

# UCD today

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SUMMER 2010



**Philosophers, scientists and  
authors honoured on Bloomsday**



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REVOLUTION  
visualising sport

9. FOSSIL TREASURES  
reading between the lines of time

7. JOHN HENRY NEWMAN  
a man for all seasons

5. SPEED GENE  
revolutionising the global bloodstock  
industry

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## Words of wisdom ...

Ask any group of people to list their top three most memorable days and graduation will undoubtedly be in the mix. That public recognition of achievement when families and friends don the glad rags and academic gowns robe in the colours of their own alma maters means a tremendous amount to the graduands as they savour the day.

Sharing these moments also means a lot to academics who have lectured, mentored and supervised students from bachelors to PhDs. This year's conferrings have been addressed by a number of UCD professors who have taken the occasion as an opportunity to recount some of their own student life reminiscences, to share college jokes and impart words of wisdom and advice to their departing students.

Hugely popular with the graduates and their families, these conferring addresses have been on the UCD homepage and the number of hits they get is a sure sign that our students are very positive about being part of the alumni community. They can also be accessed via [www.ucd.ie/graduations2010](http://www.ucd.ie/graduations2010)

Answers by email to [communications@ucd.ie](mailto:communications@ucd.ie) before 1 September.

Eilis O'Brien  
Director of Communication

1. Who praised UCD students for being positive about the future on a recent Frontline programme rather than joining in the national pastime of "Whinge fest"?
  - a. Declan Kiberd
  - b. Eamonn Walsh
  - c. Ben Tonra
2. Who quoted Oscar Wilde's comment that "in exams the foolish ask questions which the wise cannot answer."?
  - a. Ben Tonra
  - b. Declan Kiberd
  - c. Dermot Moran
3. Who quoted Bob Dylan's song "Forever Young" and for a bonus point, what year did Dylan release that song?
  - a. Gerard Feely
  - b. Cormac Taylor
  - c. Anne Fogarty
4. Who said that during his time at UCD, Joyce was "a rebel with a cause"?
  - a. Anne Fogarty
  - b. Declan Kiberd
  - c. Damien McLoughlin
5. Who asked his audience "what is the sum of all whole numbers between 1 and 1,000"?
  - a. Eamonn Walsh
  - b. Aidan Moran
  - c. Gerard Feely
6. Who quoted the Archbishop of Canterbury?
  - a. Dermot Moran
  - b. Damien McLoughlin
  - c. Colm Harmon
7. Who said: "Don't accept the label that has become fashionable in recent times- that you, the class of 2009, are a lost generation."
  - a. Diarmaid Ferriter
  - b. Damien McLoughlin
  - c. Colm Harmon
8. Who said: "We poke and prod into every corner of the human condition. Always asking why and often asking, why not"?
  - a. Declan Gilheany
  - b. Ben Tonra
  - c. Dermot Moran
9. Who told the graduates that in his day, graduations took place in the sports hall? (Clue - there is more than one correct answer here)
  - a. Ian O'Donnell
  - b. Colm Harmon
  - c. Cormac Taylor
10. Who translated the UCD mottos as follows: Ad Astra: not putting a limit on pursuing the rewards that accompany intellectual curiosity. Cothrom Féinne: The kind of society that it is in all of our interests to create?
  - a. Ian O'Donnell
  - b. Declan Kiberd
  - c. Gerard Feely

*Cover Image: Honorary graduate and internationally acclaimed author Colm Tóibín is pictured with the recipient of the 2010 Ulysses Medal, philosopher Professor Jürgen Habermas, at Bloomsday*

## UCD thanks ...

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We also welcome your suggestions for articles in future editions.

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For more news visit [www.ucd.ie/news](http://www.ucd.ie/news)



# Bloomsday at UCD

Bloomsday, synonymous with James Joyce, is the most important honours day at UCD, the *alma mater* of this great 20th century author.

Awarding this year's recipients of honorary degrees and the UCD Ulysses Medal, UCD President Dr Hugh Brady spoke of their contribution to society not just in Ireland but on the global stage. "It is in the spirit of John Henry Newman that we recognise those whose thirst for knowledge and expertise has extended beyond academia and has made a difference to mankind; intellectually, socially, culturally, as well as in the realms of humanitarian and scientific improvements."

