



TRINITY COLLEGE
Institute of Neuroscience



TRINITY COLLEGE INSTITUTE OF NEUROSCIENCE

ANNUAL REPORT 2009



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Directors Report

This was a very busy year for TCIN in a challenging economic environment with many important developments.

The Chairman of the TCIN board, Dr Tom Mitchell stepped down in Dec 08 after a lengthy period as Chairman. We acknowledge his strong and sustained support of the institute since its inception. Our new Chairman is Mr Alan Cooke, COO and CFO of Amarin Corporation.

The Directorship of TCIN also changed in July 2009 and we acknowledge the significant work and important contributions of the outgoing Director Prof Marina Lynch over the past three years.

TCIN was formally assigned to a Faculty in July and we appreciate the strong support of Prof Clive Williams, Dean of Faculty of Engineering, Mathematics and Science.

The TCIN re-branding program was also completed in July, resulting in three new brochures and a new website. The brochures are available for download at the following url, <http://www.tcd.ie/Neuroscience/about/downloads.php>.

A Strategic Away Day was held in November at the Royal Marine Hotel Dun Laoghaire, TCIN PIs considered detailed discussion documents from 5 work groups who met on a number of occasions before the away day. All of this work forms the basis for TCIN's development over the next 5 years. A number of action items have already been identified and incorporated in College plans.

The Neuroscience Ireland symposium was hosted by TCIN in the Science Gallery on September 10-11th 2009 with international speakers from the US and UK. It was a great success with very good attendance from around the country. A very successful symposium on MRI applications was held in parallel on Sept 10-11th 2009. Several new techniques were described which have resulted in 8 new publications on the 7T MRI scanner in 2009. An applications booklet has been produced for those interested in using the 7T small bore scanner.

Our partner MRI center in St James Hospital commenced in 2009 and joint studies have commenced under several programs. It houses an identical Philips 3T Achieva MRI system.

We have participated in the development of several technology platform programs with partners in Molecular Medicine Ireland (MMI) and the National Bio-photonics Imaging Program (NBIP) to share our EEG, MRI and Confocal Microscopy technology and expertise both nationally and within Europe.

Our largest industrial programs with GSK & Intel/TRIL continue to produce good results and have been renewed for the coming year. This is a tribute to the hard work and co-operation between our organizations and research staff.

A major new research programme sponsored by Atlantic Philanthropies and led by Prof Ian Robertson will begin its work next year. The Neel program will look to develop Neural-enhancement technologies to improve the lives of aging populations.

Several communications initiatives were launched during the year including a weekly news bulletin and a publications update. A new Principal Investigators Committee was instituted, jointly chaired by Dr Tom Connor and Prof Fiona Newell, they held their first meeting in October. Several meetings were also held between the Director and TCIN postgraduate and postdoctoral research fellows. More initiatives are planned over the course of 2010.

An extra mural course was launched in October 2009, 'Neuroscience the 21st Century Brain', it runs over two terms of 9 weeks each. It has been very successful for its first year and we intend to run it again next year.

Our research has generated 450 publications over the last 3 years with an average impact factor of 6.1 and 10% of our publications have an impact factor greater than 10. (20% greater than 8; 65% greater than 3.6).

Prof Shane O'Mara
Director TCIN

Dec 2009

Mission Statement

To achieve international status in research of the highest possible rank in Trinity College Institute of Neuroscience by providing the infrastructure and support for individual and group endeavours and by ensuring that its research is promoted within and outside the University.

TCIN STAFF

Prof. Shane O'Mara	Director	somara@tcd.ie
Dr. Judith Murphy*	Executive Director	judith.murphy@tcd.ie
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Ms Eilish Devine	Executive Officer	devineei@tcd.ie

TCIN EXECUTIVE MANAGEMENT COMMITTEE

The members of TCIN's Executive Management Committee and their affiliations

Prof. Shane O'Mara	Director of TCIN
Professor Ruth Byrne	Deputy Director of TCIN, School of Psychology
Prof Veronica Campbell	Head of Physiology
Prof Declan McLoughlin	Consultant Psychiatrist, St Patrick's Hospital
Prof Mani Ramaswami	School of Genetics, Dept of Zoology
Prof Richard Reilly	School of Engineering, School of Medicine
Mr. Ciaran Conneely	Operations Manager
Ms. Barbara Hewitt	TCIN Accountant
Dr. Judith Murphy*	Executive Director

MRI STAFF

Dr. Christian Kerskens	Lead Physicist	christian.kerskens@tcd.ie
Mr. Sojo Joseph	Radiographer	josephs@tcd.ie
Rustam Rakhmatullin	Animal specialist	

* On leave (Nov 2009)

NEW APPOINTMENTS AND ARRIVALS

Professor Kumlesh Dev was appointed as Associate Professor in Physiology and took up his position in January 2009. There are now 6 researchers in his research group.

Dr Daniela Tropea was appointed a Lecturer in Genetics and joined the institute. She works closely with Prof Michael Gill, Dr's Aiden Corvin and Kevin Mitchell.

Dr Aileen Lynch a lecturer in Biological Sciences has joined the institute where she will be working closely with Prof Marina Lynch.

Dr Alice Witney was appointed Lecturer in Physiology and joined the institute.

Ms Eilish Devine was appointed as Executive Officer in Jan 2009.

Visiting Researchers

Prof Orlando Espino from the University of La Laguna, Tenerife, is a visiting fellow from September 2009-December 2009; he is a collaborator of Professor Ruth Byrne.

RESEARCH ACTIVITY IN TCIN

One of the core ideas of the Institute of Neuroscience was creating multidisciplinary translational research teams. Our PIs are drawn from all the faculties of the university and there are important translational links between our researchers, clinicians, affiliated hospitals and industrial partners which enable improvements in scientific understanding of basic mechanisms and the development of new therapies for human health.

Three themes describe the broad interdisciplinary nature of our research.

- 1. Neurodegeneration, neuroprotection and neurorepair**
- 2. Synaptic Plasticity, Cognition and Behaviour**
- 3. Neuropsychiatric Disorders and Addictions**

Table 1: Research themes and PIs

Neurodegeneration, neuroprotection & neurorepair	Synaptic Plasticity, Cognition & Behaviour	Psychiatric diseases & Drug abuse
Prof. Marina Lynch	Prof. Mani Ramaswami	Dr. Andrew Harkin
Prof. Kingston Mills	Prof. Shane O'Mara	Prof. Veronica Campbell
Prof. Veronica Campbell	Prof. Ruth Byrne	Prof. Thomas Frodl
Prof. Shane O'Mara	Prof. Roger Anwyl	Prof. Shane O'Mara
Prof. Rose-Anne Kenny	Prof. Pete Humphries	Prof. Michael Gill
Prof. Roger Anwyl	Prof. Michael Rowan	Prof. Ian Robertson
Prof. Pete Humphries	Prof. Kumlesh Dev	Prof. Hugh Garavan
Prof. Orla Hardiman	Prof. Khurshid Ahmad	Prof. Harald Hampell
Prof. Michael Rowan	Prof. John O'Doherty	Prof. Declan McLoughlin
Prof. Kumlesh Dev	Prof. Jane Farrar	Prof. Brian Lawlor
Prof. Ian Robertson	Prof. Ian Robertson	Dr. Thomas Connor
Prof. Harald Hampel	Prof. Hugh Garavan	Dr. Gary Donohue
Prof. Desmond O'Neill	Prof. Fiona Newell	Dr. Daniela Tropea
Prof. Brian Lawlor	Prof. Desmond O'Neill	Dr. Aiden Corvin
Dr. Thomas Connor	Prof. Brian Lawlor	Prof. Pat McKeon*
Dr. Paul Kenna	Prof. Thomas Frodl	Dr. Jogin Thakore*
Dr. Julie Kelly	Prof. Kumlesh Dev	
Dr. Jane Farrar	Dr. Paul Dockree	
Dr. Gavin Davey	Dr. Kevin Mitchell	
Dr. Gary Donohue	Dr. J. Pablo Labrador	
Dr. Colm Cunningham	Dr. Daniel Ulrich	
Dr. Arun Bokde	Dr. Alice Witney	
Dr. Aine Kelly	Dr. Aiden Corvin	
Dr. Aileen Lynch	Prof. John Foxe*	
Dr. Colin Doherty*	Dr. Niall Pender*	
	Dr. Richard Roche*	
	Dr. James Gibney*	

*Affiliates

NOTE: Details of team members for all PIs are given in Appendix 1

RESEARCH HIGHLIGHTS

Aging research is a good example of TCIN's multidisciplinary translational approach and is an important aspect and strength of Theme 1. Our PIs are involved in basic research at the cellular and molecular level led by Prof Marina Lynch and Dr Colm Cunningham and with a number of industrial sponsors. We have a major clinical work programme in the Mercers Institute for Successful Aging based in St James Hospital led by Prof. Brian Lawlor and a major- €30m national longitudinal study on aging (TILDA) led by Prof. Rose-Anne Kenny. We are also involved in developing technologies to assist older people in their daily lives with the Technology for Independent Living (TRIL) programmed with Intel which is coordinated in TCIN by Prof Ian Robertson.

