, the successful candidate should have:

- A broad knowledge of the field of fusion research is essential
- Knowledge of the goals and structure of the research programme of the EUROfusion Consortium is also essential
- Demonstrated skills in the design, management and conduct of research
- A high level of interpersonal and team working skills
- Strong report writing, time management skills and ability to work to deadlines
- Good presentation and academic article writing skills would also be desirable.

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

**Salary:** €37,750 - €46,255*

*Appointment will be commensurate with qualifications and experience.

**Closing date:** Friday 7th August 2015

**Application Procedure**

**Informal enquiries to:**
Professor Miles Turner, School of Physical Sciences and National Centre for Plasma Science & Technology, DCU, Dublin 9, Ireland.
E-mail: miles.turner@dcu.ie Phone: +353 (0)1 700 5298

*Please do not send applications to this email address, instead apply as described below.*
**Application Procedure**
Applications should include a CV and cover letter along with an application form as outlined below.

Application forms are available from the DCU Current Vacancies (open Competitions) website at http://www.dcu.ie/vacancies/current.shtml and also from the Human Resources Department, Dublin City University, Dublin 9. Tel:+353 (0) 1 7005149.

Please clearly state the role that you are applying for in your application and email subject line: Job Ref# 118: Post-Doctoral Researcher in Fusion Physics & Engineering

Applications should be submitted by email to hr.applications@dcu.ie or by Fax: +353 (0)1 7005500 or by post to the Human Resources Department, Dublin City University, Dublin 9.

*Dublin City University is an equal opportunities employer*