



NovaUCD Report 2007



The Innovation and Technology Transfer Centre
An Lárionad Nuála agus Aistrihe Teicneolaíochta



University College Dublin
An Coláiste Ollscoile, Baile Átha Cliath



NovaUCD Report 2007

Contents

Introduction	2
Foreword	4
NovaUCD	6
Technology Transfer	8
Campus Companies and Entrepreneurs	14
Training	26
Communications and Developing Links	29
Personnel	31
Location Map and Directions	32

April 2008

Introduction

Irish universities have a critical role to play in developing and sustaining Ireland's knowledge and innovation-led economy. At UCD we have undergone a major change programme and we have made significant progress towards achieving our vision of becoming a leading international research-intensive university.

A major objective for the University is to contribute to the social, economic and cultural objectives of a knowledge society. In this regard our research base is increasingly seen as a national resource which must generate many of the innovative ideas and new ventures necessary for sustaining Ireland's industrial competitiveness and attracting industrial investment into collaborative research.

At present UCD's Innovation Strategy, Foundation Phase (2009-2013) is being prepared. High level policy goals for this strategy include, growing of UCD's innovation culture; meeting the expectations of the Government's Strategy for Science, Technology and Innovation (2007-2013); supporting the varied career paths for post-doctoral students and researchers and positioning UCD for future external income.

Building and developing long-term strategic partnerships with industry is critical for the achievement of UCD's vision. These partnerships enable increased opportunities for collaborative research between both parties. They also facilitate the commercialisation of UCD research by providing UCD with greater access to markets and licensing opportunities and they also enable the industrial partner to have early access to UCD commercial opportunities.

The four recently announced Science Foundation

Ireland (SFI) Strategic Research Cluster awards valued at over €25 million and the SFI CLARITY CSET (Centre for Science, Engineering and Technology) led by UCD researchers form the backbone for these developments. The Strategic Research Clusters, which involve industry partners such as Airtricity, Biotrin, DePuy, Genzyme Ireland, Intel and Pfizer along with other third level institutions, will all focus on a research area of strategic importance for Ireland's knowledge-based future.

Collaboration with the industry and the business community is likely to accelerate at UCD with the development of the 10.3 ha Belfield Innovation Park in the southwest corner of the campus next to NovaUCD. Belfield Innovation Park will provide accommodation for a number of research-intensive enterprises, which are beyond the start-up phase, for spin-out companies from NovaUCD and for other companies entering into strategic research partnerships with the University.

NovaUCD is responsible for the commercialisation of intellectual property arising from UCD research programmes and for the development of co-operation with the industry and business communities.

In 2007 UCD researchers submitted 50 invention disclosures to NovaUCD an increase of 35% on the number submitted in 2006. During 2007 UCD filed a total of 26 patent applications, including 9 priority patents and signed 8 licence agreements with a range of indigenous and international companies. Four new UCD spin-out companies were also incorporated. Given the significant expansion of NovaUCD's technology transfer team which is supported by Enterprise Ireland the growth in

commercial activity at UCD is likely to be accelerated in the future.

NovaUCD's continued success would not be possible without the financial support and confidence of its initial public-private partnership involving: AIB Bank, Arthur Cox, Deloitte, Enterprise Ireland, Ericsson, Goodbody Stockbrokers, UCD and Xilinx.

UCD, through NovaUCD and with the continuing support of its strategic partners, is committed to the successful commercialisation of its research programmes and the development of a culture of innovation and entrepreneurship among researchers, staff and students on the university campus.

Dr Hugh Brady

President

University College Dublin



Foreword

NovaUCD the Innovation and Technology Transfer Centre at UCD offers a comprehensive programme and facilities to support the commercialisation of UCD research and other knowledge-intensive activity.

The growing level of R&D expenditure in UCD is fuelling the generation of increasing numbers of invention disclosures and other commercial opportunities. International experience has shown that successful realisation of these commercial opportunities is best achieved with the support of a strong and professional technology transfer office such as NovaUCD.

A key development for NovaUCD during the year was the significant expansion of the technology transfer team. Five new staff members were added with the support of the Enterprise Ireland €30 million initiative to strengthen University Technology Transfer Offices. Given the increasing pressures to demonstrate a return on the growing level of public investment in R&D and the long lead time involved in the successful commercialisation of the resulting intellectual property, this support from Enterprise Ireland was a very timely and welcomed initiative.

Another key development was the establishment of the €30 million AIB Seed Capital Fund which has located at NovaUCD. The Fund, which is being equally funded by AIB and Enterprise Ireland was the first fund to be established under Enterprise Ireland's €175 million Seed and Venture Capital Scheme 2007-2012. The Fund will focus on early stage high-potential start-ups such as those spinning out from UCD research.

In the last year, considerable progress has also been made in developing the UCD community of innovators and entrepreneurs and in

commercialising their research outputs mainly through licensing and new venture formation.

Key achievements during the last year include:

- Fifty inventions disclosures were reported to NovaUCD, an increase of 35% from the previous year
- Nine priority patent applications were filed by UCD across all areas of life sciences, engineering and information communication technology
- Nine PCT and eight national/regional patents were also filed
- Eight licence agreements were concluded with a range of indigenous and international companies
- Four new UCD spin-out companies were incorporated
- UCD's most successful licence to date which relates to the development of a BSE (Bovine Spongiform Encephalopathy) test has now earned over €2 million in royalty income for UCD
- BiancaMed, Celtic Catalysts, Lightwave Technologies and Visor, amongst others, successfully raised funding
- The promoters of nine new ventures completed the NovaUCD 2007 Campus Company Development Programme
- The NovaUCD 2007 Innovation Award was presented to Professor Ciaran Regan, UCD School of Biomolecular and Biomedical Science

- 24 knowledge-intensive ventures occupying 88% of the incubation space were located at NovaUCD at year end
- A total of nine companies have now graduated from NovaUCD to make way for new clients as part of NovaUCD's strategy of continuously refreshing our community of entrepreneurs
- NovaUCD and Simpson Financial and Technology PR were recognised for excellence in public relations at the 2007 PRCA (Ireland) Awards for Excellence in Public Relations.

During 2007 NovaUCD also continued with its various initiatives to support researchers and entrepreneurs.

- NovaUCD arranged and hosted 120 events to increase awareness of intellectual property and other commercial issues and to promote a culture of entrepreneurship and innovation among researchers, students and staff at UCD
- NovaUCD developed PhD modules in Innovation and Knowledge Transfer which are delivered as part of UCD's Graduate Studies' Structured PhD Programme
- Increasing levels of support were provided by NovaUCD and the NovaUCD Network for innovators and entrepreneurs in bringing their ideas from the research laboratory through proof-of-principle and prototype development to successful commercialisation.

NovaUCD was also involved in a number of international organisations including AURIL, Institute of Knowledge Transfer and ProTon Europe. The aim is to enhance the contribution of universities to innovation by increasing the efficiency of knowledge transfer and university/industry collaboration and enhancing the

status and recognition of the knowledge transfer profession.

These and other developments are outlined further in this Report.

Dr Pat Frain
Director, NovaUCD



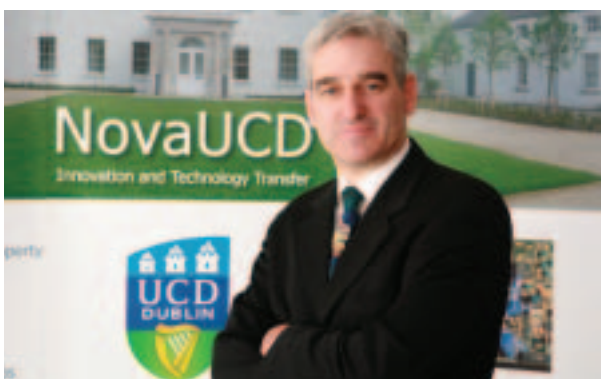
Key 2007 Metrics

- 50 invention disclosures
- 9 priority patent applications
- 9 PCT patent applications
- 8 national/regional patent applications
- 8 licence agreements
- 4 new UCD spin-outs incorporated

NovaUCD

NovaUCD which officially opened in October 2003, is the Innovation and Technology Transfer Centre at University College Dublin. NovaUCD's vision is to become an international leader in the commercialisation of research and other knowledge-intensive activity for the benefit of the economy and society.

