



Positions available in Developmental Neurogenetics at Trinity College Dublin

We seek highly motivated individuals for two positions in the group of Dr. Kevin Mitchell. Our laboratory is using a variety of approaches to elucidate the molecular and cellular mechanisms involved in specifying brain connectivity and to analyse the consequences for brain wiring when these genes are mutated. We maintain a broad outlook, focusing on defined questions in the mouse but with strong collaborative links to human neuropsychiatric genetics and parallel projects in the genetics and neurobiology of synaesthesia. (Website: <http://www.gen.tcd.ie/mitchell>)

PhD Position: A graduate studentship is available to study the genetic and cellular mechanisms that specify the pattern of connectivity between different nuclei of the thalamus and areas of the cerebral cortex in the mouse brain. We have used a combination of genetic, cellular and biochemical methods to identify candidate genes involved in this process. The project aims to further test their involvement and dissect their mechanisms of action.

Starting date: October 2011 or January 2012.

Qualification: Bachelor's or Master's degree in genetics, neuroscience or related area of biology. Knowledge of neural development, cellular neuroscience, molecular biology or genetics advantageous.

Postdoctoral position: A postdoc position is available to study the role of Semaphorin proteins in thalamocortical and cortical development. By analysing single, double and conditional mutants and through complementary methods such as in utero electroporation and in vitro assays of nerve growth, we aim to dissect the functions of these proteins in a number of cellular processes in the developing cortex. This project will also explore the potential relevance of Semaphorin mutants as models of psychiatric disease.

Starting date: Autumn 2011

Qualification: A strong track record of publication, with experience in neural development, cellular neuroscience, developmental biology or related areas.

Location: We are housed in the Smurfit Institute of Genetics and affiliated with the Institute of Neuroscience at Trinity College Dublin, Ireland.

How to apply:

Candidates should send a cover letter, a CV and two reference letters to Kevin Mitchell at Kevin.Mitchell@tcd.ie

Selected References:

1. Janssen BJ, et al. (2010) *Structural basis of semaphorin-plexin signalling*. **Nature**. 467:1118-22.
2. Mitchell KJ. *The genetics of neurodevelopmental disease*. **Curr Opin Neurobiol**. 2010 Sep 8.
3. Tawarayama H, et al. (2010) *Roles of Semaphorin-6B and Plexin-A2 in Lamina-Restricted Projection of Hippocampal Mossy Fibers*. **J. Neuroscience**.30:7049-7060.
4. Little GE, et al. (2009) *Specificity and plasticity of thalamocortical connections in Sema6A mutant mice*. **PLoS Biol**. 7(4):e98.
5. Runker et al. (2008) *Semaphorin-6A controls guidance of corticospinal tract axons at multiple choice points*. **Neural Devel** 8;3:34.
6. Dolan J, et al. (2007) *The extracellular leucine-rich repeat superfamily; a comparative survey and analysis of evolutionary relationships and expression patterns*. **BMC Genomics**. 14;8:32