



COMMERCIALISATION
NUI MAYNOOTH

CONNECT + INNOVATE

QUARTERLY NEWSLETTER
Q2 2011

Welcome to the latest edition of the information sharing newsletter from the National University of Ireland Maynooth Commercialisation Office. Our goal is to share the latest news and activities on the commercialisation of NUI Maynooth research. We hope you enjoy the newsletter.

Please visit our new website
www.commercialisation.nuim.ie

FUNDING OPPORTUNITIES AVAILABLE NOW

For further information on all of these calls please visit our website
<http://commercialisation.nuim.ie/news-and-events/>

Internal Funding Opportunity **Commercialisation Seed Fund Call**

The Commercialisation Office currently has seed funding available to support new and commercially viable projects within NUI Maynooth. To apply for this fund please submit a one page project description to commercialisation@nuim.ie If you have any questions please call us on (01) 708 6589.

External Funding Opportunities **Science Foundation Ireland Call**

1. Technology Innovation Development Award (TIDA) Feasibility Study 2011

Enterprise Ireland Commercialisation Fund Calls

1. Commercial Case Feasibility Support
2. Commercialisation Fund

NDRC Call

1. NDRC LaunchPad Programme

RESEARCHER PROFILES CHEMISTRY



**Dr Niall Finnerty
and Dr Fiachra Bolger**

Dr. Niall Finnerty is a post-doctoral researcher in the Department of Chemistry. His research to date includes the characterisation of an electrochemical sensor for the real-time monitoring of nitric oxide (NO) in the extracellular fluid of the brain. The sensor has been characterised in a model of schizophrenia whereby real-time increases in NO following administration of phencyclidine have been confirmed for the first time. His research also developed and characterised a novel sensor for cerebral blood flow determinations that is undergoing preliminary *in-vivo* investigations. Niall received his PhD in 2008 under the supervision of Prof. John P. Lowry and his current project is the characterisation of a novel electrochemical sensor for the determination of dopamine in brain extracellular fluid.

Dr. Fiachra Bolger is a post-doctoral researcher in the Bioanalytics Laboratory in the Department of Chemistry. His research interests are based on the design and subsequent *in-vitro* and *in-vivo* characterisation of sensors and biosensors for neurochemical studies of brain energy metabolism specifically in relation to oxygen, lactate and glucose. Fiachra received his PhD from the Department of Chemistry in NUIM in 2007 under the supervision of Prof. John P. Lowry and has subsequently undertaken a post-doctoral position to further the research started during his PhD focusing on the *in-vivo* characterisation of a biosensor for glutamate which is the principal excitatory neurotransmitter in the brain.

Neurochemical Analysis is used to elucidate the function and pathways of various neurotransmitter systems in the mammalian brain. Existing techniques such as Positron Emission Tomography (PET), Magnetic Resonance Imaging (MRI), Computed Tomography (CT) and microdialysis all suffer from low temporal resolution. Long-term *in-vivo* electrochemistry (LIVE) involves implanting an electrochemical sensor/biosensor into a particular brain region, applying a suitable potential profile and recording concentration changes of a wide range of biochemicals in real-time. The development of sensors enables further real-time investigation of disease states (e.g. schizophrenia), various compounds (e.g. alcohol) and traumatic brain injury that disrupt normal brain energy metabolism.

Fiachra and Niall are about to embark on a two year project with a goal to modify the existing LIVE sensors for use in the clinical environment. The technology portfolio as it stands includes sensors/biosensors for oxygen, glucose, lactate, glutamate and NO. They have recently received Enterprise Ireland funding to develop this platform technology to a standard acceptable ethically and functionally for use in the clinical environment. Following consultations, clinicians have highlighted the problem of accessing *real-time* data on important analytes that exists in many clinical applications. Real-time monitoring of neurochemical levels during operations (e.g. traumatic brain injury, hemorrhagic stroke) is not currently possible, but it is clinically accepted that this information would greatly enhance surgical outcomes. In addition, clinicians advise that recovery from cardiac operations could be significantly improved if real-time data on lactate, glucose and tissue O₂ levels were available.