During 2007 Professor Mark Keane was appointed Vice-President for Innovation at University College Dublin. The role of the Vice-President for Innovation is to be the focal point for UCD's commitment to knowledge transfer, entrepreneurship and external partnerships. In this role Professor Keane is working closely with NovaUCD, which is responsible for the commercialisation of intellectual property arising from UCD research programmes.



Professor Mark Keane

Since the establishment of NovaUCD the level of commercialisation of research-generated intellectual property at UCD has increased. As the level of research and innovation increases in volume and sophistication the implementation of UCD's commercialisation strategy by NovaUCD is of critical importance to enable UCD to fulfill its key strategic objective of contributing to the social, economic and cultural objectives of a knowledge society.

Building on prior successes in technology transfer and campus company development, NovaUCD's main objectives include:

- Increasing the early identification, capture, protection and commercialisation of intellectual property
- Promoting entrepreneurship and assisting in the development of campus companies with particular emphasis on spin-out companies
- Developing collaborative arrangements and partnerships with industry
- Increasing awareness and knowledge of commercialisation and creating a culture of innovation and entrepreneurship.

Dr Pat Frain, Director of NovaUCD leads a team of 17 professional staff with expertise and experience in technology transfer, new venture formation, communications and continuing professional development.

NovaUCD is located in a magnificent mid-18th century house formerly known as Merville House. NovaUCD is a purpose-built state-of-the-art innovation and technology transfer facility which was designed specifically to facilitate the development of a community of entrepreneurs. The concept for the centre was to restore the original house as the centrepiece of a complex of subsidiary buildings that surround it. The buildings are bright, airy and open with high-quality shared and circulation spaces that encourage the formal and informal interactions necessary for the development of a community of entrepreneurs.

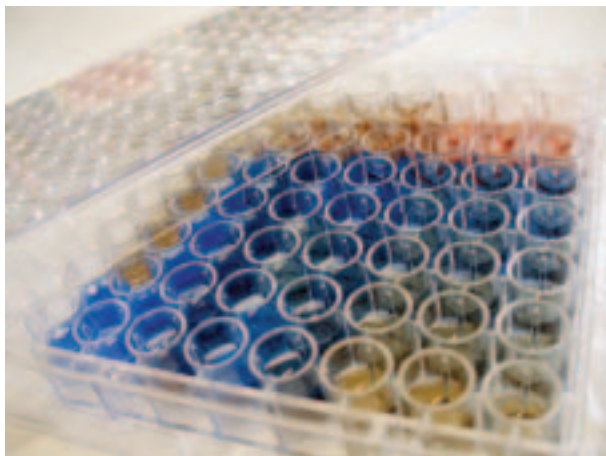


NovaUCD Reception Area

This conversion to a modern innovation and technology transfer centre was funded by a unique public-private partnership. Six private sector sponsors - AIB Bank, Arthur Cox, Deloitte, Ericsson, Goodbody Stockbrokers, and Xilinx contributed 75% of the €10 million raised to develop the first two phases (3,750m²) of the complex. These sponsors were chosen to bring an appropriate mix of expertise and experience to the support programmes offered by NovaUCD. The balance of funds for the first two phases was contributed by Enterprise Ireland and UCD. Additional 'wet-lab' facilities and equipment to accommodate biotechnology start-up companies was funded (€1.3 million) by Enterprise Ireland and UCD.

Technology Transfer

NovaUCD is responsible for the implementation of UCD policies relating to intellectual property and for the provision of advice on the identification, protection and exploitation of this intellectual property. NovaUCD works with UCD researchers in identifying the most appropriate model for the commercialisation of the intellectual property arising from their research programmes which may involve licensing to commercial partners or the creation of spin-out companies.



UCD 2007 Images of Research: The Protein Assay Blues, Mr Tomas Lau, UCD School of Biomolecular and Biomedical Science

NovaUCD's technology transfer team has been significantly expanded during the year as part of the Enterprise Ireland initiative to strengthen University Technology Transfer Offices. Enterprise Ireland's investment at UCD, under the €30 million Technology Transfer Initiative has enabled NovaUCD to employ three additional experienced technology transfer professionals as well as a legal counsel, contracts and administrative support.

NovaUCD is involved in a number of organisations at national and international levels including, AURIL, AURIL Ireland, Institute of Knowledge Transfer and ProTon Europe. These organisations were established to enhance the contribution of universities to innovation by increasing the

efficiency of knowledge transfer and university/industry collaboration and to enhance the status and recognition of the knowledge transfer profession.

Identifying, Capturing and Protecting Intellectual Property

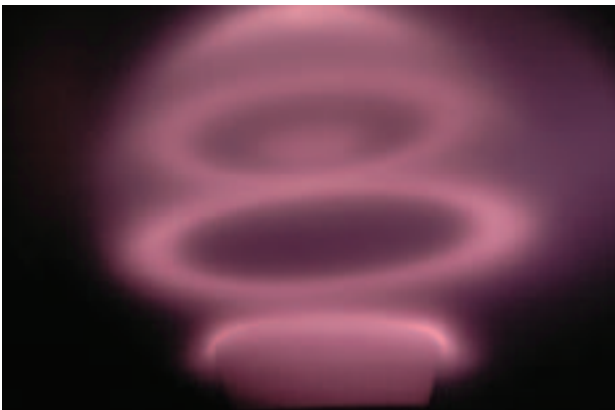
The level of research at UCD is increasing significantly. During 2006/07 UCD was awarded €96 million (including overheads) in funding from state agencies, charities, industry and other commercial organisations. Many of the research projects funded in recent years are now at a stage where intellectual property with commercial potential is becoming a reality.

NovaUCD has a structured approach to ensure that an increasing level of intellectual property is identified and captured. Members of the technology transfer team meet regularly with UCD researchers to provide advice on commercial aspects of research proposals and contracts, to monitor the progress of research projects, to provide appropriate assistance to the researchers at the different stages of their research projects and to remind researchers of UCD's contractual obligations to funding agencies.

Specific activities include:

- Preparing research contracts, non-disclosure and material transfer agreements
- Supporting researchers in identifying intellectual property, completing invention disclosure forms and performing due diligence of these forms
- Searching patent databases in association with the researchers
- Developing strategies for protection of intellectual property
- Preparing patent filings in association with patent agents

- Developing and implementing commercialisation strategies
- Meeting contractual obligations including the timely reporting of newly discovered intellectual property to the relevant funding agencies.

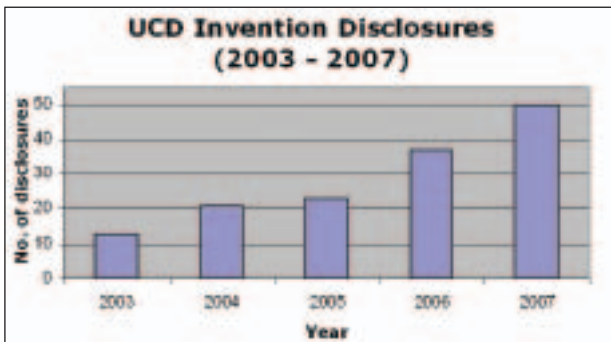


UCD 2007 Images of Research: Microwave plasma standing wave, Mr Greg Byrne with Dr Denis Dowling, UCD School of Electrical, Electronic and Mechanical Engineering

UCD 2007 Intellectual Property Metrics

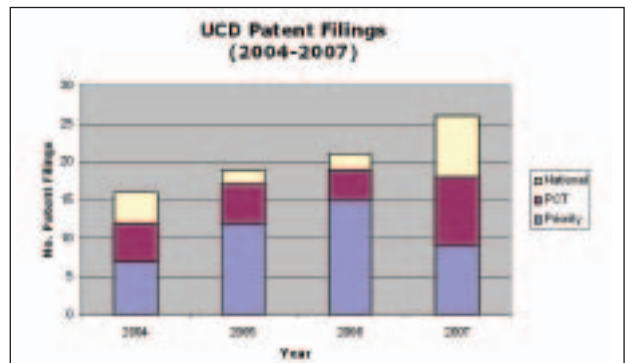
During 2007 a total of 50 invention disclosures were submitted to NovaUCD. This represents an increase of 35% in the number submitted during 2006 or a 120% increase on the number submitted in 2005. Such increases are indicative of a considerable increase in the level of intellectual property being generated across the University from its research programmes, Figure 1.