Dr Connor and his team have established that activation of β -adrenoceptors induces expression of anti-inflammatory components of the interleukin-1 system (IL-1ra and IL-1RII); this anti-inflammatory action may underlie the neuroprotective effects of β -adrenergic agonists. Dr Harkin has continued his work on identifying novel neuroprotective properties associated with the tricyclic antidepressant desipramine. His recent findings in this area and further analysis on his second area of interest, the monoaminergic mechanisms which mediate a potentially lethal interaction between caffeine and MDMA, have been reported at meetings in 2008. Drs Connor and Harkin, in collaboration with Dr Julie Kelly and Dr Jane Farrar, are continuing to generate a portfolio of pre-clinical data funded by an Enterprise Ireland Commercialization Technology Development Grant on a lead first-in-class thyrotropin-releasing hormone (TRH)-based compound developed by Dr Kelly. A US patent was granted on the compound in 2008.

Dr Cunningham reported (in Biological Psychiatry) that systemic inflammatory events early in chronic neurodegenerative disease can acutely exacerbate features of disease and accelerate its progression.

Professor Veronica Campbell's research group have identified a novel mechanism by which the endocannabinoid system provides neuroprotection in an in vitro model of Alzheimer's disease. This project has received additional funding to test this neuroprotective pathway in an animal model of Alzheimer's like pathology. Her research, as well as the research activity in several other laboratories (Connor, A Kelly, J Kelly, O'Mara, Lynch, Harkin) have identified and are continuing to investigate a number of potential neuroprotective strategies including endocannabinoids, TRH-like molecules, β -adrenergic agonists, the tricyclic antidepressant desipramine, PPAR γ activators and statins as well as exercise and novel environments.

Dr Aiden Corvin heads the Psychosis Research Group, part of the Neuropsychiatric Genetics Laboratory under Prof Michael Gill.

Highlights of the year have included:

- Identification of common genetic risk variants for schizophrenia implicating the Major Histocompatibility Complex (MHC)
- Establishing substantial overlap in susceptibility between schizophrenia and bipolar disorder
- Providing evidence that this may involve molecular pathways involved in Neural Cell Adhesion and Scaffolding
- Implicating the schizophrenia susceptibility gene, NOS1, as having a wider effect on human cognition in patients and the general population.

Dr Gary Donohoe with colleagues in Neuro-psychiatry identified a genetic variant at NOS1 that impacts on cognition in patients and healthy controls.

Professor Michael Gills's group made an important breakthrough as part of an international research effort in identifying further biomarkers for the development of Alzheimer's Disease. The genome-wide association study identifies variants at CLU and PICALM associated with Alzheimer's disease. This work was published in Nature Genetics.

Professor Harald Hampel's group has also demonstrated the multicentre reliability of a biological marker (increased p-tau 231 in cerebrospinal fluid (CSF)) for identifying Alzheimer's Disease at a very early predementia stage; this work was published in Neurology. The Hampel team, with research partners in the US, has also developed a test for the measurement of a surrogate marker of β -amyloid production, BACE 1, in CSF; this has been published in Archives of General Psychiatry.

Professor Lynch's group have been involved in an interdisciplinary study involving Professor O'Mara's and Dr Christian Kersken's groups designed to couple markers identified by MRI with deterioration in cognitive and synaptic function and neuroinflammatory changes. The teams have identified neuroprotective effects of novel lipid mediators and have established that the anti-inflammatory effects of the PPAR γ agonist rosiglitazone, may result from its ability to modulate astrocyte and microglial activation. Researchers in the Lynch team and in Professor Kingston Mills team have established that T cells have powerful modulatory effects on microglial activation and that the interactions between these cells impact on the development of symptoms in animal models of Alzheimer's Disease and Multiple Sclerosis.

Professor Shane O'Mara's group has identified neuroprotective effects of rosiglitazone after a single dose and have shown that one dose of rosiglitazone exerts profound effects on neuronal firing.

The research activity of Drs Juan Pablo Laborador and Kevin Mitchell focuses on using molecular genetic, cell biological and imaging techniques to understand how neurons achieve specific cell fates, and how these cell fates, once determined, are elaborated to yield precise neuronal wiring patterns. Recently Dr Laborador's work has highlighted a functional link between the transcriptional control of dorsal motor axon targeting by *eve*

and *grn* and the expression of the Unc-5 receptor. The group's studies have been able to demonstrate how these transcription factors regulate the expression of axon guidance receptors establishing one of the few examples of transcriptional regulation of axon guidance receptors known to date. Professor Ramaswami's research is continuing to probe genetic and cellular mechanisms of synaptic and behavioural plasticity in the relatively simple neural network that drives *Drosophila* olfactory behaviour.

Professor Pete Humphries has established that targeting a protein integral to the blood brain barrier mediates reversal opening of the blood brain barrier; this paper which employed a multidisciplinary team and includes findings from the MRI team led by Dr Kerskens, was recently published in *J Gene Med*.

Professor Brian Lawlor's group is continuing their study on determining whether neurocardiovascular instability contributes to the transition from Mild Cognitive Impairment (MCI) to dementia. Over 100 subjects have been recruited in this prospective study and the team have demonstrated that MCI subjects have greater postural blood pressure changes than age-matched controls. The group is also involved in 2 major industry-funded research collaborative programmes. The focus of the GSK programme is to accelerate Alzheimer's Disease treatments. The GSK-funded clinical trials of candidate cognitive enhancers in normal elderly control subjects and subjects with MCI are about to commence and will comprise EEG, behavioural and MRI analyses.

Professor Rose-Anne Kenny leads The Irish Longitudinal Study on Ageing (TILDA), a multi-disciplinary study which conceptualises ageing along three main dimensions: health, wealth and social connectivity. Its first pilot study, which provides baseline data that allows for the longitudinal assessment and evaluation of biomeasures in particular areas of disease that are prevalent with age, has been successfully completed. During the pilot, Trinity College Dublin opened a health assessment centre in September 2008. The next phase of the study will include several nested studies complementing and extending ongoing research activity in TCIN and St James's Hospital.

Professors Rose-Anne Kenny, Ian Robertson, Richard Reilly and Brian Lawlor are among the PIs involved in the Intel-funded Technology Research for Independent Living (TRIL). This large-scale programme aims to investigate three major factors which lead to loss of independence in older persons: falls, cognitive decline and social isolation. The emphasis is on prevention and early detection of disease to maximize independent living, and to study the role of technology to facilitate this early detection and intervention. The academic-industry partnership includes multidisciplinary teams from Trinity College Dublin, University College Dublin and National University of Ireland, Galway and Intel Digital Health, Leixlip; it is funded jointly by Intel Corporation and Industry Development Agency (IDA). Professor Richard Reilly's specific research projects include electrophysiological investigations into multisensory integration (EEG and ERPs), computational modeling of electrophysiological signals, algorithmic improvements to tractography for brain imaging and speech analysis as a potential marker of cognitive function.

Professor Hugh Garavan is a PI on several recently-funded grants one of which is entitled 'Neurocognitive risk and protective factors for addiction'. His international status in this area has been confirmed by a number of recent publications and his appointment, as the sole foreign member, to the Medical Research Council (UK) Addiction Project Group. He is a named investigator on 2 recently-awarded 'Initiatives in Medicine in Ireland' grants.

Professor Declan McLoughlin's groups in St Patrick's Hospital and TCD have started a 5-year research programme called the EFFECT-Dep Study. This programme is supported by a HRB Translational Research Award and its purpose is to improve electroconvulsive therapy (ECT) practice and use it to interrogate the molecular neurobiology of depression. The group will carry out a definitive randomised controlled trial comparing bilateral and high-dose unilateral ECT, recruiting 140 patients with severe depression. The study will use an animal model of ECT treatment to characterize changes in global protein expression in brain and plasma and will carry out parallel studies using plasma from depressed patients recruited into the clinical trial. The research aims to identify candidate peripheral biomarkers for depression, treatment response and depression relapse.

GRANT FUNDING IN TCIN

Among the major grants held in TCIN are:

1. Industrial Partnership with GlaxoSmithKline (GSK)

This research, led by Professor Shane O'Mara, is ongoing since August 2007. Its objective is to expedite the discovery and development of new medicines for the treatment of Alzheimer's Disease. The €15million funding covers pre-clinical and clinical components and the first clinical trials will commence in November 2008 in a purpose-built clinical assessment suite in St James's Hospital.

2. The TRIL programme

This program is one of the biggest industry-academic partnerships ever funded in Ireland. This €10 million programme - a partnership between TCD/TCIN, UCD, NUIG and Intel - is designed to discover and deliver technology solutions which support independent living in the ageing population. TCIN PI's lead three of the five strands of this large and internationally-prominent programme, namely Prof Brian Lawlor (social connection), Prof Rose-Anne Kenny (falls) and Profs Ian Robertson and Richard Reilly (Cognition).

