

## International Centre for Neurotherapeutics (ICNT)

### Pain Research Attractive Posts – Neurophysiology/Nociception/Biochemistry

ICNT is a well-funded and internationally-competitive Centre, fully-equipped with state of-the-art facilities for multi-disciplinary research on fundamental/topical aspects of Molecular Neurobiology. It houses several scientists with complementary skills for investigating synaptic transmission in both health and disease, in a 5-year programme funded by Science Foundation Ireland. Efforts are to be focused on reducing regulated neuro-exocytosis with SNARE-cleaving proteases to normalise excessive release of excitatory transmitters/peptides, in prevalent disorders of muscles or secretory glands and chronic painful conditions. Towards this clinically-important goal, new recombinant generations of botulinum neurotoxins are being engineered so that their therapeutic characteristics can be tailored to act as anti-nociceptives. This innovative strategy has already yielded two candidates with proven ability to give prolonged amelioration of chronic pain in animal models. The basis of their beneficial effects is to be investigated *in vivo* and *in vitro*, especially attenuation of neuronal hyper-sensitivity by blocking the exocytotic surface delivery of transducing cation channels. A range of experimental approaches is to be employed ranging from biochemical definition of the proteins involved, multi-photon microscopy and  $Ca^{2+}$  imaging in sensory neurons of transgenic Pirt-GCaMP3 mice, electrophysiological recordings of synaptic transmission and biophysical/pharmacological characterisation of the currents responsible for transducing pain signals.

#### Academic qualifications and research expertise:

**Neurophysiologist Job Ref #362:** Ph.D. degree that involved in-depth training in electrophysiology and/or related biophysical aspects, acquired competency in voltage- and current-clamp recordings from cultured neurons, acutely-isolated sensory ganglia or slice preparations. Expertise in multi-photon live imaging while using an integral rig for simultaneous recording from the neurons of interest would be advantageous.

**Nociception Specialist Job Ref #363:** An experienced scientific or medical post-doctoral researcher with in-depth knowledge of peripheral and central sensitisation. Relevant aspects include initiation, propagation and integration of pain signals, familiarity with deciphering the various nerve subtypes and pathways that could be targeted with anti-nociceptives under development.

**Biochemist Job Ref #364:** Should hold B.Sc. (hons) or M.Sc. degree in Biochemistry, a Ph.D. in Analytical Protein Chemistry and relevant post-doctoral experience of research on biotherapeutics. Proven experience in protein chromatographic and electrophoresis techniques, as well as protein mass spectrometry plus general proteomics would be valued.

**Duration:** Appointment of Fellows can be for a total of 5 years and the post-doc for 3 years, after successful completion of 12 months' probation.

**Remuneration:** Commensurate with qualifications, relevant experience and proven expertise.

**Neurophysiologist and Nociception Specialist:** Senior Research Fellow (Level 4), €63,125 – €68,817 p.a. or Research Fellow (Level 3), €51,716 – 56,442 p.a.

**Biochemist:** Experienced post-doc (Level 2), €42,394 – €46,255 p.a.

**Informal initial enquiries:** C.V. and 3 confidential recommendations from Ph.D. supervisor and employers should be emailed as soon as possible to:

J. Oliver Dolly, SFI Professor of Neurotherapeutics, ICNT  
Email: [oliver.dolly@dcu.ie](mailto:oliver.dolly@dcu.ie); phone: (01) 700-7757; fax: (01) 700-7758

**Closing date:** 15<sup>th</sup> July 2016

Application Procedure 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) 1 700 5149

Applications should be submitted by email to [hr.applications@dcu.ie](mailto:hr.applications@dcu.ie) or by Fax: +353 (0)1 700 5500 or by post to the Human Resources Department, Dublin City University, Dublin 9

Please clearly state the role you are applying for in your application and email subject line: Job Ref #362: Neurophysiologist, #363: Nociception Specialist, #364: Biochemist