Figure 1: UCD Invention Disclosures (2003-2007)



In 2007 UCD filed a total of 26 patent applications. This figure included 9 priority patent applications across all areas of life sciences, engineering and information and communication technology, 9 PCT and 8 national/regional patent applications, Figure 2.

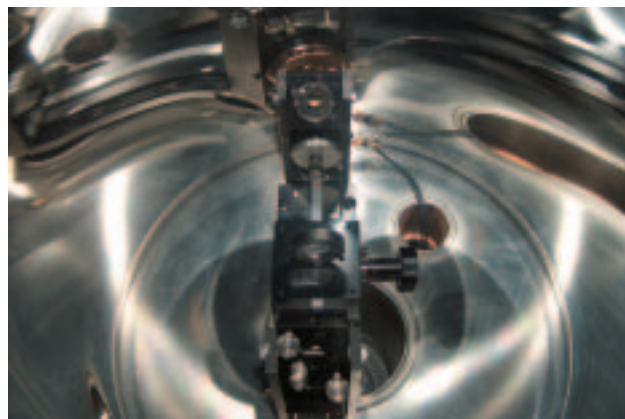
Figure 2: UCD Patent Filings (2004-2007)



Eight licence agreements were signed during 2007 with a range of indigenous and international companies. A number of these licence agreements have already collectively generated income for the University.

Exploitation of Intellectual Property

NovaUCD works closely with UCD researchers in identifying and developing the most appropriate model for commercialisation of the intellectual property arising from their research programmes. Whenever possible the intellectual property is



UCD 2007 Images of Research: Time to Reflect, Mr Oran Morris, UCD School of Physics

managed for the benefit of enterprise development in Ireland which may involve licensing to commercial partners or the creation of a spin-out company.

A number of different services form part of this process:

- Building high level market knowledge and an understanding of the relevant market sectors
- Access to advice, data and diagnostic tools
- Sourcing of licensees and marketing of inventions
- Drafting and negotiating of licence agreements
- Sourcing of finance.

UCD's most successful licence to date relates to the development of a BSE (*Bovine Spongiform Encephalopathy*) test which has now earned over €2 million in royalty income for UCD.

In 1993 a joint venture company, Pharmapro Ltd, was formed between Proteus Molecular Design Ltd, now called Protherics Medicines Development Ltd and UCD to develop commercial diagnostic tests and vaccines for animal diseases including BSE. Professor Mark Rogers, UCD School of Biology and Environmental Science carried out the BSE research and established the principle for the BSE-test.

In 1996 a small company Enfer Scientific Ltd, based in Tipperary, became interested in the BSE-test and the potential for increasing its range of services. Following negotiations a world-wide licence agreement for the developed technology was agreed with Enfer.

Enfer subsequently developed a rapid test for BSE using this technology which then became commercially viable in 1999 when the European Commission validated it as one of three tests acceptable for use in the diagnosis of BSE in Europe.

In 2001 Enfer signed a marketing and distribution agreement with Abbot Laboratories and the parties

worked together to provide a dependable and reliable service for the detection of BSE. With the first case of BSE emerging in the US at the end of 2003, a further important market became a target for the test and US Department of Agriculture approval was achieved in 2004, expanding further the opportunities for Enfer's test.

Enfer, originally a small company with two employees expanded rapidly to service the growing demand for BSE testing after the EU regulatory requirement was introduced in 2000. Its employment numbers peaked at approximately 120 employees. In 2002, with a turnover in the region of €40 million, the company separated its BSE-test business into two operations, Enfer Scientific Limited for the manufacture and sale of test kits and Enfer Testing Limited, which provides a BSE testing service and is currently the largest rapid testing facility in the world.

While UCD has now earned over €2 million in royalty income from this licensing deal, on a national level, the major return from the initial investment in research at UCD has been the success of an indigenous Irish company and the employment it has been able to create in the form of valuable scientific and technical jobs.

UCD has a growing portfolio of licensing, collaboration and business development opportunities available for exploitation by industry and campus companies. Non-confidential summaries of these technologies, which are listed on page 12-13, are available from NovaUCD.



UCD 2007 Priority Patent Applications

Title	Patent Application	UCD Inventor(s)	UCD School
A system level power evaluation methods	A priority Irish patent application	Dr Damian Dalton, Dr Andrew McCarthy and Mr Rob Quigley	Computer Science and Informatics
An encoding scheme and a decoding scheme using a series of LDPC codes based on finite inversive spaces	A priority Irish patent application	Dr Marcus Greferath, Ms Cornelia Roessing and Dr Mark Flanagan	Mathematical Science and Electrical, Electronic and Mechanical Engineering
Cluster aggregation point for load balancing in a sensor network	A priority Irish patent application	Mr Antonio Ruzzelli, Dr Raja Jurdak and Mr Gregory O'Hare	Computer Science and Informatics
FIBP as a target for manipulating ovarian follicle development	A priority Irish patent application	Professor Alexander Evans, Dr Niamh Forde, Dr Monika Mihm (University of Glasgow) and Professor Patrick Lonergan	Agriculture, Food Science and Veterinary Medicine
Method and apparatus for monitoring sleep	A priority Irish patent application	Professor Conor Heneghan, Mr Gareth McDarby and Mr Eric C-P Chua	Electrical, Electronic and Mechanical Engineering
Microwave-expanded food products	A priority Irish patent application	Professor Dolores O'Riordan, Dr Michael O'Sullivan and Dr James Lyng	Agriculture, Food Science and Veterinary Medicine
Novel bacterial strains	A priority Irish patent application	Dr Fiona Doohan and Mr Mojibur Khan	Biology and Environmental Science
Novel genes as a target for manipulating ovarian follicle development	A priority Irish patent application	Professor Alexander Evans, Dr Anna Zielak and Professor Patrick Lonergan	Agriculture, Food Science and Veterinary Medicine
Nuclear image analysis algorithms	A priority Irish patent application	Professor William Gallagher, Dr Donal Brennan and Mr Elton Rexhepaj	Biomolecular and Biomedical Science