3. Health Research Board

TCIN investigators, led by Professor Marina Lynch, who is the Director of this programme, were awarded funding to introduce a 4-year integrated PhD programme in Neuroscience in October 2004. The fourth cohort of 5 students (chosen from 139 applicants) registered in October 2008 and the first cohort are currently in the process of submitting their theses.

4. Science Foundation Ireland

Several TCIN investigators have been awarded a prestigious Principal Investigator award and these are listed in the table below. The latest recipient of one of these awards is Prof. John O'Doherty.

Funding to individual PI's

Funding to individuals from a variety of sources is summarized in the table below:

Principal Investigator	Granting Body	Amount	Period of Grant	Area of Research Funded
Prof. Roger Anywl	Science Foundation Ireland	1,000,000	2007 – 2011	Plasticity of Brain, Alzheimers research
Dr. Mary Cannon	Health Research Board	1,500,000	2005 – 2010	Adolescent brain development and risk for schizophrenia: a study of structural and functional disconnectivity
Dr. Veronica Campbell	Health Research Board	150,000	2005 – 2008	Regulation of adult stem cell differentiation by hypoxia
Dr. Veronica Campbell	Science Foundation Ireland	180,000	2007 – 2009	Cannabinoids and the control of stem cell differentiation.
Dr. Thomas Connor/Prof. Kingston Mills	Science Foundation Ireland AOIP	120,000	2005 – 2008	Neuroimmunology
Dr. Thomas Connor	Health Research Board	298,436	2008 – 2011	Enhancement of central noradrenergic tone as a novel strategy to combat neuroinflammation and neurodegeneration: A role for b2-adrenoceptors
Dr. Thomas Connor, Dr Andrew Harkin	EU FP7, MOODINFLAME	373,200	2008 – 2011	Early diagnosis, treatment and prevention of mood disorders targeting the activated inflammatory response system
Dr Colm Cunningham	Welcome Trust	773,261	2006 – 2010	Neuroimmunology / Neuropsychology of ageing
Dr. Gavin Davey	EU Marie Curie	1,200,000	2006 – 2010	Neuroscience
Dr. Gavin Davey	NIBRT/IDA	1,300,000	2006 – 2010	Biotechnology
Dr. Gavin Davey	IRCSET	70,000	2006 – 2009	Neuroscience
Dr. Gavin Davey/Prof. Michael Coey	Science Foundation Ireland AOIP	160,000	2005 – 2009	Neuroscience/Nanoscience
Dr Gary Donohoe / Prof Harold Hampel	NARSAD	41,892	2008 – 2010	A diffuse tensor imaging investigation of white matter abnormalities associated with OLIG2 and CNP in schizophrenia

Dr Gary Donohoe /Dr. A Corvin & Prof. M. Gill	Science Foundation Ireland	162,000	2007 – 2010	Does genetic variation at dysbindin and other candidate schizophrenia genes within the glutamate system contribute to abnormal perceptual processing measured using visual and auditory evoked potentials?
Dr. Andrew Fagan	Science Foundation Ireland	162,000	2006 – 2009	MRI Physics in Neuroscience
Dr. Jane Farrar	Health Research Board	210,000	2006 – 2009	Treatment of retinal degenerations in mouse models of retinitis pigmentosa by transplantation of genetically modified retinal stem cells.
Dr. Jane Farrar	Health Research Board	210,000	2006 – 2009	Regulatory role of miRNAs in retinitis pigmentosa models.
Dr. Jane Farrar	Health Research Board	300,000	2006 – 2009	Exploration of exogenous microRNAs as a suppression tool and endogenous microRNAs in the context of retinal degenerations
Dr. Hugh Garavan (Ireland component)	EU 6th Framework Programme	800,000	2006 – 2011	Reinforcement-related behaviour in normal brain function and psychopathology
Dr. Hugh Garavan	EU Marie Curie Transfer of Knowledge	640,000	2006 – 2009	Using Cognitive Neuroscience to understand how consumers make and maintain healthy food choices
Dr. Hugh Garavan	Health Research Board	300,000	2008 – 2011	Neurocognitive risk and protective factors for addiction
Dr Kieran Murphy PI, Dr Hugh Garavan	Health Research Board	300,000	2008 – 2011	Neuroscience
Prof. Michael Gill	NIMH	1,500,000	2003 – 2008	ADHD genetics research collaboration
Prof. Michael Gill	Science Foundation Ireland	143,891	2006 – 2008	Schizophrenia genetics
Prof. Harald Hampel, M Ewers	Biotech Company, Germany	200,000	2007 – 2008	Early and differential diagnosis of Alzheimer's disease utilizing structural and functional changes in the brain, and genomic, neuropsychological and neurochemical markers

Prof. Harald Hampel, K Burger	Biotech Company, Germany	170,000	2007 – 2009	Validity examination of innovative inflammatory markers of Alzheimer's disease in blood plasma
Prof. Harald Hampel	Federal Office of Education and Research (BMBF)	119,600	2007 – 2009	Kynurenine metabolites as diagnostic markers for major depression and Alzheimer's disease
Prof. Harald Hampel	European Commission (EU), National Institutes of Health (NIH), Alzheimer's Association	201,829	2007 – 2010	The European Alzheimer's Disease Neuroimaging Initiative (E-ADNI): a study of the European Alzheimer's Disease Consortium for establishing of a large scale European network on Alzheimer's disease
Prof. Harald Hampel, Bürger K	European Commission (EU), FP6	19,740	2008 – 2010	Beta amyloid oligomers in the early diagnosis of AD and as a marker for treatment response
Prof. Harald Hampel, Bürger K et al	German Brain Foundation (Hirnliga e.V.)	25,000	2007 – 2008	Development and evaluation of a modular every day relevant cognitive intervention for patients with mild cognitive impairment (MCI) and mild Alzheimer's dementia (AD) using neuropsychologic and functional imaging techniques
Prof. Harald Hampel, Shen Y, Sabbagh M, Hampel H	Alzheimer's Association Zenith Award	175,345	2007 – 2009	Elevated BACE1 as a risk factor for progression from MCI to AD
Prof. Harald Hampel, Teipel SJ, Ewers M	Federal Office of Education and Research (BMBF), Competency Network on Dementia	104,784	2007 – 2008	Cooperative project Competency Network on Dementia
Prof. Harald Hampel, Sydykova D et al	Support program-science & teaching, medical faculty, LudwigMaximilian University of Munich	50,900	2007 – 2008	Novel image processing techniques to better understand functional and fiber connectivity
Prof. Harald Hampel, Sydykova D et al	German Brain Foundation (Hirnliga e.V.)	25,000	2006 – 2008	Structural and functional integrity of intracortical projections in patients with Alzheimer's disease a combination study with diffusion tensor imaging, MRI and EEG (DTI-

				integrity)
Prof. Michael Gill	Science Foundation Ireland	1,707,867	2004 – 2009	Resource for Psychoses genomics Ireland
Prof. Orla Hardiman	Health Research Board	1,700,000	2007 – 2012	A population-based study of cognitive decline in ALS.
Prof. Orla Hardiman	Health Research Board	350,000	2007 – 2010	Replication & Development of Whole Genome Association Study in an Irish ALS population.
Prof. Orla Hardiman	Muscular Dystrophy USA	342,000	2007 – 2009	A Whole Genome Association Study of ALS in a population isolate
Prof. Orla Hardiman	ALSA Initiation Grant:	137,129	2007 – 2009	Population-based Epidemiology of Cognitive decline in ALS
Prof. Orla Hardiman	IMNDA	100,000	2007 - 2009	IMNDA Irish Register of ALS
Prof. Orla Hardiman	IICN/Serono Neurology Fellowship	50,000	2008-2009	
Dr. Andrew Harkin	Health Research Board	213,124	2006 – 2009	Caffeine and MDMA is a lethal combination; a role for dopamine
Dr. Andrew Harkin	IRCSET	72,009	2006 – 2009	Do antidepressant have neuroprotective properties?
Prof. Peter Humphries	Science Foundation Ireland.	970,297	2003 – 2008	Exploration of molecular pathology and molecular therapeutics for inherited retinal degenerations.
Prof. Peter Humphries	Science Foundation Ireland.	970,297	2003 – 2008	Exploration of molecular pathology and molecular therapeutics for inherited retinal degenerations.
Dr. Julie Kelly	Health Research Board	238,703	2005 – 2008	Furthering the development of TRH-DE inhibitors – toward a novel therapeutic strategy for CNS disorders
Dr. Julie Kelly/Dr. Jane Farrar	Science Foundation Ireland	165,000	2005 – 2008	Exploration of methods to provide sustained expression of TRH peptide in a target tissue and investigation of neuroprotective properties of TRH
Dr. Julie Kelly	Enterprise Ireland CFTD/2006/122:	392,415	2007 – 2009	Development of a Novel Compound for treating Neurological Disorders.
Juan Pablo Labrador	SFI (07/IN.1/B913)	913,860	2007 –	“Transcriptional