The Ulysses Medal, the highest honour bestowed by UCD, was awarded this year to Professor Jürgen Habermas. "Habermas is probably one of the best known and most influential philosophers alive in the world today..." said Professor Maeve Cooke, Head of the UCD School of Philosophy, who delivered the citation at the award ceremony.

**"He will certainly rank highly among the important philosophers and social theorists of the twentieth century"**

"As a public intellectual he is not only a household name in Germany; his contributions are read by politicians and journalists in many countries throughout the world. We in Ireland can take particular pleasure in his admiration for James Joyce and his praise for *Ulysses* as one of the outstanding works of literature of the twentieth century. In a recent interview in the Irish Times, he describes the novel as a 'declaration

of love to the streets and pubs of Dublin and to the rich tradition and spirit of the country'."

Habermas' extensive work spans a wide range of disciplines, engaging with questions of central concern to philosophers, social and political theorists, legal theorists, psychologists, educationalists and historians. He is a prominent public intellectual, contributing regularly to newspapers such as *Die Zeit* and *Le Monde*.

## Architects of knowledge

Among the recipients of this year's honorary doctorates were: broadcaster, writer and historian, John Bowman; internationally acclaimed author Colm Tóibín; NGO anti-hunger campaigner Tom Arnold; journalist and agriculture expert Matt Dempsey. Two other Irishmen, medical researcher and physician Martin Carey, and chemist Tadhg Begley are outstanding scientists based in the US. Two French recipients of honorary doctorates are novelist, playwright and feminist theorist, Hélène Cixous and medical scientist, Laurent Perret who is director of research and development at Servier Laboratories. Also honoured were pioneer scientist Raymond Dwek who effectively opened up the field of glycoproteins, and philosopher Thomas McCarthy who is recognised internationally for his work on critical theory and issues relating to post-colonialism and racism.

Giving her citation for John Bowman at the formal award ceremony Professor Mary E Daly, Principal of the UCD College of Arts and Celtic Studies said he is, "... an authoritative voice on radio and television for countless elections and referendums, he has interviewed every Irish Taoiseach from Sean Lemass to Brian Cowen." She went on to note, "James Joyce once said that 'if Dublin were destroyed it could be reconstructed from my book'. If all records of twentieth-century Ireland vanished, but John Bowman's radio and television programmes survived, future scholars would be in a position to recapture much of the flavour and complexity of twentieth century Ireland."

Read more about the 2010 Bloomsday honorees, including the full citations, via [www.ucd.ie](http://www.ucd.ie)

Speaking on Colm Tóibín, UCD Professor of Creative Writing Frank McGuinness said, "The scale of [his] writing is immense. And it is still continuing to grow..."

**"His is an art constantly striving to redefine itself, restless, driven, discerning, intelligent ... He stands now, and will remain, one of Ireland's most cultivated, most bold and most brilliant authors."**

Tom Arnold has been Chief Executive of Concern Worldwide, Ireland's largest relief and development NGO, since 2001. He originally graduated from UCD Agricultural Science, and giving the citation on Bloomsday, UCD Dean of Agricultural Science Professor Jim Phelan said, "Whether it is at the negotiating table in the Council Rooms of the United Nations in New York, the OECD offices in Paris, or in the company of project workers in a rural village in Africa, Tom Arnold's respect for people and his genuine care and ability to empathise with the less well off shines through."

"Matt Dempsey is one of the foremost authorities on national and international agricultural policy and industry trends; his knowledge, critique and assessment of Government and EU policy is highly valued by the agri-food sector," said Professor Maurice Boland, Principal of the UCD College of Life Sciences in his citation.

Giving the citation for French novelist, playwright and feminist theorist, Hélène Cixous, Professor Tony Roche, UCD School of English, Drama and Film, said she, "... may genuinely be described as a pioneer. As a leading feminist theorist, her writings have influenced several generations of scholars... As a novelist and playwright, her creative work has drawn her into fruitful interaction with other French writers like Jacques Derrida and with theatre practitioners like Ariane Mnouchkine. As an educationalist, she founded the Université de Paris VIII during the revolutionary year of 1968 as a groundbreaking centre for interdisciplinary study..."