UCD Technology Opportunities

Title	Principal Researcher(s)	UCD School
A microwaveable cheese product	Professor Dolores O’Riordan, Dr Michael O’Sullivan and Dr James Lyng	Agriculture, Food Science and Veterinary Medicine
Biomarkers for disease management and drug adherence	Professor Richard Reilly	Electrical, Electronic and Mechanical Engineering
Biomedical microarray sensor for identification of macromolecules and their structural properties using Surface Plasmon Resonance (SPR)	Dr Dominic Zerulla	Physics
High-rate LDPC codes for data storage applications	Dr Marcus Greferath, Ms Cornelia Roessing and Dr Mark Flanagan	Mathematical Science and Electrical, Electronic and Mechanical Engineering
Mucoadhesive and bioadhesive polymers	Professor Stephen Carrington, Professor David Brayden and Professor David Haddleton (University of Warwick)	Agriculture, Food Science and Veterinary Medicine
Novel anti-fungal bacterial strains	Dr Fiona Doohan and Mr Mojibur Khan	Biology and Environmental Science
Novel fine material production method - controlled deposition of functional materials on the surface of micro and nanoparticles	Professor Donald Fitzmaurice	Chemistry and Chemical Biology
Novel modulators of fertility	Professor Alexander Evans, Dr Niamh Forde, Professor Patrick Lonergan, Dr Anna Zielak and Dr Monika Mihm (University of Glasgow)	Agriculture, Food Science and Veterinary Medicine
Novel vaccine for protection against Liver Fluke disease in cattle and sheep	Professor Grace Mulcahy and Professor John Dalton (Associated Faculty Member)	Agriculture, Food Science and Veterinary Medicine
Power Composer	Dr Chris Bleakley	Computer Science and Informatics
Proteomic profiling of p21-mediated anti-Apoptotic and Mitogenic Paracrine effects	Professor William Gallagher, Dr Darren O’Connor and Dr Caroline Currid with Dr Igor Roninson, Ordway Institute, New York	Biomolecular and Biomedical Science

Title	Principal Researcher(s)	UCD School
Rapid diagnostic tests for animal and human parasitic diseases.	Professor Grace Mulcahy and Professor John Dalton (Associated Faculty Member)	Agriculture, Food Science and Veterinary Medicine
RECAP – Dynamic Reassignment of cluster aggregation point in wireless sensor networks	Mr Antonio Ruzzelli, Dr Raja Jurdak and Gregory O'Hare	Computer Science and Informatics
The Serendipity Engine: A comparison based e-commerce platform	Professor Barry Smyth	Computer Science and Informatics
Treatment of prion disease	Dr Hilary McMahon and Marguerite Prior	Biomolecular and Biomedical Science
ufxDesign fixed point development tools	Dr Neil Hurley and Dr Guenole Silvestre	Computer Science and Informatics
Wearable posture sensor	Dr Brian Caulfield, Professor Barry Smyth and Lucy Dunne	Physiotherapy and Performance Science and Computer Science and Informatics

Further details are available via www.ucd.ie/nova

Campus Companies and Entrepreneurs

NovaUCD provides entrepreneurs and knowledge-based start-up companies with a comprehensive business support programme. The main elements of this programme include:

■ Advice and assistance on all aspects of new venture formation including:

- ❑ Feasibility study
- ❑ Project development
- ❑ Building the entrepreneurial team
- ❑ Developing the business model
- ❑ Financial planning and management
- ❑ Preparing business plans
- ❑ Company formation
- ❑ Access to sources of finance
- ❑ Business growth
- ❑ Investment

■ Advice for entrepreneurs and researchers on ideas with commercial potential:

- ❑ Academic entrepreneurs - The Campus Company Development Programme, a business start-up programme which has run annually since 1996

■ Other supports:

- ❑ Clinics and advice from the NovaUCD sponsors and other organisations covering areas such as legal issues, banking, finance, patenting, licensing and new venture formation
- ❑ The NovaUCD Network of professional business contacts including seed and venture capital funds
- ❑ Training programmes
- ❑ Introduction to UCD's research expertise and facilities.

A key development for the support of entrepreneurs during 2007 was the establishment of the €30 million AIB Seed Capital Fund which has located at

NovaUCD. The AIB Seed Capital Fund, which is being equally funded by AIB and Enterprise Ireland is the first fund to be established under Enterprise Ireland's €175 million Seed and Venture Capital Scheme 2007-2012.

The fund will focus on early stage high-potential start-ups such as those spinning out from UCD research. The average initial investment to be made by the Fund will be in the order of €250,000 but smaller investments of €100,000 will also be evaluated. The Fund has an economic life of seven years and it is expected that it will make in the region of 50 to 60 investments.

Facilities

NovaUCD provides incubation and other related facilities for entrepreneurs, campus companies and knowledge-based ventures.

NovaUCD offers 14 desk spaces for individuals who are at the early stages of forming a company allowing them to undertake feasibility studies. NovaUCD also contains 42 incubation units for high-tech knowledge-intensive companies, ranging in size from 15m² to 64m². Other facilities and services include a wireless network, a permanent boardroom which seats 22, numerous seminar and meeting rooms, a café and reception services.



Incubation Unit at NovaUCD

NovaUCD also houses 340m² of bioincubation space to accommodate 4-6 biotechnology companies. Laboratories are equipped with power and water supply, sinks, fume hoods and benching as well as voice and data points. Shared facilities available include, fridge freezers, de-ionised water, ice machines, dishwashers etc. Companies locating in these laboratories will be facilitated in accessing the full range of technology and general facilities available in UCD. Office space for companies locating in these laboratories is also provided at NovaUCD.



Laboratory Space at NovaUCD

Academic Entrepreneurs - NovaUCD Campus Company Development Programme

The NovaUCD Campus Company Development Programme (CCDP), which is now in its thirteenth year, is the main support programme run by NovaUCD for academic entrepreneurs who are spinning-out campus companies. This annual Programme, which in 2007 was delivered in association with Enterprise Ireland, offers a mix of monthly workshops, mentoring and one-to-one consultancy. It is delivered by NovaUCD staff, with the support of the NovaUCD sponsors and other outside experts.

The CCDP is designed to assist academic entrepreneurs in the establishment and development of knowledge-intensive enterprises by providing the skills necessary to transform ideas into commercially feasible ventures.

In the last twelve years approximately 130 projects and 190 individuals have completed the Programme. Previous programme participants now employ over 675 people. Current NovaUCD client companies which have previously participated on the Programme include Berand Neuropharmacology, Celtic Catalysts, Changing Worlds and Lightwave Technologies.

The NovaUCD 2007 Campus Company Development Programme Awards Ceremony took place in the William Jefferson Clinton Auditorium. Oliver Tattan, founder and CEO, Vivas Health was the guest speaker. The overall winner of this year's Programme was AP EnvEcon.



Dr Andrew Kelly and Professor Peter Clinch, co-founders, AP EnvEcon

AP EnvEcon is a provider of decision-support systems, solutions and specialist advice to the public and private sector for the management of environmental change. Environmental issues associated with climate change, air quality, transport management and land-use are major policy issues at national, European Union and global levels and will remain so for some time to come. This environmental agenda requires rapid and intelligent responses from the public and private sector. AP EnvEcon is providing high-quality systems and solutions for the public and private sector as they come under these increasing regulatory pressures to improve environmental performance.

AP EnvEcon is a spin-out from the Environmental Economics Unit of UCD's School of Geography, Planning and Environmental Policy and was co-founded by Professor Peter Clinch and Dr Andrew Kelly. During 2007 AP EnvEcon was one of the first four companies to receive financial support from Sustainable Energy Ireland under its new incubator programme for emerging green business opportunities in the sustainable energy sector.

Two other projects participating on this year's Programme, Q-Validus and 2Do.ie received runner-up awards and prizes of €3,000 and €2,000 respectively.

Q-Validus is an international certification solutions provider located at NovaUCD. Q-Validus' management team is combining its experience in certification programme development and delivery with industry best practice to manage and deliver high quality certification programmes.

Q-Validus' promoters are David Carpenter, Garry Cleere and Dudley Dolan. Dudley Dolan was a founder and first CEO of the ECDL international computer skills programme. David Carpenter was CEO of the ECDL Foundation from 1999 to 2006 while Garry Cleere was the Head of Certifications from 1998 to 2006.

2Do.ie is a highly interactive and social networking website designed to provide a strong goal and achievement setting support network for people of all ages. Its aim is to assist users in achieving their



David Carpenter, co-founder, Q-Validus

goals by offering them expert industry advice and by providing them with the support of other users in the 2Do.ie community. 2Do.ie is currently at the pilot development phase and plans to launch in Q3/Q4 2008 with goals such as reduce/quit smoking, reduce alcohol consumption, lose weight as well as how to maintain a healthy work/life balance being available to users.