			2011	Programming of Motor Axon Guidance
Juan Pablo Labrador	TCD Start-up Grant	12,615	2007 – 2008	
Juan Pablo Labrador	SFI RFP 2008 (08/RFP/NSC1617)	206,515	2008 – 2011	Programming Motorneuron Guidance
Juan Pablo Labrador	SFI Research Frontiers Programm 2008: (08/RFP/NSC1617): €206,515. Principal Investigator.		2008	Programming Motoneuron Guidance
Juan Pablo Labrador	DFG	70,000	2008	Postdoctoral fellowship
Juan Pablo Labrador	IRCSET	93,300	2007 – 2009	Postdoctoral fellowship
Prof. Brian Lawlor/ Prof. Rose-Anne Kenny/Prof. Michael Rowan	Health Research Board	1,500,000	2006 – 2011	Neurocardiovascular influences on cognitive functioning: basic and clinical mechanisms
Prof. Rose-Anne Kenny/Prof. Brian Lawlor	Roskamp Institute, Florida	850,000	2006 – 2008	An open label evaluation of the safety and efficacy of nivaldipine in mild to moderate Alzheimers disease
Prof. Rose-Anne Kenny/Prof. Brian Lawlor	Intel/IDA TRIL: Social Connection	1,756,000	2006 – 2009	Using technology to enhance social connection and health of older people
Prof RA Kenny/Dr. Terry Dishongh/Prof Fiona Newell	Intel/IDA TRIL: Social Connection	2,395,000	2007 – 2010	Using technology to enhance social connection and health of older people TRIL: Falls
Prof. Brian Lawlor/Prof. Ian Robertson and Prof. Roseanne Kenny	GSK Collaborative Research in Alzheimer's disease	6,390,000	2007 – 2011	Novel clinical pharmacodynamic endpoints
Prof R Kalaria/ProfRose Anne Kenny	NIH Grant	208,000	2006 – 2008	Longitudinal Neuropathological series of a stroke cohort
Prof. Rose-Anne Kenny	Atlantic Philanthropies & Dept. of Health & Children	5,000,000	2006 – 2016	TILDA (The Irish Longitudinal Study on Ageing)
Prof. Marina Lynch	Science Foundation Ireland	951,027	2004 – 2008	Analysis of the mechanism underlying age-related impairments in synaptic function.
Prof. Marina Lynch/TCIN colleagues	Health Research Board	999,460	2004 – 2008	From basic neuroscience to clinical applications: an integrated PhD programme

Prof. Marina Lynch/TCIN colleagues	Health Research Board	1,000,000	2004 – 2008	From basic neuroscience to clinical applications: an integrated PhD programme. Renewal grant.
Prof. Marina Lynch	Vasogen Ireland	204,680	2005 – 2006	Investigation of the anti-inflammatory effects of VP025 (renewal).
Prof. Marina Lynch	Amarin UK	184,000	2005 – 2008	Comparative studies of the anti-inflammatory effects of EPA and EPA derivatives
Prof. Marina Lynch	EU	183,100	2005 – 2009	From cell-cell recognition to memory formation. New strategies for the treatment of dysfunctional plasticity, learning and memory
Prof. Marina Lynch/Prof. Kingston Mills	Science Foundation Ireland Annual Overhead Investment Plan	160,000	2005 – 2008	A study of the mechanisms underlying the inhibitory effects of interleukin-1 on synaptic transmission in rat hippocampus
Prof. Marina Lynch	Health Research Board	186,658	2006 – 2009	Do atorvastatin and/or the immunomodulatory molecule, FHA, act as neuroprotective agents in the aged rat brain?
Prof. Marina Lynch	Science Foundation Ireland	1,250,000	2008 – 2012	Role of inflammation in age-related neurodegeneration
Dr. Jim Meaney	Health Research Board	4,000,000	2005 – 2010	Proposal for a National Centre for Advanced Medical Imaging
Prof. Declan McLoughlin	Health Research Board	1,481,484	2007 – 2012	<i>The EFFECT-Dep Study</i> : enhancing the effectiveness of electroconvulsive therapy in severe depression and understanding its molecular mechanism of action
Prof. Declan McLoughlin	Alzheimer's Research Trust Project Grant	215,662	2007 – 2010	Fe65:Fe65L2 double knockout mice and APP processing
Prof. Declan McLoughlin	Wellcome Trust Programme Grant	833,643	2006 – 2011	The X11 adaptor proteins and Alzheimer's disease
Prof. Declan McLoughlin	Alzheimer's Society Project Grant	198,000	2006 – 2009	<i>In vivo</i> analysis of the Fe65L2 protein in health and Alzheimer's disease
Prof. Kingston Mills	EU 6th Framework Programme	350,000	2003 – 2008	Mucosal Vaccines for Poverty Related Diseases (MUVAPRED). FP6-2002-LIFESCIHEALTH-

				2.3., Proposal No 503240
Prof. Kingston Mills	Health Research Board	209,491	2005 – 2008	'Regulation of T cell responses in immunity to Bordetella pertussis'.
Prof. Kingston Mills	TCD AOIP Collaborative PhD studentship	120,000	2005 – 2009	'Role of T cells in the pathogenesis and prevention of the inflammatory and neurodegenerative changes associated with Alzheimer's disease'. Collaboration with Prof. Marina Lynch. Student stipend and consumable costs for 3 years
Prof. Kingston Mills	TCD AOIP Collaborative PhD studentship	120,000	2005 – 2008	'A role for the anti-inflammatory cytokine IL-10 as a mediator of stress-induced immunosuppression'. Collaboration with Dr. Thomas Connor, Physiology and TCIN. Student stipend and consumable costs for 3 years
Prof. Kingston Mills	Science Foundation Ireland	149,264	2006 – 2009	'Regulation of pathogenic T cells in multiple sclerosis'.
Prof. Kingston Mills	EU-FP7-HEALTH-2007-A	488,016	2008 – 2011	'CP collaborative project. Nasal Pandemic Influenza Vaccine (NASPANVAC)'
Dr. Kevin Mitchell	Wellcome Trust	334,516	2005 – 2008	"A comparative functional genomic screen for novel axon guidance molecules in fly and mouse".
Dr. Kevin Mitchell	EMBO YIP	45,000	2005 – 2008	Genetics of brain wiring
Dr. Fiona Newell	EU-IST	360,000	2006 – 2009	Measuring the perception of naturalness
Dr. Fiona Newell	Marie Curie, ToK	200,000	2006 – 2010	Cognitive neuroscience
Dr. Fiona Newell	TCD Psychology studentship	60,000	2006 – 2009	The role of motion in object recognition
Prof. John O'Doherty	SFI	983,520	2008 – 2012	Fractionality of reward based decision making

Prof. Shane O'Mara	GlaxoSmithKline/ TCIN Research Consortium on Neurodegeneration	14,615,230	2007 – 2011	The focus of the new TCIN/GSK research consortium (2007-2012) is on diseases associated with brain ageing (especially Alzheimer's Disease).
Prof. Mani Ramaswami	US National Institute of Health	1,380,000	2003 – 2008	Cellular function and regulation of Fos and Jun
Prof. Mani Ramaswami	Science Foundation Ireland	3,005,626	2005 – 2009	Role of synaptic signalling in brain function
Prof. Mani Ramaswami	Wellcome Trust	300,000	2006 – 2008	Synapse assembly and function
Prof. Mani Ramaswami	Science Foundation Ireland	3,139,802	2007 – 2012	Genetic analysis of synaptic signalling components in Drosophila and their roles in circuit and behavioural plasticity
Prof. Mani Ramaswami, Dr. Kristina Foltenyi	IRCSET Post Doctoral	100,000	2008 – 2010	Postdoc fellowship
Prof. Mani Ramaswami, Mr John Lee	Ureka Studentship	5,600	2008	UREKA Studentship for Mr John Lee
Prof. Mani Ramaswami, Prof Veronica Rodrigues	Department of Biotechnology Grant of the Government of India.	130,000	2008 – 2011	Circuit mechanisms of short and long-term olfactory plasticity.
Prof. Richard Reilly (Co PI), Prof. Ian Robertson (PI)	IDA/Intel, www.trilcentre.org	160,000	2006 – 2009	Effects of Ageing on Cognitive Function
Prof. Richard Reilly (PI), Professor Richard Costello (Co PI)	Enterprise Ireland	265,000	2005 – 2008	Signal Processing Algorithms for use in eHealthcare Applications
Prof. Richard Reilly, Dr Jogin Thakore (PI), Royal College of Surgeons in Ireland as PI.	Enterprise Ireland	25,000	2008 – 2009	Alcohol Intake: An acoustic-based detection system Telephone-based Alcohol Detection System
Prof. Richard Reilly, Professor Brian O'Connell (PI)	Enterprise Ireland	10,000	2008 – 2009	SMART SPLINT – Superior Monitoring & Longitudinal Analysis on Nocturnal Tooth-grinding
Prof. Richard Reilly (PI), Dr Dermot Power Mater Hospital	Mater Hospital	10,000	2008 – 2009	Seed funding for research into quantitative analysis of clinical practice.