Pictured at the 2010 Bloomsday celebrations were (l-r): Prof Tadhg Begley; Prof Raymond Dwek; Prof Martin Carey; Dr Laurent Perret; Dr Tom Arnold; Dr Matt Dempsey; UCD President Dr Hugh Brady; Prof Hélène Cixous; Prof Jürgen Habermas; Dr John Bowman; Dr Colm Tóibín; Prof Thomas McCarthy

## New diagnostic facility for Ireland-Vietnam Blood-borne Virus Initiative

Research into blood-borne virus infections in Vietnam was boosted in March, when Minister of State with special responsibility for Science, Technology, Innovation and Natural Resources, Mr Conor Lenihan TD, formally opened a custom-built diagnostic facility developed by the Ireland-Vietnam Blood-borne Virus Initiative (IVVI) at the national Institute of Hygiene and Epidemiology (NIHE) in Hanoi.

The facility is part of a wider initiative designed to diagnose viral infections in Vietnam and to conduct an epidemiological study of the prevalence and characteristics of blood-borne viruses circulating in the country.

Led by Professor Bill Hall, Director of the UCD Centre for Research of Infectious Diseases, the study, which received funding of €5 million from Irish Aid and Atlantic Philanthropies, began in 2007 and will be completed in 2011. The results will be used to inform public health policies aimed at reducing the significant morbidity and mortality associated with blood-borne viruses in Vietnam.

The entire epidemiological study involves taking blood and saliva samples from 33,000



*Celebrating the opening of the Ireland-Vietnam Blood-borne Virus initiative diagnostic facility with Vietnamese colleagues were: Prof Bill Hall, Director of the UCD Centre for Research of Infectious Diseases (second from left) and Minister of State with special responsibility for Science, Technology, Innovation and Natural Resources, Mr Conor Lenihan TD (centre)*

people across the Vietnam. So far, the study shows that there is a very high prevalence of blood-borne virus (BBV) infections in northern Vietnam, with almost 25% of samples testing positive for one or more BBV under investigation. Infections are highest among the "at risk" groups, with lower incidences in the general population, which according to

Professor Hall, gives the Government the opportunity to introduce public-health prevention measures.

The study also shows that, as with elsewhere in Asia, chronic Hepatitis B virus infection is endemic in Vietnam with as many as 8 million people infected with this prolonged and chronic disease.



*Mary Harney TD, Minister for Health & Children, addressed a seminar to celebrate 21 years of cancer nursing education at UCD, saying that the programme at UCD had a direct impact on the quality of the care provided to cancer patients and their families. The seminar itself was chaired by John McCormack, CEO of the Irish Cancer Society and covered advances in systems biology, therapeutics, specialist cancer nursing services, and also cancer nursing research in Scotland.*

*The Minister is pictured here (fourth from left) with UCD President Dr Hugh Brady (second from left) and members of the School of Nursing, Midwifery & Health Systems (l-r): Prof Pearl Treacy; Prof Philip Larkin; Prof Gerard Fealy; Dr Michelle Butler, Head of the UCD School of Nursing, Midwifery & Health Systems; Prof Abbey Hyde; Ms Eileen Furlong*

## SFI awards for UCD

The Minister for Enterprise, Trade and Innovation, Batt O'Keeffe TD announced €8.5 million in May 2010 for 47 cutting-edge research projects across a range of areas including cystic fibrosis, genetics, infections, environmental monitoring, food safety, and wireless networks.

UCD received the majority of awards (17 of 47) made under the Science Foundation Ireland 'Research Frontiers Programme', which will focus research in priority areas that are linked to health and well-being. The programme supports internationally-competitive, high-quality exploratory research across the science, maths and engineering disciplines.

The Minister stated that the €8.5 million investment will create jobs and training opportunities for 105 researchers, mainly PhD students, whose work will in turn generate new jobs. "By helping researchers at a relatively early stage in their work, the programme is targeting our most promising scientists in building their research teams and track records and enhancing our competitiveness."