The promoters of 2Do.ie, who are all 25 years of age or younger, are Shirleen Flynn, Peter Finnegan, a UCD medical student and JP Wickremasinghe.



Peter Finnegan, JP Wickremasinghe and Shirleen Flynn, founders, 2Do.ie

Other NovaUCD 2007 CCDP Participating Companies

Advanced Diagnostics Laboratory

Dr Peter O'Brien, UCD School of Agriculture, Food Science and Veterinary Medicine and Maureen O'Brien

Advanced Diagnostics Laboratory is Ireland's first commercial and diagnostic laboratory for animal health and toxicology.

OncoMark

Professor William Gallagher, UCD School of Biomolecular and Biomedical Science and Steve Penney

OncoMark specialises in researching, developing, creating and producing biomarkers for use in predicting and tracking the efficacy of drug treatments. OncoMark's primary focus is on the development of fully-validated multi-marker assays for cancer relevant biomarkers.

RCSI Pharma

Dr Pádraig Moran and Professor John G. Kelly, RCSI

RCSI Pharma has developed a patented wound healing gel product which encourages the healing of chronic wounds.

Rinnovo

Dr Arlene Egan and Dr Yseult Freeney, UCD School of Psychology

Rinnovo is a consultancy specialising in the advancement of critical thinking skills, the

auditing and resolution of burnout and the promotion of well-being and engagement in both individuals and organisations.

Syron Systems

Dr Eoin Syron and Dr Eoin Casey, UCD School of Chemical and Bioprocess Engineering

Syron Systems has developed a novel wastewater treatment reactor for high-strength industrial wastewater treatment plants to reduce energy consumption. This innovative process uses membranes to aerate the pollutant degrading biofilm.

The Enlightenment

Georgia Scott and Nicola Orriss

The Enlightenment promoters intend to launch 'The Enlightenment', a collection of elegant waterproof, high visibility ladies cycling and walking outwear.

NovaUCD Client Forum

The level of support for client companies from the NovaUCD Network has continued to develop with the NovaUCD Client Forum arranged on a regular basis. The NovaUCD private sectors sponsors and other organisations provide a mix of expertise (e.g. accounting, financial, legal, marketing and strategic management) to complement the NovaUCD team in supporting innovators and entrepreneurs in bringing their ideas from the research laboratory through proof-of-principle and prototype development to successful commercialisation.

NovaUCD Companies

Twenty-three innovative new ventures, occupying 37 incubation units, or nearly 90% of the available incubation space, are currently located in NovaUCD. Several of these companies are commercialising research specifically undertaken at UCD while the remaining start-ups have located in NovaUCD in order to work more closely with UCD.

Nine client companies have now graduated from NovaUCD and moved on to new premises. It is an important element of NovaUCD's strategy to continuously refresh our community of entrepreneurs and to have the capacity at all times to take on new projects.

NovaUCD Companies

Advanced Diagnostics Laboratory - is Ireland's first commercial and diagnostic laboratory for animal health and toxicology

AIB Seed Capital Fund - was established to provide venture capital for companies at the seed and early stages of development

Alltracel Healthcare Services - provides scientific research, clinical trial and development services for the Alltracel Group and offers its services externally to healthcare companies seeking an external step-up in speed of innovation, technology development and commercialisation

Aonta Technologies - provides carrier grade voice conferencing solutions to Conferencing Service Providers and Telcos

AP EnvEcon - provides decision-support systems, solutions and specialist advice to the public and private sector for the management of environmental change

Berand Neuropharmacology - is a pre-clinical drug research company that offers a full spectrum of in vivo neuropharmacology and pre-clinical neurobiology services, resources and expertise. It also applies its technical platforms and expertise to in-house drug discovery programs directed to developing neurotherapeutic strategies for the treatment of brain illness

BiancaMed - a health technology company which offers leading health technology solutions for monitoring everyday living



Dr Philip de Chazal, BiancaMed

Bioscientific Diagnostics – is a Contract Research Organisation (CRO) providing outsourcing services to the drug development industry, with a specific focus on Diagnostics, Biomarkers and biopharmaceutical product characterisation

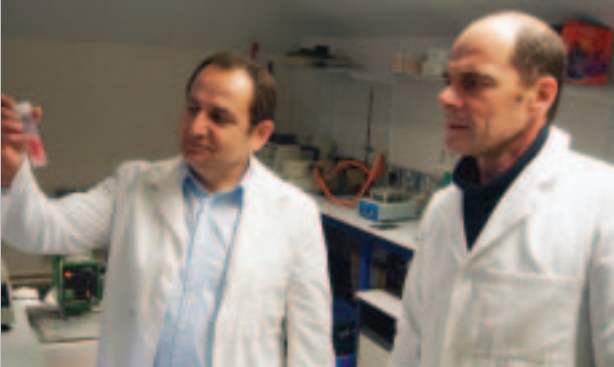
Biosystems Engineering – a research focused engineering company whose objectives are to develop engineering solutions to existing commercial/industrial problems in an environmentally and technologically sound way

Celtic Catalysts – is a leading supplier of chiral products and technology to the Fine Chemical, Pharmaceutical and Biotech industries

ChangingWorlds – is the market-leading provider of intelligent personalization and wireless portal products to the telecommunications industry

Duolog Technologies - is a leading developer of EDA solutions for the IC (integrated circuit) design industry

Enzolve Technologies – is commercialising genetically engineered enzymes and enzyme-based specialty products



Dr Suren Aghajanian and Professor Paul Engel, Enzolve Technologies

Evolution - is a software development house specialising in bespoke e-work/workflow and HR systems

gsmExchange.com – is an online trading platform for the GSM and telecommunications industry

HomeInstead Senior Care – provides comprehensive home care services for the elderly

Incoras Solutions - is focused on developing software solutions for the semiconductor and consumer electronics industries

Ionic Business Systems - provides a range of technology products including website design, implementation and hosting

Java Clinical Research - is a Contract Research Organisation specialising in providing a complete clinical trial service to the pharmaceutical and biotechnology industries



Michele O'Connell and Ruth Nallen, Java Clinical Research

Lightwave Technologies – is an innovative environmental technology company which provides real-time web-enabled energy saving solutions for commercial buildings

Madingley – is a mobile technologies company that develops unique solutions for operators of mobile data services

Novus Financial and Management Solutions – financial services management and consultancy company

Q-Validus - is a leading provider of international certification and management services.

NovaUCD Graduate Companies

The following companies have now graduated from NovaUCD

Broadcast Learning - is a software systems company specialising in e-Assessment and e-Learning solutions

Cornerstone International – is a leading provider of professional training in China focusing on the software, business and finance sectors

(e)Learning Union - is a provider of e-learning management solutions and consultancy services

Eventznet - is a software development company which develops and markets software for event planning and management

Intelligent Health Systems - specialises in the provision of services and products to the healthcare industry

Locumotion - medical services company

Maritime Management - provides shipping management, shipping finance and maritime consultancy to the global shipping industry

Neosera Systems - is an EDA company researching and developing innovative hardware and software systems to enhance design methodologies for current and emerging semiconductor technologies

Visor - has developed an online accounting software, accountsIQ for accounting service providers.



Tony Connolly, Visor

NovaUCD Company Success Stories

Several NovaUCD client companies have experienced success during the last year.

Alltracel Healthcare Services (AHS), the newly created division of AIM-listed Alltracel Pharmaceuticals located to NovaUCD during the year. AHS has been established to provide scientific research, clinical trial and development services for all of Alltracel's business units, subsidiaries and relevant partnerships. AHS also offers its services to outside companies in the pharmaceutical, medical and healthcare technologies sectors who are seeking an external step-up in speed of innovation, technology development and commercialisation.