Prof. Richard Reilly (PI), Prof Richard Costello, RCSI/Beaumont Hospital	Beaumont Hospital	10,000	2008 – 2009	Signal processing and engineering development for asthma compliance
Prof. Richard Reilly (Co PI), Dr Robert Whelan, Professor Michael Hutchinson, St Vincent’s University Hospital	Enterprise Ireland	98,678	2008 – 2009	Movement disorder Objective Verification by EEG (MOVE): A tool for movement disorder diagnosis, classification and monitoring
Prof. Ian Robertson	Science Foundation Ireland	980,000	2004 – 2008	Cognitive neuroscience and cognitive genomics of ADHD
Prof. Ian Robertson/Dr. Katherine Johnson	Health Research Board	73,000	2006 – 2009	ADHD and movement control
Prof. Ian Robertson	IRCSET	72,000	2007 – 2010	Postgraduate Award, Sabina Brennan
Prof. Ian Robertson	Intel/IDA programme grant TRIL	1,440,000	2007 – 2010	
Prof. Ian Robertson	IRCHSS/ESF Eurocore grant	240,000	2007 – 2011	
Prof. Michael Rowan	IRCSET	75,000	2006 – 2008	Human cortical plasticity
Dr. Jogin Thakore/Dr. Sherlyn Yeap	Health Research Board	171,358	2006 – 2009	“The search for an endophenotypic marker in schizophrenia”

PROMOTIONS AND AWARDS

PROMOTIONS

1. Associate Professor

Fiona Newell

2. Senior Lecturer

Gary Donohoe

AWARDS

INVITED PRESENTATIONS

PROF RUTH BYRNE

Keynote Talk, Cognitive Science Society of Germany Annual Conference, Dresden, Germany	Sept-08
Invited Symposium Convener and Chair, Symposium on Counterfactual Thinking, International Conference on Thinking, Venice, Italy	Aug-08

PROF VERONICA CAMPBELL

British Neuroscience Association; Symposium on Cannabinoids	Apr-07
School of Biomedical Sciences, University of Nottingham	Apr-07
3rd European Cannabinoid Workshop	Apr-07

DR TOM CONNOR

School of Biotechnology, Dublin City University	Oct-07
St. Ita's Hospital Portrane	Feb-07
Anti-inflammatory actions of antidepressants: A new indication for an old class of drugs?	May-08
B-cells 2008: Complexity, integration and translation, Barcelona	
25th CINP Congress, Munich,	Jul-08

DR COLM CUNNINGHAM

Annual meeting of the Psychoneuroimmunology Research Society, Arcachon, France	May-07
The annual meeting of the European Delirium Association, Limerick	Nov-07
Invited speaker at the Cajal Institute, Madrid	Mar-08
Selected speaker at the International Society of Neuroimmunology, Neuroimmunology Symposium, UCD, Dublin	Mar-08
Invited speaker at the Queens Medical Research Institute, University of Edinburgh	Apr-08
Invited speaker at the University of Southampton	July-08
Invited speaker at the Annual Meeting of the European Delirium Association, Helsinki	Oct-08

DR GAVIN DAVEY

REMEDI, National University of Galway	2007
University of Siena, Italy	2007
University of Perugia, Italy	2007
European Society of Neurochemistry conference lecture, Salamanca	2007

DR GARY DONOHUE

Neuroscience and Mental Health RRG Scientific Meeting, Queen's University Belfast	May-07
International society of Biological psychiatry, San Diego	May-07

DR ANDREW FAGAN

25th Anniversary Scientific Meeting, Association of Physical Scientists in Medicine, TCD.

DR JANE FARRAR

preARVO Vision Research Conference	May-07
Irish Society for Gene and Cell Therapy	May-07
EURETINA 7 th congress – Monte Carlo	May-07
University Eye Hospital – Tübingen Germany	Jun-07
Royal College of Surgeons in Ireland - Marie Curie Seminar	Oct-07

PROFESSOR HUGH GARAVAN

The Mind Research Network, University of New Mexico, USA	Dec-09
Psychology Department, University of Vermont, USA.	Nov-09
Montreal Neurological Institute's Killam lecture series, Montreal.	Nov-09
National Institute on Drug Abuse Symposium, Washington DC, USA	Oct-09
National Institute on Drug Abuse, NIH, Baltimore USA	Oct-09
University of Barcelona, Spain.	Jun-09
Institute of Mental Health, Mannheim, Germany	May-09
University of Sussex, UK.	Apr-09
Psychiatry Department, University of Vermont, USA.	Mar-09
Dopamine: From Bench to Bedside. NUIG, Ireland	Dec-08
CUBRIC, Cardiff University, Wales.	Nov-08
Society for Neuroscience Annual Meeting Symposium, Washington.	Nov-08

PROFESSOR HARALD HAMPEL

IPA European Meeting in Association with Royal College of Psychiatrists, Dublin, Ireland	Apr-08
Hirnliga and GE (General Electric Healthcare) Expert Meeting, Berlin, Germany	Apr-08
Symposium on Alzheimer Research, French Embassy, Berlin, Germany	May-08
European School for Scientific and Regulatory Assessment of New Medicines and European Medicines Agency, Rome, Italy	May-08
Psychiatry Colloquium/ Psychiatry Postgraduate Programme, University of Bangor, Wales, UK	May-08
Psychopharmacology Course for Psychiatrists, RCPI, Dublin, Ireland	June-08
SERPA – South Eastern Regional Psychiatric Association, Kilkenny, Ireland	June-08
10th Anniversary of AMNCH, Tallaght, Dublin, Ireland	June-08
Neuroscience Seminar Series, Trinity College Institute of Neuroscience	June-08
XXVI. CINP Collegium Internationale Neuro-Psychopharmacologicum-50, Munich Germany	July-08
-Perspectives of biological and imaging markers in AD	
XXVI. CINP Collegium Internationale Neuro-Psychopharmacologicum-50, Munich Germany	July-08
-Co-Chair of Symposium on Neurochemical and Imaging biomarkers for early diagnosis and mapping of disease progression in AD	
Alzheimer's Association's Intl. Conference on Alzheimer's Disease (ICAD) Chicago, USA	July-08
-Alteration of beta secretase (BACE1) functional candidate biomarkers...	

PROFESSOR ORLA HARDIMAN

International Symposium on ALS/MND, Toronto; Clinical trials, Why the Drugs aren't Working	Nov-07
Institute of Biotechnology, Havana Cuba; ALS as a Paradigm of Neurodegeneration	Feb-07
University of Ulm, Germany; Epidemiology, Ethnicity and Population Genetics of ALS	Feb-07
2007 Womens Equality Forum, Killarney; "What Doctors are Doing for Health"	Feb-07
RCPI, London UK; Acute Management of Headaches in the A+E; The First Critical Hours	Apr-07
2007 Nurses Conference, Sligo; "Mythbusting in Irish Healthcare"	Apr-07
European Neurological Society, Rhodes; Recent Advances in ALS Diagnostics	Jun-07
Trinity College Policy Institute; Perspectives in the Public Health System	Jun-07
MacGill Summer School, Donegal; Priorities in Health for the New Government	Jul-07
Society of Immunology, Dublin; Immune Disorder in the Peripheral Nervous System	Oct-07

DR ANDREW HARKIN

SMi organised conference on Depression and Anxiety, London, UK	Jun-07
St. Ita's Psychiatric Hospital, Portrane, Dublin, Ireland.	
-A role for glutamate neuronal transmission in depression and antidepressant action	Feb-08

University of Kuopio, Finland
 -Testing drug action for depression and aggression ...disease models June-08
 CINP World Congress, Munich. July-08
 -Chair of Symposium The predisposing influence of recreational drug use to neuropsychiatric disorders
 Danish Society for Biological Psychiatry, University of Aarhus, Denmark. July-08

PROFESSOR PETER HUMPHRIES

Fundacion Jiminez Diaz, Madrid. Progress in the development of genetically-based therapies for retinal degeneration. Jun-07

DR AINE KELLY

Queen's University Belfast Feb-07

DR JULIE KELLY

EHRlich II, 2nd World Conference on Magic Bullets held in Nürnberg, Germany Oct-08
 -Designing Drugs for Neurological Disorders: TRH-based Neurotherapeutics

DR CHRISTIAN KERSKENS

Conference on Bioengineering, Royal Academy of Medicine in Ireland, Sligo, Ireland 2008
 European Society of Biomechanics, Lucerne Switzerland. 2008

PROFESSOR MARINA LYNCH

19th National Meeting of British Neuroscience Association Apr-07
 6th International Symposium - Neurovision, Bochum, Germany Oct-07
 International Neuroimmunology Symposium, University College Dublin Mar-08
 6th FENS FORUM Geneva, Switzerland Jul-08
 -Molecular, cellular and circuit contributions to cognitive decline in normal aging
 PNIRS Meeting, Madison, USA Aug-08
 -Symposium on The Impact of Inflammation on the Vulnerable Brain
 Irish Society of Immunology, RDS, Dublin, Ireland Sept-08
 British Pharmacological Society, London, UK Sept-08
 University of Michigan, Michigan, USA Oct-08
 -NIA-funded Workshop "Cellular & Molecular Mechanisms of Cognitive Aging."