The UCD recipients were: Professor Philip Newsholme, UCD School of Biomolecular and Biomedical Sciences; Dr Tadhg O' Croinin, UCD School of Biomolecular and Biomedical Sciences; Dr Christine Costello, UCD School of Medicine and Medical Science; Dr Martin Leonard, UCD School of Medicine and Medical Science; Dr Brian Rodriguez, UCD Conway Institute of Biomolecular and Biomedical Research; Professor Joe Carthy, UCD School of Computer Science and Informatics; Dr Gianluca Polastri, UCD School of Computer Science and Informatics; Professor Adrian Ottewill, UCD School of Mathematical Sciences; Dr Sander Zwegers, UCD School of Mathematical Sciences; Dr Kenneth Gavin, UCD School of Architecture, Landscape & Civil Engineering; Dr Madeleine Lowery, UCD School of Electrical, Electronic & Mechanical Engineering; Dr Niall English, UCD School of Chemical and Bioprocess Engineering; Professor Martin Albrecht, UCD School of Chemistry & Chemical Biology; Dr Susan Quinn, UCD School of Chemistry & Chemical Biology; Dr Ronan McNulty, UCD School of Physics; Dr John Quinn, UCD School of Physics; Professor Frank McDermott, UCD School of Geological Sciences.

## Work on "Citizen Convicts" sees first Ad Astra Scholar graduate

The first of UCD's Ad Astra Scholars graduated in April 2010. Cormac Behan defended his thesis, *Citizen Convicts: Prisoners, Politics and the Vote*, and was awarded his PhD (with no corrections). Dr Behan, who was supervised by Professor Ian O'Donnell (Director of the UCD Institute of Criminology), examined the level of civic engagement and political participation among prisoners in Ireland, with a particular focus on the extent to which they have exercised their franchise since legislation enabling prisoners to vote was introduced in 2006.

Before beginning his PhD at UCD, Behan taught history and political education in Irish prisons for ten years. He is on the executive board of the Correctional Education Association and on the editorial board of the Journal of Correctional Education. In 2007 he was an Intellectual Life Scholar at the Centre for the Study of Correctional Education, California State University.



*Dr Cormac Behan (shown left), the first UCD Ad Astra scholar to graduate, is pictured here with his supervisor, Prof Ian O'Donnell (Director of the UCD Institute of Criminology)*

## Ahead by a nose

**Dr Emmeline Hill is an accomplished scientist with the mind of an entrepreneur. Speaking with Olive Keogh (BA 1979, MA 1984) she talks about how her love of horses and her scientific rigor gave rise to a genetic test that could transform decision-making processes in the global bloodstock industry.**

From the outset of her groundbreaking research into the genes that influence the performance of thoroughbred horses, she was interested in developing her research into a commercially viable product. This culminated in 2009 when she co-founded Equinome to launch a pioneering genetic test that identifies the so-called "speed gene" in race horses. This test has the potential to transform decision-making in the multi-billion global bloodstock industry.

Dr Hill is a leading horse genomics researcher at the UCD School of Agriculture, Food Science and Veterinary Medicine and horses are close to her heart. For generations her family has bred and raced thoroughbreds and her grandmother was the owner of the legendary Dawn Run. This heritage coupled with her scientific background, her intimate knowledge of the bloodstock industry and a flair for spotting a potential business opportunity have put Hill in a unique position to transform biotech research into an international business.

This may sound like a simple step. In fact it is a complex process that has demanded a huge time input from Hill on top of her daily teaching and research commitments. It has also involved working closely with NovaUCD, the Innovation and Technology Transfer Centre and with horse breeder and trainer, Jim Bolger.

"I'm a scientist not a businesswoman so I have been on a pretty steep learning curve in terms of getting to grips with the commercial aspects of the project," she says. "I found it daunting initially but at this point significant progress has been made. We are based here at UCD with four employees and began doing tests in January this year."

**Hill says her industry partnership with trainer Jim Bolger and the support and backing of NovaUCD were key to the successful launch of Equinome.**

"When it started to become apparent that we had a product with commercial potential I made contact with Nova and familiarised myself with the protocols we needed to follow to develop into a campus company," she says. "Throughout my research Jim Bolger had taken a very active interest in what we were doing and expressed an interest in becoming involved if and when the opportunity arose. To have a partner of his calibre and experience has been of huge value. Jim is a shareholder in the company as is UCD which also owns the intellectual property which we licence.

"Access to the support of Nova was really important as they provided the knowledge of commercialisation and technology transfer which I didn't have," Hill adds. "They were very quick to grasp my goal of wanting to translate the science to the customer in a meaningful way." While Equinome was still taking shape in her head Hill joined UCD's Campus Company Development Programme. This is a nine-month, part-time enterprise support initiative designed to suit the timetable of busy researchers and academics comprising a mix of practical training and consultancy support.