Dr Pat Frain and Dr Keith Real, Alltracel Pharmaceuticals

AHS is led by ex-ICON senior manager, Conor Walshe and will be directed by Alltracel's Chief Scientific Officer, Dr Keith Real with guidance by Alltracel's Scientific Advisory Board.

BiancaMed is establishing a new R&D centre in Belfast and Invest NI has offered £250,000 towards the establishment of this centre at the Queen's University, Institute of Electronics, Communications and Information Technology.

BiancaMed's core product is a unique wireless sensor that can detect breathing and heart rate up

to a distance of two metres. The first application for the technology is a baby monitor, but the technology will be developed further for use in other applications with life-saving potential, such as home health and exercise monitors.

As well as receiving assistance through Invest NI's Compete programme which supports the commercialisation of research, BiancaMed has previously secured €2.5 million venture capital support from international venture capitalist Draper Fisher Jurvetson ePlanet Ventures and ResMed.



BiancaMed technologies

BiancaMed was founded in 2003 by Professor Conor Heneghan, Dr Philip de Chazal and Dr Conor Hanley as a spin-out from UCD's School of Electrical, Electronic and Mechanical Engineering.

ChangingWorlds, the UCD School of Computer Science and Informatics spin-out was ranked Number 8 in the 2007 Deloitte Technology Fast 50. This is a ranking of the 50 fastest growing technology companies in Ireland. The Deloitte Fast 50 rankings are based on average percentage revenue growth over the last five years and ChangingWorlds grew over 1000% percent during this period.

ChangingWorlds was co-founded by Professor Barry

Smyth and Paul Cotter in 1999 to commercialise their research into personalisation and artificial intelligence technologies at UCD's Smart Media Institute. Today ChangingWorlds is the global expert in intelligent content discovery and subscriber intelligence for the Mobile Internet.



Tom Keenan, Deloitte, Belfast, David Moran, CEO, ChangingWorlds and David O'Flanagan, Deloitte, Dublin

Based on advanced artificial intelligence technology, the company's ClixSmart™ Intelligent Portal platform offers a personalised content discovery solution that enhances content relevance and optimises the user experience of the wireless internet, resulting in greater ARPU (Average Revenue Per User) for the network operator. ChangingWorlds has rolled out the ClixSmart™ Intelligent Mobile Portal platform to 45 mobile network operators worldwide, including Vodafone Global Group, O₂ Ireland and Germany, TeliaSonera, Celcom Malaysia and Hong Kong CSL.

The company now employs over 120 highly qualified staff including staff based in its Advanced Research Centre located at NovaUCD. The company is headquartered in Dublin with offices in the Far East and USA.

In addition ChangingWorlds' Vice-President of International Sales and Marketing, Vincent Ryan, was rewarded for his years of excellence and outstanding achievement in technology sales as he won the title of ICT Sales Professional of the Year at the 2007 ICT Excellence Awards.

Eventznet received funding to develop the first Events Industry Skillnet in Ireland. A development grant of €25,000 was awarded to Eventznet by Skillnets Ltd. Eventznet develops and markets software for event marketing and management. The funding will be used to investigate the training needs of the events industry in Ireland and to submit a proposal to Skillnets to fund a comprehensive and nationwide training programme for event organisers.

During the year O₂ Ireland completed the first consumer trial of the Fitfone application. Fitfone, which designed, developed and patented platform technology which, when embedded into a mobile phone, facilitates remote health and fitness assessment to assist in increasing an individual's life expectancy was the overall winner of the NovaUCD 2006 Campus Company Development Programme.



Dr Conor O'Brien, Fitfone

Developed by Irish consultant neurophysiologist and sports physician Dr Conor O'Brien, the Fitfone system uses Global Positioning System (GPS)

combined with proven medical algorithms to record the time and distance covered by people while they are exercising.

The Fitfone system builds up a fitness database over time for each user, so that they can calculate the benefit of the exercise they are doing, week-by-week, whether they are trying to improve their overall fitness or doing more intensive training. The system measures fitness via a MET score (Metabolic Equivalent Unit), which measures the level of aerobic fitness. The MET score calculates how much exercise the user needs to do, along with the duration and intensity, in order to deliver maximum benefit.

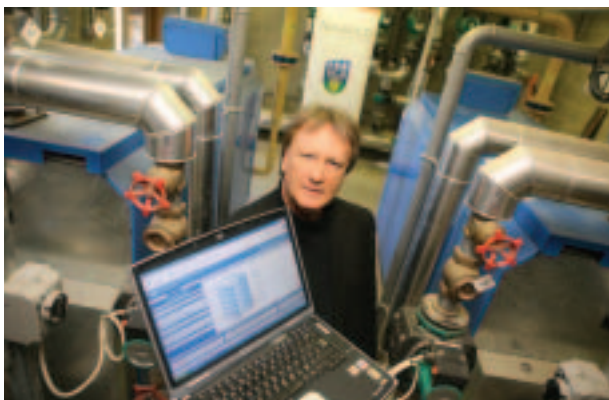
Two hundred O₂ customers used the Fitfone system during the consumer trial to monitor and measure their fitness levels, exercise effectively and analyse the results. As part of the test, participants used a phone with a built-in GPS receiver, to record the information.

At the outset of this trial each customer was asked to register his or her personal details into the Fitfone programme (i.e. age, gender, height and weight). Then using the mobile phone each customer completed a fitness test which involved walking a specific distance or running for a specific length of time as fast as they can. Once their current fitness level had been recorded using the MET score system they could choose one of the eight different fitness programmes available on Fitfone to achieve their particular goal. The exercise programmes available are: Target Distance, Target Time, Monitor Me, Lose Weight, Cardiac Rehab, Healthy Heart, Increase Fitness and Elite Fitness.

Lightwave Technologies announced the commercial launch of its energy management and control system known as ICE (Intelligent Control of

Energy). The ICE system can save up to 30% of the gas and up to 20% of the electricity consumption associated with operating commercial buildings. This reduction in energy consumption has the potential to significantly impact the carbon emissions of commercial buildings which are contributing to global warming whilst also reducing energy bills.

The ICE system which works in conjunction with existing building management systems (BMS) uses advanced artificial intelligence techniques to make real-time and efficient decisions for controlling the energy consumption in commercial buildings while maintaining existing comfort levels.



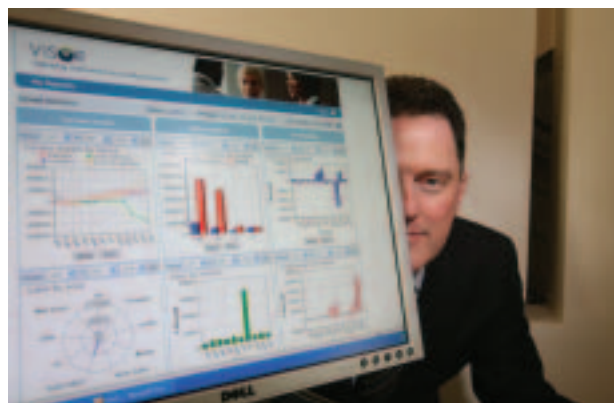
Nicholas McNulty, Lightwave Technologies

The ICE system communicates with the existing BMS in a building via the internet or any other IP network. It collects data remotely from the building (e.g. inside/outside air temperatures, solar radiation etc), and after analysing this data learns the building's unique thermodynamic footprint and how the building behaves over various external weather conditions.

The ICE system then communicates in real-time with the BMS to, for example, optimally control the start/stop times of boilers, chillers and air-handling units for every floor and zone within the building while maintaining existing comfort levels and at the same time significantly reducing energy consumption and reducing the energy costs.


Lightwave Technologies was founded by Nicholas McNulty and during the year Alan Kearney was appointed the company's new CEO. Alan Kearney has over 20 years of senior management experience in the 'climate control' or HVAC (heating, ventilation and air conditioning) industry, with firms such as Cylon Controls and AK Environmental Services.