PROF DECLAN McLOUGHLIN

Oxford University; Dept of Psychiatry External Speaker Seminar Series Feb-07
 Institute of Molecular Medicine, St James's Hospital, Dublin; External Speaker Seminar Series Feb-07
 Royal Society of Medicine; Key Advance in the Management of Depression, London Jul-07
 Alzheimer's Society; Quality Research in Dementia Annual Meeting Sep-07
 Queen's University Belfast; Neuroscience Research Group Annual Meeting Oct-07

PROF KINGSTON MILLS

8th John Humphrey Advanced Summer Programme in Immunology, Moscow, Russia. Sep-07
 Irish Society for Immunology Annual meeting, Dublin City University. Sep-07
 Meeting on Infectious Diseases, Royal College of Physicians of Ireland (RCPI), Dublin Oct-07
 John Humphries Lecture series, Imperial College, Hammersmith, London. Nov-07.
 MIVAC & MUVAPRED International meeting on Mucosal Immunology, Gotenburg Sweden Jan-08
 Vaccination Immunology: prevention and Beyond, NVVI Lunterern, The Netherlands Apr-08
 6th International Cancer Conference, Dublin Castle, Ireland May-08
 Emerging Issues in infectious diseases, IDSI Inaugural annual scientific meeting, Dublin Jun-08

DR KEVIN MITCHELL	
EMBL, Heidelberg; EMBO Young Investigator meeting	Jun-07
European Life Sciences Organisation; Symposium on Neural Circuit Assembly	Sep-07
EMBL, Heidelberg; EMBO PhD course	Sep-07
University Medical Center Utrecht; Institute of Neuroscience	Dec-07
Abbaye des vaux de Cernay; Semaphorin Function and Mechanisms of Action	May-08
DR FIONA NEWELL	
British Neuroscience Association Meeting, Harrogate, UK	Apr-07
Lincoln University, UK: Invited seminar speaker	2007
XXIX International Congress of Psychology, Berlin, Germany	
-'The effect of non-informative visual information on haptic spatial scenes'.	July-08
PROFESSOR SHANE O'MARA	
School of Neuroscience, University of Manchester UK	Feb-07
Institute of Biology, CNRS, Paris, France	May-07
PROFESSOR MANI RAMASWAMI	
Translation at the synapse, Janelia Farm, HHMI Campus, Maryland.	Oct-07
Satellite Symposium on Non-coding RNAs in the Brain, Soc Neuroscience Meeting, San Diego.	Oct-07
MRC Centre for Development Neurobiology, King's College, London.	Nov-07
Foster Talk, Dept of Physiology, Development & Neuroscience, University of Cambridge, UK.	Nov-07
Department of Biochemistry, Weill Medical College, Cornell University, New York.	2007
University of Iowa, Department of Biology, Iowa City, USA.	2007
RNA Granules Workshop. HHMI Headquarters, Chevy Chase, MD.	2008
From FMRP Biology to Clinical Trials, Banbury Centre, Cold Spring Harbor, USA.	2008
Abdus Salaam Centre, Trieste, Italy. Workshop on Genes and the Development of Behavior	2008
HHMI/Janelia Farm Conference on Translation at the synapse, Maryland, USA	2008
PROFESSOR IAN ROBERTSON	
Institute of Cognitive Neuroscience, University College London, UK.	Mar-07
Association of Medical Neurology, Duesseldorf, Germany.	May-07
Danish Association of Neuropsychology, Denmark.	Sep-07
American Society for Rehabilitation, Washington, USA.	Oct-07
Invited Lecture, MRC Cognition and Brain Sciences Unit, Cambridge, UK.	Mar-08
Invited Lecture, Dept of Psychology, University of Edinburgh, Scotland.	Feb-08
International Colloquium on Anosognosia, Barrow Neurological Institute, Arizona, USA.	Oct-08
Invited lecture, Finnish Neuropsychological Society, Helsinki, Finland.	Dec-08
PROFESSOR MICHAEL ROWAN	
IPSEN meeting, Paris; Synaptic function and Alzheimer's Disease	Mar-07
Combined Life Sciences Meeting, Glasgow	Jul-07
DR DANIEL ULRICH	
FENS Satellite Symposium, Geneva, Switzerland	July-08
-Sleep-related discharge patterns and synaptic plasticity	
Soc. Neurosci. Washington DC, USA	Nov-08
-Differential impact of sleep-associated discharge patterns on synaptic plasticity	

EDUCATION & OUTREACH AT TCIN

TCIN introduced the first 4-year integrated PhD programme in Ireland in October 2004. It was funded by the Health Research Board and funding was continued to allow 3 additional cohorts of students. The final cohort of 5 students registered in October 2008. Due to the success of this programme, we intend to replace this programme with a programme commencing in Oct 2010

International students comprise 36% of our PhD student register of 71 people, 18% of whom are from outside the EU; similarly over 18% of our MSc enrollment are from outside the EU.

A taught 1-year MSc in Neuroscience was introduced in October 2006, with a full quota of 12 students. The number of students in the MSc course has been gradually increasing, and after a record number of 82 applications in June 2009 currently have a 20-strong cohort of students in the 2009/2010 class. The course director is Professor Kumlesh Dev.

An undergraduate specialty (BA. Mod) in Neuroscience was introduced in Trinity College Dublin in 2002 with a quota of 10 students per annum. This quota increased to 20 students per annum in October 2006. Twenty students graduated in June 2009; of these 2 were awarded first class honours. There are currently 20 Junior Sophister and 20 Senior Sophister students. The course directors are Dr. Gavin Davey and Dr. Daniel Ulrich.

16-MSc graduations October 2009

Hazem Jasim Abuhusain
Nicola Burke
Mark Byrne
Mary Carton
Sameer Datwani
Marika Doucet
Sheena Heffernan
Jelena Ivanovic
Sabina Jarochowicz
Louise Joly
Mark Kennedy
Laura Mc Laren
Silvia Mencaraglia
Anne-Marie O Connor
Irene Ogden
Emma Walsh

17-PhD submissions 2009

Brian Deighan
Kevin Murphy

Julie-Ann Reilly
Michael Kelly
Joe Gallagher
Janis Noonan
Gillian Cooke
Kimberly Smith
Sally Barlow
Jenny Cooke
Keith McQuillan
Aisling Whittaker
Sarah Jacobson
Dana Kilroy
Karen Ryan
Lorna Gleeson
Natascha Van Attou Saifoudine

University of Dublin Neuroscience Society (Neurosoc)

The University of Dublin Neuroscience Society was set up in April 2008 and is Ireland's first university society for neuroscience. It was founded by a group of TCIN-based postgraduate students funded on the 4 year PhD programme. The aims of the society are to organise academic and social events for students and staff with an interest in neuroscience. Academic events includes hosting talks by prestigious national and international speakers, in association with TCIN, and holding public events on issues such as Alzheimer's Disease, Autism and Multiple Sclerosis. The society also caters for the social needs of its members; events include table quizzes, pub nights and fund-raising events. The society's Email address is: neuroscience@csc.tcd.ie. More information is available at Website: <http://neurosoc.csc.tcdlife.ie/>

Neuroscience Seminar Series

The Neuroscience seminar series, set up in January 2006, aims to provide a forum to facilitate transfer of knowledge and trigger discussion among researchers in different disciplines associated with TCIN. The purpose of the series is to foster the integrative approach to neuroscience research that TCIN was established to develop, as well as promote TCIN as an internationally competitive institute. The seminar topics cover all aspects of molecular, cellular, developmental and cognitive neuroscience as well as neuroscience-related topics in disease, psychiatry, and genetics. Participants include researchers at all levels within TCIN and internationally-regarded external speakers. This series is co-ordinated and organised by the HRB-funded PhD students in collaboration with Dr Colm Cunningham.

Neuroscience Course Committee (BA Mod Degree)

The Neuroscience moderatorship is an interfaculty degree programme comprised of modules from six Schools across three Faculties, consequently, a course committee is required in order to ensure effective running of this degree programme. The committee is comprised of the three academic members of staff that were employed specifically to teach on this degree programme (GD, DU, TC), the Director of Undergraduate Teaching

and Learning in the School of Biochemistry and Immunology (as the Neuroscience degree is nominally affiliated to this School for administrative reasons), representatives from all other academic units that contribute to the degree programme, and the Academic and Outreach Officer in TCIN who has administrative oversight of the degree programme. The Academic and Outreach Officer will also act as student liaison and representative on the Committee.

Terms of reference: This committee will govern the effective running of the Neuroscience degree programme from both an academic and administrative perspective, and will report to the Course Director of TR071 (Science) via the TR071 course management committee. The membership of the Neuroscience degree course committee is to be included in the “Committees” section of the University Calendar.

Meetings: The committee will meet on the first and penultimate Thursday of each Semester.