"One of the things that helped me move relatively quickly was that I understood my target market and knew it was receptive," Hill says. "During my research I found the industry here very open to new ideas and I knew that if we could produce a viable product there was strong evidence that they would use it. My challenge was to convince them that we could transfer science to industry in a relevant way. I didn't want this to be about scientists in white coats."

With  
Equinome  
now up  
and

running, Hill's team are already at work on other applications of their research. "We have broken new ground with the Speed Gene Test but we won't be sitting back," Hill says. "I expect competitors to start emerging in this space in the not too distant future so it is our intention to continue moving forward with new products."

Olive Keogh (BA 1979, MA 1984) is a freelance business journalist.

## Test for the Best

The origins of the Equinome project go back to 2002 when Dr Hill came to UCD as a post doctoral researcher. In 2004 she received research funding from Science Foundation Ireland (SFI) to look in detail at genetic influences on performance. This research was the first dedicated academic programme in the world to apply novel genomics technologies to identify genetic contributions to racing performance in thoroughbred horses. "Basically we wanted to understand more about the biology of the horse with a view to understanding what makes one horse run faster than another," Dr Hill says.

This involved close cooperation between Hill's team and the Irish bloodstock industry who made animals available for testing during the research. "Key to our success was selecting the right group of horses to test," Hill says. "This is where my understanding of the racing industry was a big help. There are many excellent geneticists out there but they may not have the industry knowledge. I am a geneticist by training so had a foot in both camps.

Hill and her team established that a horse may inherit either a C component or a T component in the myostatin gene from its dam and its sire and they set out to see if the different genotypes were responsible for the development of horses into sprinters or stayers. She established that each genetic combination had an optimum racing distance and ultimately developed a test that identifies CC (short), CT (middle) and TT (middle-long) distance runners.

Using the Equinome Speed Gene test racehorse owners and trainers around the world can identify if a horse is suited to racing over short, middle or middle-to-long distances. This information can then be used to inform their purchasing and training decisions and to identify the most appropriate races for their horses. Breeders, stallion managers and bloodstock agents will also be able to use the test to make more precise selection and breeding decisions to maximise the genetic potential and commercial value of their horses. The cost of the test is €1,000.

"What I am particularly pleased about is that as a direct result of Government funding through SFI we have been able to develop our research into a locally based company with the potential to grow significantly and compete on the international stage," Hill says.



Equinome co-founder Dr Emmeline Hill

## Rebuilding Haiti

The process of rebuilding Haiti needs to be based on the vision of the Haitian people. Speaking at the 'Rebuilding Haiti' discussion, hosted by the UCD Clinton Institute in partnership with The Leprosy Mission Ireland, Amitabh Desai (foreign policy advisor to President Clinton) underlined President Clinton's aim to 'build back better' and so create an infrastructure that would better serve the needs of Haitians.

The speakers at the event included Denis O'Brien, Chairman of Digicel Group, the single largest investor in Haiti and Dr James Reilly TD (Fine Gael Health Spokesperson). They addressed important aspects of the challenges facing Haiti and in particular the underlying question of how to build and make sustainable a functioning Haitian state.



*Show at the discussion 'Rebuilding Haiti: What Role for the US, EU and Ireland?' were (l-r): Prof Liam Kennedy, Director of the UCD Clinton Institute for American Studies; Amitabh Desai, foreign policy advisor to President Clinton; Denis O'Brien, Chairman of Digicel Group; and Ken Gibson, Chief Executive Leprosy Mission of Ireland*



*French Ambassador to Ireland, Mr Yvon Roe d'Albert presents Prof Laffan with the Insignia of Officer of the French National Order of Merit*

## UCD Programme Chair for largest global academic management organisation

Dr Jacob Eisenberg, UCD School of Business, has been elected by the international membership of the Academy of Management to lead the Management Education & Development Division.

The Academy of Management is the largest and most influential academic management organisation in the world, representing nearly 20,000 members from thousands of universities in more than 100 countries. Of Academy's 25 divisions, MED is one of the largest ten divisions with 1,900 current members. In this role, Dr Eisenberg will work with others to positively impact the scholarship and professional development of scholars, students and practitioners belonging to the Division with a special focus on Academy's Annual Meeting, which was attended by over 10,000 people last year.