Visor, the internet-based accounting solutions company completed a €1 million equity investment round from Enterprise Ireland and private investors. The company is using these funds to launch accountsIQ, its low-cost, online accounting and management reporting platform for small and medium sized businesses, in the UK.



Tony Connolly, Visor

accountsIQ is designed for the growing Business Process Outsource (BPO) market, particularly for small and medium enterprises (SMEs), providing them with the type of business reporting and analysis previously only available to large companies. The system saves time and money by helping accountants collaborate with their clients anytime-anywhere via the internet. Business owners and managers do not need to interpret accounts as they get an online 'digital dashboard' with customised analysis of their monthly accounts, statistics and other key business drivers.



Visor was established in early 2004 by ex-Farrell Grant Sparks Partner Tony Connolly and internet entrepreneur Eddie Murphy to bring 'big company' accounting and business analysis solutions to the SME community.

Inter*Trade*Ireland 2007 All-island Seedcorn Competition – Dublin Regional Finals

Two NovaUCD-based companies reached the Dublin Regional Finals of the Inter*Trade*Ireland 2007 All-island Seedcorn Competition. Incoras Solutions was selected as one of three finalists in the Emerging International Company category while Reddar, based in the NovaUCD deskpace was selected as one of three finalists in the Emerging Company category.

Training

The development of a culture of innovation and entrepreneurship is critical for the successful identification and commercialisation of intellectual property at UCD.

NovaUCD has arranged nearly 500 events since 2003 to assist in creating this culture by increasing the awareness of entrepreneurship, innovation and technology transfer among the next generation of campus company promoters and innovators. These events, which are aimed at researchers, staff and students, cover all aspects of commercialisation including intellectual property identification, protection and exploitation, commercialisation and new venture formation.

NovaUCD 2007 Innovation Award

The NovaUCD Innovation Award was established in 2004. The Award is presented annually to an individual, company or organisation in recognition of excellence in, contribution or commitment to innovation or in recognition of success achieved in the commercialisation of UCD research or other intellectual activity. Previous Award winners were Professor Mark Rogers (2004), Professor Barry Smyth (2005) and Professor Conor Heneghan (2006).

Professor Ciaran Regan, UCD School of Biomolecular and Biomedical Science was presented with the NovaUCD 2007 Innovation Award in recognition of his successes in the establishment of key strategic and collaborative links with industry and in the commercialisation of neuroscience research.

Professor Regan's achievements include securing €10 million in funding from Wyeth Discovery and Science Foundation Ireland to establish the Applied Neurotherapeutics Research Group at UCD. This Group, which aims to identify novel neurotherapeutic targets, has already generated 8 invention



Professor Ciaran Regan

disclosures. This link was of critical importance in Wyeth's later decision to establish a €13 million bio-therapeutic drug discovery research facility at UCD.

Professor Regan's research is focused on understanding mechanisms of brain plasticity and in exploiting these mechanisms as novel drug targets.

He is a named inventor on 6 UCD patents and also co-founded a successful UCD spin-out company Berand Neuropharmacology in 2004. Berand, which is developing novel therapeutics for the treatment of autism and obesity, is located at NovaUCD with research facilities in UCD's Conway Institute.

In December Professor Regan was also presented with the inaugural Enterprise Ireland Life Science and Food Commercialisation Award.



Michael Ahern TD, Minister for Innovation Policy, Professor Ciaran Regan and Dr Paul Roben, Enterprise Ireland

Structured PhD Programmes

For a number of years NovaUCD has been involved in the delivery of unaccredited courses and seminars to the postgraduate student audience at UCD. For example earlier this year NovaUCD participated in the delivery of the 'Advanced Research Skills Module' at the UCD Conway Institute and at the UCD Graduate School of Life Sciences. PhD students attended lectures covering topics such as use of laboratory notebooks to facilitate identification and protection of intellectual property, publishing and protection, the use of invention disclosure forms and patent searching.

The delivery of unaccredited courses by NovaUCD has now evolved into credited courses as NovaUCD in association with the UCD Michael Smurfit School of Business developed two accredited PhD modules in Innovation and Knowledge Transfer. These modules will be delivered in 2008 as part of UCD's Graduate Studies' Structured PhD Programme.

The first module will focus on the entrepreneurial process in the journey from identification of the innovative idea through to the launch of a successful business. The second module will cover the management process required to transform an innovative technology into a commercial

opportunity or business proposition. The module will also detail the stages and processes involved in the management and commercialisation of intellectual property. The potential routes to commercialisation and the key business feasibility questions will also be considered with respect to technical and market assessment, negotiations with potential licensees, business plans and preparation for a company spin-out.



Stephen Flood, Managing Director, Gold Investments (right) with UCD students Liam Ryan and Eimear O'Herlihy prior to speaking at a NovaUCD "Entrepreneurs Live!" seminar

Technology Innovation to Market

This NovaUCD workshop series, which ran over a 4-week period was aimed at UCD staff, researchers and postdoctoral students who were at the early stage in the development of technology arising from ICT research programmes. The objective of the seminar series, which was delivered by Paul O'Dea, Select Strategies was to assist researchers in answering questions relating to the commercial potential of the technology, the "customer value proposition" and the need for an external technology validation partner.

Biomarkers – A Patenting and Business Perspective Seminar

NovaUCD ran a short biomarkers seminar in the UCD Conway Institute entitled 'Biomarkers - A patenting and business perspective.' The speakers at this seminar were Dr Claire Power, Patent Attorney, MacLachan & Donaldson and Dr Tim Sparey, Associate Director for Licensing and External Research in Europe, Merck, Sharp & Dohme.



Greg McAweeney, General Manager, RaboDirect.ie with UCD students Janice Asuncion and Moira Mager prior to speaking at a NovaUCD "Entrepreneurs Live!" seminar

"Entrepreneurs Live!" Seminar Series

NovaUCD with the support of Dún Laoghaire-Rathdown County Enterprise Board ran 12 seminars during 2007 in the extremely popular "Entrepreneurs Live!" Seminar Series.

The aim of the seminars is to promote a spirit of entrepreneurship among the academic, research and student population at UCD. The seminars involve well known entrepreneurs who talk about their experiences of setting up and running their own business, emphasising the highs and lows on their entrepreneurial journey, and highlighting the lessons they learnt along the way. During each seminar, attendees have the opportunity to

participate in lively question and answer session with the guest entrepreneur.



Oliver Tattans, a UCD Chemical Engineering Graduate with UCD Engineering students, Orla Flood, Caroline Green and Bill Murphy prior to delivering a NovaUCD "Entrepreneurs Live!" seminar

Speakers at this year's seminars included Oliver Tattan, Vivas Health; Howard Beggs, Helix Health; Philip Sharpe, Cape Technologies; Raymond Russell, Corvil and Anne Heraty, CPL Group.

Over the last four years 54 seminars have been arranged. The series continues to attract large audiences and to stimulate a lively and enthusiastic debate between the speakers and the students. There is clearly a growing culture of entrepreneurship on UCD's campus which augurs well for UCD's ability to generate new ventures and high-tech employment for UCD graduates in the future.



Anne Heraty, Founder and CEO, CPL Group with UCD students Enda Gallery and James Daly prior to speaking at a NovaUCD "Entrepreneurs Live!" seminar

Communications and Developing Links

Communications

NovaUCD and Simpson Financial and Technology PR were recognised for excellence in public relations at the 2007 PRCA (Ireland) Awards for Excellence in Public Relations. NovaUCD and Simpson were short listed in the Corporate Communications - Business to Business category for the *NovaUCD – Helping to Create a Knowledge Economy public relations campaign*.