The Neuroscience degree course committee comprises:

Dr. Gavin Davey (GD), Senior Lecturer in Neuroscience, Senior Sophister co-ordinator and Director, Neuroscience degree programme (Chair)

Dr. Daniel Ulrich (DU), Lecturer in Neuroscience & Junior Sophister co-ordinator

Dr. Thomas Connor (TC), Senior Lecturer in Neuroscience

Dr. Vincent Kelly – Director of Undergraduate Teaching and Learning, School of Biochemistry and Immunology

Mr. Paul Glacken – Anatomy

Dr. Aine Kelly – Physiology

Dr. Kevin Mitchell – Genetics

Dr. Andrew Harkin – Pharmacy

Dr. Paula Murphy – Zoology

Prof. Shane O’Mara – Psychology

Ms. Gillian Roddie – Academic and Outreach Officer, TCIN

Extramural Course: 21st Century Brain

In 2009, TCIN launched a new Extramural Course in Neuroscience, entitled 21st Century Brain. The course is an 18 week series of lectures (9 weeks per term) that is open to all members of the general public. The course lectures cover a variety of topics including Alzheimer’s’ Disease and MRI, Stem Cells, therapeutic neuro-modulation and neuroimmunology (among others) with each weeks’ lecture being delivered by a TCIN PI. The course has been advertised locally in the Trinity College Extramural Handbook but due to the overwhelming success of the course it will be more widely publicised in coming years.

MEETINGS

Meetings Held:

Neuroscience Ireland 2009 On 10th and 11th September TCIN hosted the 3rd Annual Neuroscience Ireland meeting in conjunction with the Science Gallery. The conference had 175 attendees including 8 invited speakers from the UK and the US, and hosted delegates from a range of Irish, European and International Universities.

International Brain Awareness Week took place from 9h to 13th March 2009. TCIN, in conjunction with the NAI and a number of NAI member groups, hosted events to raise the Brain Awareness Week.

On Wednesday 11th March 2009 TCIN and Headway Ireland hosted Living with a Disordered Brain - Life after Brain Injury, a panel discussion with Professor Ian Robertson of TCIN and a number of invited speakers.

On Thursday 12th March TCIN and Brainwave, the Irish Epilepsy Association, hosted a morning of lectures to commemorate the bicentennial anniversary of Robert Bentley Todd, one of the co-discoverers of Epilepsy and a Trinity Alumnus.

The final of Neurospeak was also held during Brain Awareness Week, with Liz Keogh, 2nd Yr HRB PhD, invited forward to speak at the TCD Science Speak competition.

An international conference organized by Dr Kevin Mitchell (TCIN) entitled “Wiring the Brain: from Genetic to Neuronal Networks” was held on April 21st-24th, 2009, Adare, Co. Limerick, Ireland

Planned Meetings:

International Brain Awareness Week (March 2010): TCIN will be co-hosting the Brain Awareness Week conference in the Science Gallery.

June 2010: The 17th Annual meeting of the PsychoNeuroImmunology Research Society will be held in Dublin in June 2010 and the local committee is chaired by Dr Tom Connor.

INDUSTRIAL COLLABORATIONS

GSK: Professor Shane O'Mara has formed an industrial collaboration with GSK, this collaboration also includes: Professors Rose-Anne Kenny, Brian Lawlor, Marina Lynch, Ian Robertson and Michael Rowan

Dr. Veronica Campbell has formed an industrial collaboration with **GW Pharmaceuticals**.

Dr Christian Kerskens has a collaborations with **Philips and Bruker BioSpin MRI Ltd**.

Prof. Peter Humphries has industry collaborations with **Wyeth Pharmaceuticals**.

Professor Marina Lynch has industry collaborations with **Opsona, Vasogen Ireland and Amarin**:

Dr Fiona Newell and Professor Hugh Garavan are currently collaborating with **Unilever PLC**.

Professors Rose-Anne Kenny, Brian Lawlor, Ian Robertson and Richard Reilly, together with PIs in other 3rd level institutes in Ireland are currently collaborating with **Intel**.

PATENTS FILED

Professor Peter Humphries

1. Allele suppression: Patent Reference. No. PCT-GB97-00574
2. UTR suppression & replacement: Patent Reference. No. PCT-GB96-02357
3. Wobble strategy: Patent Reference. No. PCT-GB97-00929
4. Methods and Reagents for Treating Diseases. No. PCT/GB/2005/000626.

Dr Julie Kelly

1. Compounds that modulate TRH actions. (Irish Patent Application 2004/0669; PCT filed, October 3, 2005).
2. TRH-like peptide derivatives as inhibitors of the TRH-degrading ectoenzyme (Application number: PCT/IE01/00027; US 0030166944; Priority date, February 17, 2000)
3. Methods for modulating the levels and effects of TRH and TRH-related peptides (Irish Patent Application 2006/0253; Priority date: March 31, 2006.). With Dr GJ. Farrar.

Professor Marina Lynch

1. Compositions and methods relating to the modulation of an immune-mediated response. Preliminary Irish Patent Application. Filed 21/09/2005 (with KHG Mills and C Costelloe.)
2. Methods and compounds for the treatment of cognitive dysfunction. UK patent application. Filed 13/04/2005. (with KHG Mills, B Keogh, C Costelloe.)
3. Treatment of Age-Related Memory Impairment (Filed 25/09/2004 (PCT); PCT/CA/2004/001750; Filed 9/07/2004 (US)10/888,343; Filed 29/10/2004 (Taiwan) 093133213 (all filed by Vasogen Ltd with Drs A Mandel and AE Bolton)

4. Multiple Sclerosis Treatment; Filed 14/09/2005 (Gulf Co-operation Council)GCC/P/2005/5165; Filed 15/09/2005 (Malta) 2983; Filed 14/09/2005 (PCT) PCT/EP2005/009994; Filed 14/09/2005 (Peru) 001065.2005; Filed 15/09/2005 (Taiwan) 094131868; Filed 14/09/2005 (US) 11/227,984; Filed 15/09/2005 (Uruguay) 29.119; Filed 15/09/2005 (Venezuela) 01884-2005 (all filed with Vasogen Ireland Ltd with Drs YM Nolan, A Mandel and AE Bolton).

Professor Ian Robertson

A test method for ADHD response (Irish Patent Application S2004/0235; Filed April 2, 2004)

PUBLICATIONS

TCIN publishes in over 173 international journals in the broad field of Neuroscience and Behaviour. We have over 450 publication in the last 3 years with an average impact factor of 6.1; breaking this down further we find that 10% of our publications have an impact factor greater than 10 and 20% have an impact factor greater than 8.

TCIN's publications 2007-2009

Rank	No of Pubs(3yr)	Abbr J Title
1	15	NEUROBIOL AGING
2	12	BIOL PSYCHIAT
3	12	J NEUROSCI
4	11	NEUROPSYCHOLOGIA
5	10	NEUROSCI LETT
6	9	BRAIN BEHAV IMMUN
7	9	J NEUROL NEUROSUR PS
8	9	EUR J NEUROSCI
9	9	PSYCHIAT RES
10	8	BRAIN RES
11	7	HUM MOL GENET
12	7	SCHIZOPHR RES
13	7	J NEUROCHEM
14	6	BRIT MED J
15	6	P NATL ACAD SCI USA
16	6	BRAIN
17	6	NEUROIMAGE
18	6	INT J GERIATR PSYCH
19	5	LANCET
20	5	ARCH GEN PSYCHIAT
21	5	NEUROPSYCHOPHARMACOL
22	5	J IMMUNOL
23	5	J COGNITIVE NEUROSCI
24	5	J BIOL CHEM
25	5	J AM GERIATR SOC
26	5	J INT NEUROPSYCH SOC
27	5	BEHAV BRAIN RES
28	5	AGE AGEING
29	5	Q J EXP PSYCHOL
30	4	STROKE
31	4	HIPPOCAMPUS
32	4	INT J NEUROPSYCHOPH
33	4	J NEUROPHYSIOL
34	4	NEUROPHARMACOLOGY
35	4	NEUROSCIENCE
36	4	EUR J HUM GENET
37	4	EUR J PHARMACOL
38	3	NAT GENET
39	3	MOL PSYCHIATR
40	3	CEREB CORTEX