Dr Eisenberg was also recently one of a number of UCD academics awarded a Research Development Initiative (RDI) grant by the Irish Research Council for the Humanities and Social Sciences (IRCHSS), and has been elected to the Governing Council of the International Association of Cross-Cultural Competence and Management (IACCM).

## French National Order of Merit for UCD professor

In recognition of her service and achievements in the field of European Affairs, Professor Brigid Laffan has been received as an Officer of the French National Order of Merit.

The French Ambassador to Ireland, Mr Yvon Roe d'Albert presented Professor Laffan with the Insignia of Officer at a ceremony in the French Embassy in Dublin.

The award was established by General de Gaulle in 1963. It rewards distinguished merit in a public post, civilian or military, or in the exercise of a private activity, and is given at the discretion

of the French President. The award has five grades: Grand Cross, Grand Officer, Commander, Officer and Knight.

Professor Laffan is Principal of the UCD College of Human Sciences and has been Jean Monnet Professor of European Politics at UCD since 1991. She was the founding Director of the Dublin European Institute, UCD and is a member of the Research Council of the European University (EUI) Florence, the National Economic and Social Council (NESC) and the Irish Government's High Level Asia Strategy Group.

## Poets and printers – exploring hidden histories

Little research has been undertaken on the publishing of poetry in Ireland from the days of the Yeats sisters' Cuala Press to the world of the internet – though several thousand volumes and pamphlets appeared during this period. UCD is now well-placed to host research on this material, as the Poetry Ireland library of books and pamphlets, much of it originally collected by Austin Clarke, is on long-term loan in the UCD Library.

A recent UCD Humanities Institute symposium, the fourth in a series on book history and print cultures, focused on English-language material printed by Ireland's poetry publishers in the twentieth century and included an assessment of the Poetry Ireland collection. The event featured speakers with expertise in bibliography, printing, literary criticism, publishing and arts management and policy. A plenary lecture by Professor Tom Dillon-Redshaw (University of St Thomas, Minnesota) discussed the work of Liam Miller and the Dolmen Press. Other sessions included interviews with poets Michael Longley, Micheal O'Siadhail and Eiléan Ní Chuilleanáin. The symposium was organised by Professor Emeritus Andrew Carpenter and Dr Lucy Collins of UCD School of English, Drama & Film and Dr Marc Caball, UCD Humanities Institute.



*Showing at the "Poets and printers" symposium were (l-r): Dr Lucy Collins, UCD School of English, Drama & Film; Prof Emeritus Andrew Carpenter (UCD School of English, Drama and Film); Prof Tom Dillon-Redshaw, University of St Thomas, Minnesota; Dr Marc Caball, Director of UCD Humanities Institute; and Prof Declan Kiberd, UCD School of English, Drama & Film*

# A man for all seasons – and founder of the L&H

Conall O Mórán (BA 1979) speaks with Director of the UCD International Centre for Newman Studies, Dr Pádraic Conway about Theologian, Educationalist and UCD's Founding Rector, John Henry Newman.

When the former CEO of Intel, Craig Barrett, recently told the Royal Irish Academy that Ireland needed more engineers most commentators agreed with him. Barrett, an engineer himself, pointed to the necessity within industry for people who are trained to think logically and who are more than useful in taking charge of large commercial operations. However, Barrett may have touched unwittingly on an issue that could have had more than a little to do with our present economic difficulties in the way he sees education firmly in its vocational role, training people for work.

John Henry Newman, as exemplified in his seminal work '*The Idea of a University*' would have had a different view to Barrett's. It could be said that while Barrett wants better workers, Newman wanted better humans. As Newman would have seen it, a university that is purely utilitarian, that aims simply to meet consumerist demands, strays from one of the central educational missions that a university should address, i.e. the cultivation and the disciplining of the mind.

In the lectures and essays eventually published as '*The Idea of a University*' Newman raised many issues such as the place of religion and moral values in a university setting, the competing claims of liberal and professional education, the character of the academic community, and the relationship between religion and science.

**Newman raised the fundamental question, what are the aims and objectives of university education?**

He argued that the whole idea of a university was to educate in the round. A university should bring people of all disciplines together so that they would learn from each other as much as learning from their tutors and that this wider

education would add to each person's understanding of his or her preferred discipline, placing their learning in a wider context or more simply, giving them a better education. Future lawyers would, for example, benefit from knowing something about economics or commerce graduates might benefit from learning some moral philosophy. Most UCD students will

have noticed the frequent use of the name Newman within the University –, Newman Building, Newman House, Newman Scholarships. Newman has even been used by some of the college's soccer teams who are probably unaware that their namesake never played much sport.