CONNECT 2011 CONNECT 2013

Photo – delegates attending
Connect 2011 at Carton
House Maynooth.



CONNECT 2011 hosted by the Commercialisation Office, NUI Maynooth in Carton House in April, was attended by over 250 delegates. The purpose of the biennial event is twofold, to showcase the research expertise at NUI Maynooth and to provide a networking opportunity for delegates to ‘connect + innovate’.

The keynote speakers included Co-founder of **Creganna Tactx Medical**, Niall Quinn who highlighted the need for businesses to continue to adapt and respond to the market place. Jennifer Craig, CEO of NUI Maynooth spinout company **CereBeo**, addressed the issues facing start-up technology companies, including access to funding and R&D. Francis Mullany, Bell Labs Technical Manager, discussed **Bell Labs’** ongoing involvement with NUI Maynooth and illustrated the practical aspects of working with academics. Richie Paul, **Elan** Head of Intellectual Property also gave real world examples of the benefits accruing from accessing university expertise. **Richard Curran**, Journalist spoke about the current Irish situation and the future prospects of job creation. Ciaran Crean of **MicksGarage** spoke about his experience of thriving in an eCommerce business during a recession.

‘NUI Maynooth is opening its doors to the business community. Both nurturing and developing good business ideas are essential to Ireland’s economic recovery. Partnerships established at NUI Maynooth Connect will help to generate employment, increase exports and raise revenue. R&D can be an expensive and difficult process which many businesses struggle to carry out successfully. Working in partnership with NUI Maynooth, these barriers can be overcome’, said **Dr John Scanlan**, Director of Commercialisation at NUI Maynooth. Companies that also attended the event range from large organisations like Alltech and Intel to small and medium enterprises like Printpac (Dublin), Viadynamics (Waterford) and Xyea (Galway). Led by Commercialisation, over 50 of NUI Maynooth’s top researchers from its science, business and engineering departments were present at the event to help businesses overcome technical obstacles to enable them to bring new products and services to market. Enterprise Ireland grants are available to companies who wish to work with academic experts at NUI Maynooth.

Connections made at Connect 2009 allowed Shimmer Research and Tune presto to avail of NUI Maynooth expertise to develop new technologies and take their business to the next level.

If you would like to be included on our mailing list for **CONNECT 2013** please email commercialisation@nuim.ie

STUDENT ENTREPRENEUR COMPETITION FINAL

Photo – the judges and finalists of the 2011 Student Entrepreneur Competition.



The winner of the 2011 Student Entrepreneur Competition was Alvaro Palomo Navarro. His company eBitez plans to develop smart phone application software to lead the next generation of supermarket online shopping. Alvaro is a final year electronic engineering PhD student. Sponsors of the 2011 competition were Bank of Ireland Maynooth and McCann Fitzgerald Solicitors. The judging panel for the final included Conor Boyce, Patent Attorney, FRKelly; Paul Lavery, Solicitor, McCann Fitzgerald; Teresa Gorman, Manager, Bank of Ireland, Maynooth and Conor Mallaghan, MD, Carton House.

- 1st Prize €6,000 Alvaro Palomo Navarro of eBitez
- 2nd Prize €3,000 Paul Kavanagh of Momentum
- 3rd Prize (joint) €500 Keith Walsh & Mark Reynolds of ProDesign Embroidery
- 3rd Prize (joint) €500 Kevin Quinn & Martin Lonergan of HorseBase

Momentum provides an online opportunity for individuals to start their own personal campaign to publicise consumer related issues they want to see resolved in their local area/country – Paul is a Masters student of software engineering, ProDesign Embroidery is an established company offering custom embroidery for sports footwear and clothing and has a contract with Lifestyle Sports – Keith and Mark are undergraduate business students. HorseBase is an online marketplace for quality Irish sports horses providing a one-stop-shop service. Kevin and Martin are undergraduate business students (Venture Management).

The 2012 Student Entrepreneur Competition will kick off in October 2011 so now is a good time to start thinking about ideas!

QUESTIONS + COMMENTS

commercialisation@nuim.ie
www.commercialisation.nuim.ie

Tel +3531 708 6589
Commercialisation
NUI Maynooth, Co Kildare