No of Pubs(3yr)	Abbr J Title	5-Year Impact	J Rank by IF	Cumulative % of pubs
2	NEW ENGL J MED	49.911	1	0.441501104
1	NAT REV IMMUNOL	31.246	2	0.662251656
1	NAT MED	28.965	3	0.883002208
5	LANCET	27.264	4	1.986754967
3	NAT GENET	26.446	5	2.649006623
2	BEHAV BRAIN SCI	19.355	6	3.090507726
2	IMMUNITY	17.916	7	3.53200883
5	ARCH GEN PSYCHIAT	17.272	8	4.635761589
1	NAT NEUROSCI	16.825	9	4.856512141
1	J NATL CANCER I	16.03	10	5.077262693
2	NEURON	14.857	11	5.518763797
2	PLOS BIOL	14.662	12	5.960264901
1	TRENDS NEUROSCI	14.475	13	6.181015453
1	TRENDS COGN SCI	13.826	14	6.401766004
2	LANCET NEUROL	13.748	15	6.843267108
1	PROG NEUROBIOL	12.346	16	7.06401766
3	MOL PSYCHIATR	11.937	17	7.726269316
1	AM J HUM GENET	11.306	18	7.947019868
2	AM J PSYCHIAT	10.806	19	8.388520971
6	BRIT MED J	10.665	20	9.713024283
6	P NATL ACAD SCI USA	10.228	21	11.03752759
6	BRAIN	9.808	22	12.36203091
1	GENOME RES	9.678	23	12.58278146
1	ARCH INTERN MED	9.665	24	12.80353201
2	NEUROSCI BIOBEHAV R	9.563	25	13.24503311
1	EUR HEART J	9.275	26	13.46578366
1	GUT	9.25	27	13.68653422
1	CURR OPIN NEUROBIOL	9.143	28	13.90728477
12	BIOL PSYCHIAT	9.015	29	16.55629139
1	J AM CHEM SOC	8.256	30	16.77704194
2	STEM CELLS	8.212	31	17.21854305
12	J NEUROSCI	8.122	32	19.86754967
1	CANCER RES	7.98	33	20.08830022
1	GENOME BIOL	7.812	34	20.30905077
7	HUM MOL GENET	7.593	35	21.85430464
1	CAN MED ASSOC J	7.559	36	22.07505519
1	DEVELOPMENT	7.218	37	22.29580574
3	CEREB CORTEX	6.939	38	22.9580574
6	NEUROIMAGE	6.884	39	24.28256071
4	STROKE	6.872	40	25.16556291
3	NEUROLOGY	6.857	41	25.82781457

A detailed list of our publications is available on our website at the following URL:
<http://www.tcd.ie/Neuroscience/about/Publications2009Final-j.pdf>

PERSONNEL IN TCIN (APPENDIX 1)

Current Principal Investigators, Postdoctoral Fellows, Postgraduate Students

Principal Investigator	Affiliation	Postdoctoral Fellows	Postgraduate Students
Prof. Roger Anwyl	School of Medicine (Physiology)	Phillip Welsby Sarah Harney Qin-Wen Fang Jianqun Wu	Lan Wang
Dr Arun Bokde	School of Medicine (Psychiatry)		Elizabeth Kehoe Joanna Connolly
Prof. Ruth Byrne	School of Psychology	Dr. David Beltran	Alex Pereda James Dixon
Prof. Veronica Campbell	School of Medicine (Physiology)	Aoife Gowran	Janice Noonan Baby Maloor Manoj Kanichai
Dr. Thomas Connor	School of Medicine (Physiology)	Eadaoin Griffin	Eimear Fagan Dana Kilroy Karen Ryan Jennifer Day Katie Ryan Eimear Fagan Martina Hughes
Dr. Thomas Connor/ Dr Andrew Harkin	School of Medicine (Physiology)/ School of Pharmacy	Sinead Gibney	
Dr. Thomas Connor/ Dr Julie Kelly	School of Medicine (Physiology)/ School of Biochemistry and Immunology		Jennifer Day
Dr. Colm Cunningham	School of Biochemistry		Carol Murray
Dr. Gavin Davey	School of Biochemistry and Immunology	Jayne Telford	Emma Williams Stephen Quinn
Dr. Gavin Davey/ Prof. Keith Tipton	School of Biochemistry and Immunology		Laura Brady Aoife Cullen Wenhao Fu Aldo Oliveiri
Dr. Gavin Davey/ Prof. Michael Rowan	School of Biochemistry and Immunology /School of Medicine (Pharmacology & Therapeutics)		Jayne Telford
Dr. Gary Donohue	School of Medicine	Dr. Ilaria Spoletini	Therese O'Donoghue Rosie Peel
Dr. Jane Farrar	Genetics		Carol Loscher
Prof Thomas Frodl	School of Medicine (Psychiatry)	Francesco Amico Angela Carballedo	Danutia Lisiecka

Principal Investigator	Affiliation	Postdoctoral Fellows	Postgraduate Students
Prof. Hugh Garavan	School of Psychology		Adam Stone Aisling Ni Shiochain Jennifer Jones Brendan Behan Philip Murphy
Prof. Michael Gill	School of Medicine (Psychiatry)		Lynne Cochrane
Prof. Harald Hampel	School of Medicine (Psychiatry)	Arun Bokde Michael Ewers Yemi Faluyi Joshua Maduwuba Catherine Delaney	Laurence O'Dwyer
Dr. Andrew Harkin	School of Pharmacy		Aine Abautret-Daly Lorna Gleeson Natacha Vanattou Jenniffer Rouine Valentina Gigliucci
Prof. Orla Hardiman	School of Medicine	Simon Cronin Julie Phukan Arif Shukralla	Paul Brennan Deirdre Fitzgerald Catherine Lynch RGN Bernie Corr RN (CNM2) Belinda Ennis (RA)
Prof. Peter Humphries	Genetics	Alison Reynolds	
Dr. Aine Kelly	School of Medicine (Physiology)		Rachel O'Callaghan Eadaoin Griffin Amy Birch Ranya Bechara
Dr. Julie Kelly/ Dr. Jane Farrar		Amanda Tivnan	
Dr. Christian Kerskens	School of Medicine		Jennifer Cooke Michael Kelly Joseph Gallagher
Prof. Marina Lynch/ Dr. Christian Kerskens	School of Medicine		Christoph Blau
Dr. C. Simms/ Dr. Christian Kerskens	School of Engineering		Kevin Moerman
Prof. RoseAnne Kenny	School of Medicine (Gerontology)	Dr Amilcar Moriera Dr Yumiko Kamiya Dr. Patricia Kearney Dr. Chie Wei (Mimi) Fan Dr. Joe Harbison Dr. Conal Cunningham	Dr. Orla Collins Dr. Hilary Cronin Dr. Sean Kennelly Claire O'Regan Dr. Clodagh O'Dwyer Dr. Lisa Coogan Dr. Roman R. Ortuno Ciaran Finucane Tim Foran Claire Sommerville Donal Skelly

Principal Investigator	Affiliation	Postdoctoral Fellows	Postgraduate Students
Prof. Brian Lawlor	School of Medicine (Psychiatry)		Dr. Orla Collins Dr. Conor O’Lunaigh Dr. Sean Kennelly Dr. Roman Ortuno
Prof. Marina Lynch	School of Medicine (Physiology)	Anthony Lyons Eric Downer Thelma Cowley Joan O’Sullivan Anne-Marie Miller Derek Costello	Melanie Watson Laura Kelly Kevin Murphy Julie-Ann O’Reilly Brian Deighan Ronan Kelly Rodrigo Gonzales Belinda Grehan Fionnuala Cox
Prof. Kingston Mills/ Prof. Marina Lynch	School of Biochemistry and Immunology		Aine Murphy Keith McQuillan
Prof. Kingston Mills	School of Biochemistry and Immunology	Stephen Lalor	
Prof. Marina Lynch	School of Medicine Physiology		Brendan Behan Deborah Keane Riffat Tanveer Raasay Jones
Dr. Kevin Mitchell	Genetics	Annette Runker Francesc Perez Branguli Karen Walshe Tatsuya Okafuji	Graham Little Suzanne Miller Jackie Dolan Sonia Nemaikallu Joseph Gallagher
Prof. Declan McLoughlin	School of Medicine (Psychiatry)	Catherine Dempsey Maria Semkovska Antonino Glaviano Ross Dunne MB	Sinead O’Donovan Martha Noone Adam Kavanagh MSc
Dr. Fiona Newell	School of Psychology	Jason Chan Cristina Simoes Erik O’Hanlon	Aisling Whitaker Joanna McHugh Iwona Pomianowska Daniel Rogers
Prof. John O’Doherty	School of Psychology	Ryan Jessup Arun deSouza	
Prof. Shane O’Mara	School of Psychology	Sinead Mullally Andrea Della Chiesa Marian Tsanov Vincent Hok Charlotte Callaghan	Sally Barlow Gillian Cooke Alan Blighe Muireann Irish Frank Roche Kimberly Smith Joanne Feeney Johannes Passecker

Principal Investigator	Affiliation	Postdoctoral Fellows	Postgraduate Students
Prof. Mani Ramaswami	Genetics	Vimlesh Kumar Jens Hilebrand Eimear Holohan Adrian Dervan Krisztina Foltenyi Joern Huelsmeier	Bidisha Roy** Cathal McCann Alex Morrison**
Prof. Mani Ramaswami/ Dr. Kevin Mitchell		Susy Kim Genny Orso	Aoife Larkin **registered abroad
Prof. Ian Robertson	School of Psychology	Paul Dockree Katherine Johnson Laura McAvinue Nils Penard Andy Cochrane Simon Finnegan Wouter Braet Redmond O'Connell	Doreen Hoerold Sabina Brennan Agniescka Lopez Sian Counihan Michelle Mc Cormack
Prof. Michael Rowan	School of Medicine (Pharmacology & Therapeutics)	Igor Klyubin Tomas Ondrejcek William Cullen	Andrew Barry, NengWei Hu, Yingjie Qi, Ben Ryan, Juan Carlos, Toledo Salas
Prof. William Torregiani **	School of Medicine		
Dr. Daniel Ulrich	School of Medicine (Physiology)		