Micéal Whelan, NovaUCD with Mary O'Brien, Simpson FTFR

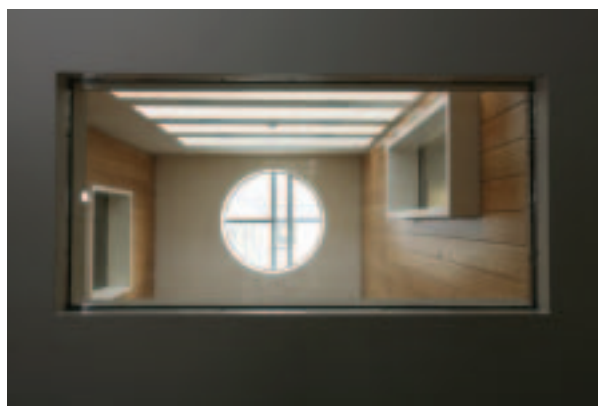
Links with Industry

NovaUCD is an identifiable point of contact for companies seeking partners for collaborative research and advice on licensing and other commercial opportunities. All research activities involving industrial partners are channelled through NovaUCD.

Collaboration with the industry and the business community is likely to accelerate at UCD with the development of the 10.3 ha Belfield Innovation Park in the southwest corner of the campus next to NovaUCD. The Belfield Innovation Park will provide accommodation for a number of research-intensive enterprises, which are beyond the start-up phase, for spin-out companies from NovaUCD and for other companies entering into strategic research partnerships with the University.

International Knowledge Transfer Networks

NovaUCD's Director Dr Pat Frain has been elected Chair of ProTon Europe. ProTon Europe is the pan-European network of National Knowledge Transfer associations, and companies affiliated to universities and other public research organisations. The purpose of ProTon Europe is to support the professional development of Knowledge Transfer Offices across Europe through the exchange of best practice, staff exchanges, the delivery of appropriate training and networking. ProTon Europe has over 250 direct member institutions in 28 European countries employing some 2000 knowledge transfer professionals.



Window at NovaUCD

NovaUCD 2007 International Visitors

During 2007 NovaUCD hosted 43 visiting national and international delegations from around the globe. These delegations included government, university and local state agency representatives, industrialists and others interested in innovation and technology transfer. These delegations came to NovaUCD to learn of UCD's experiences of supporting innovation and technology transfer on a university campus and to learn how an Innovation and Technology Transfer Centre such as NovaUCD has been developed, operates and to learn of its successes.



NovaUCD Glazed Corridor

Personnel

NovaUCD Team Members

Dr Pat Frain, Director of NovaUCD leads a team of 17 professional staff with expertise and experience

in technology transfer, new venture formation, communications and continuing professional development.

The members of the NovaUCD team and contact details are given below.

Area	Name	Title	Contact Details
	Dr Pat Frain	Director	t: 00-353-1-716 3710 e: pat.frain@ucd.ie
	Jacqueline Boyd Lyons	PA to Director	t: 00-353-1-716 3710 e: jackie.boydlyons@ucd.ie
	Helen Mc Grath	Operations Manager	t: 00-353-1-716 3711 e: helen.mcgrath@ucd.ie
	Karina King	Business Support Executive	t: 00-353-1-716 3719 e: karina.king@ucd.ie
Technology Transfer*	Dr Ciaran O'Beirne	Manager Technology Transfer	t: 00-353-1-716 3713 e: ciaran.obeirne@ucd.ie
	Dr Deirdre Leane	Project Manager Technology Transfer	t: 00-353-1-716 3726 e: deirdre.leanes@ucd.ie
	Dr François Pichot	Project Manager Technology Transfer	t: 00-353-1-716 3725 e: francois.pichot@ucd.ie
	Dr Claudia Wietek	Project Manager Technology Transfer	t: 00-353-1-716 3722 e: claudia.wietek@ucd.ie
	Tara Mac Mahon	Legal Counsel Contracts	t: 00-353-1-716 3724 e: tara.macmahon@ucd.ie
	John Wrigley	Administrative Assistant	t: 00-353-1-716 3721 e: john.wrigley@ucd.ie
Enterprise Development**	Dr Ciara Leonard	Project Manager Enterprise Development	t: 00-353-1-716 3714 e: ciara.leonard@ucd.ie
Communications and Continuing Professional Development (CPD)	Micéal Whelan	Project Manager Communications	t: 00-353-1-716 3712 e: miceal.whelan@ucd.ie
	Caroline Gill	Project Manager CPD	t: 00-353-1-716 3715 e: caroline.gill@ucd.ie
	Dr John McManus		t: 00-353-1-716 3720 e: john.mcmanus@ucd.ie
Facilities	Thomas Hamill	Facilities Manager	t: 00-353-1-716 3717 e: thomas.hamill@ucd.ie
	Brita O'Sullivan (am) Marie Caffrey (pm)	Reception	t: 00-353-1-716 3700 e: nova.reception@ucd.ie

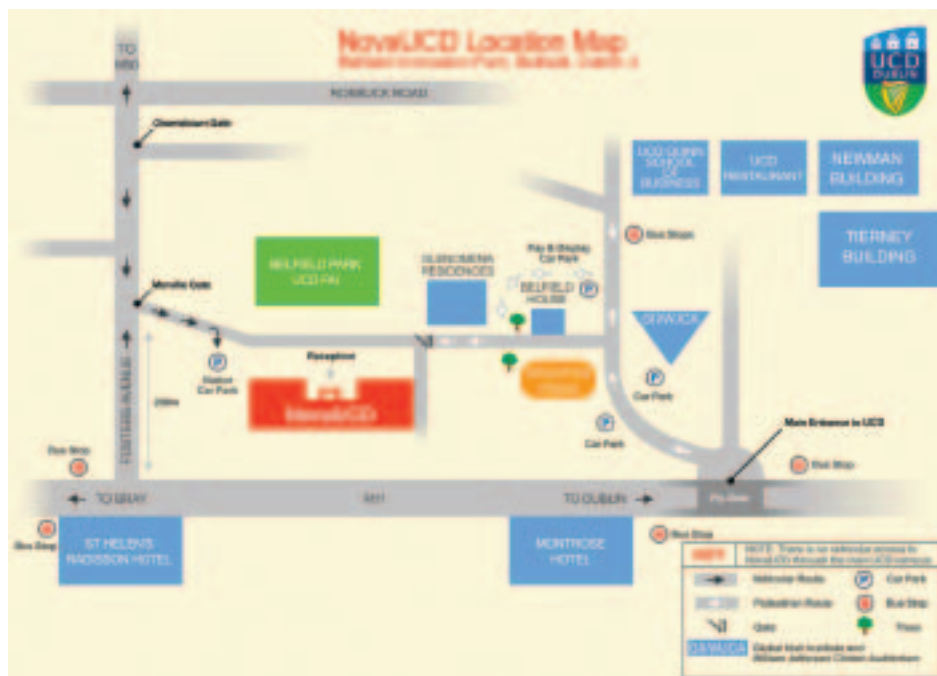
*Dr Ruth McMahon and Barry Jennings, Commercialisation Specialists, Enterprise Ireland also support technology transfer activities at NovaUCD. **Stephen O'Sullivan, Darren Donohoe and Bryan Maguire were external consultants to the NovaUCD 2007 Campus Company Development Programme.

Location Map and Directions

The vehicular entrance to NovaUCD is located on Fosters Avenue, approximately 200m from the Stillorgan dual carriageway (N11). The road from this gate leads directly towards NovaUCD. Car parking for visitors is on the right hand side of the road, before reaching NovaUCD. The main

entrance to the NovaUCD Reception is through the front door of the building as indicated in the map below.

Visitors may also park in one of the University car parks and approach NovaUCD on foot.



For further information contact:

Micéal Whelan
NovaUCD
Belfield Innovation Park
UCD, Belfield, Dublin 4.
t: 00-353-1-716 3712
e: miceal.whelan@ucd.ie

April 2008



ARTHUR COX

Deloitte.



NovaUCD is sponsored by AIB Bank, Arthur Cox, Deloitte, Enterprise Ireland, Ericsson, Goodbody Stockbrokers, UCD and Xilinx.