But most students have little knowledge of the man and his work. Hence, part of the purpose of the UCD International Centre for Newman Studies is to bring the works and thoughts of Newman to university and world audiences. John Henry Newman was the first Rector of the Catholic University of Ireland, UCD's antecedent institution. Though he was rector for only four years, from 1854-1858, before returning to his native England, Newman certainly left his mark, and his influence can be found in papers, lectures and even in the UCD strategic plan.

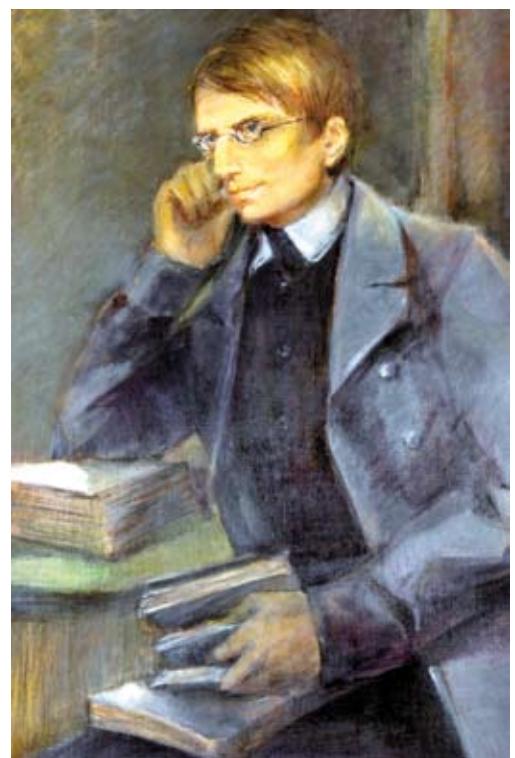
The UCD International Centre for Newman Studies was officially launched in February 2005 under the then leadership of Professor Teresa Iglesias. Its aim is to retrieve Newman's significance and relevance. Now under the directorship of Dr Pádraic Conway, the Centre has attracted significant funding for work on Newman's Dublin writings from the Irish Research Council for the Humanities and Social Sciences.

In addition, the Centre holds a series of public lectures by notable Irish and international academics. This year's highlight will undoubtedly be the delivery of the Newman Lecture by the President of Ireland, Mary McAleese, in October. In fact, 2010 may be a very good year for Newman as in September he is due to be beatified by Pope Benedict XVI when he visits Britain. He already has one miracle attributed to him, a second could see the former Cardinal canonised.

Newman was one of the great thinkers of his time and though the future Cardinal earned only a third class degree from Oxford, he was very rapidly recognised for his intellectual brilliance. Though never a bishop he was made Cardinal on May 12, 1879 in the first consistory of Pope Leo XIII.

The motto that he adopted as a cardinal, *Cor ad cor loquitur* (Heart speaks to heart), and that which he directed to be engraved on his memorial tablet at the Birmingham Oratory *Ex umbris et imaginibus in veritatem* (Out of shadows and phantasm into truth) say much of a life which, both to contemporaries and to later students, was seen as devout and inquiring, affectionate and yet self-restrained. Lord Coleridge, great-nephew of the poet Samuel Taylor Coleridge, said of Newman, "Raphael is said to have thanked God that he had lived in the days of Michelangelo; there are scores of men, I know, there are hundreds and thousands, I believe, who thank God that they have lived in the days of John Henry Newman."

To some, part of Newman's legacy was an undue Catholic Church influence that was seen as prevalent for decades within UCD, but according to Dr Pádraic Conway, director of the Newman Centre, it would be unfair to blame Newman for any of this: Newman, in fact, promoted the concept of disciplinary autonomy and had a



John Henry Newman, "The Young Rector", portrayed in his early fifties when he came to Ireland, by MAGAR.

strong sense, for example, of the proper boundaries of the discipline of theology within a university.

The UCD International Centre for Newman Studies is also collaborating with the Irish School of Ecumenics in TCD while another project is focusing on Newman and Charles Darwin. Newman was very sympathetic to the ideas of Darwin and wrote two seminal essays: "Christianity and Physical Science"; and "Christianity and Scientific Investigation". These relatively neglected texts make a signal contribution to the current debate between theologians and scientists. Newman's approach is clear on the damage done by both theology and science when they overstep their boundaries, attributing much of the heat of the contemporary debate to a lack of respect for such boundaries. The major conference "Newman and Darwin: Twin Towers or Polar Opposites?" will take place in late 2010. Confirmed speakers already include Darwin's great-great-granddaughter, the renowned poet Ruth Padel, as well as the internationally recognised Newman scholar, theologian Nicholas Lash.

Newman was a major influence on the Second Vatican Council where many of the ideas he stood for came to prominence: freedom of conscience; the church as a communion with the laity given their rightful place; the duty of the church to meet the needs of the modern age. It is his work on university education which, understandably, continues to resonate most strongly at UCD.

"The difference between a classic and a period piece is that when we return to a classic work, we find something new in it every time, something that challenges our current perceptions and *idées reçues*. By any such measure, Newman's *Idea* is a classic. We can be very proud to be part of a university with which it will be forever associated." Conway concluded.

Conall O Mórán (BA 1979) is MD of The Media Group

## Work on "Dynamics of Suicide Bombing" short-listed for best politics thesis in EU

Paul Gill, a PhD graduate from the UCD School of Politics and International Relations, has been short-listed for the 2010 Jean Blondel Prize for the best political science thesis in the EU.

His doctoral thesis entitled "The Dynamics of Suicide Bombing in Campaigns of Political Violence" examined the underlying individual and organisational motivations behind suicide bombing and why constituencies of people give support to the perpetrators.

The Jean Blondel Prize is judged by a committee drawn from the editorial board of the European Consortium for Political Research (ECPR). The Consortium is an independent, scholarly association with approximately 350 European institutional members and associate members in over 40 countries. Together, the members form a network of thousands of individual political scientists, international relations and European studies specialists.

Paul Gill completed his doctoral thesis in 2009 under the supervision of Dr Tobias Theiler, UCD School of Politics and International Relations and the work was funded by the Irish Research Council for Humanities and Social Sciences (IRCHSS).

Gill is currently a Postdoctoral Fellow at the International Center for the Study of Terrorism (ICST) at Pennsylvania State University and is the project manager of ICST's research on the human and social dynamics of IEDs (Improvised Explosive Devices). He is currently working on a manuscript entitled "Marketing Martyrdom".

## TellMeMore language technology enhances learning

Students of French in the UCD School of Languages and Literatures can now work more flexibly on pronunciation, intonation, and listening comprehension skills. Thanks to a SIF-funded Module Innovation Support Grant from UCD Teaching and Learning, the web-delivered program TellMeMore, familiar to students in leading US universities, has been integrated into the core Level 2 language programme.

The package, which can be used on the students' own computer or in the Applied Languages Centre's self-access space, provides resources for students to work independently on all the skills of language learning. Integrated voice-recognition technology means live playback facilities and instant pronunciation analysis, thus filling a gap in oral and aural independent-study provision. Students preparing for an Erasmus year in France can supplement their work in class with 24-hour access to speaking and listening exercises, while for those not in a position to spend time abroad, the package offers invaluable extra exposure to realistic language situations.



Pictured at the fourth UCD Alumni Relations 'Characters in Conversation' series, were Aine Gibbons, UCD Vice-President for Development; broadcaster Olivia O'Leary; and actress Rosaleen Linehan. At the event, which was attended by 380 alumni and friends, Linehan shared stories with O'Leary about her time at UCD, her early comedy career and her successful move onto stage. The event was the final in the 2010 series of "Conversations", and followed on from the successful "Conversation" where Denis O'Brien and Pat Kenny talked about their times at UCD and the highlights of their careers since

## New Judge-in-Residence at UCD Law School

High Court Judge Mr Justice John Cooke has been appointed as the new *Judge-in-Residence* at the UCD School of Law. Born in 1944, Cooke was called to the bar in 1966 and to the inner bar in 1980. He was President of the Council of the Bars and Law Societies of the European Community 1985 to 1986. He has been Judge at the Court of First Instance in the European Court of Justice since January 1996. He was appointed to the High

Court in 2008. Judge Cooke was also President of the Royal Zoological Society of Ireland 1987 to 1990.

UCD is the only Law School in Ireland to have a *Judge-in-Residence* programme, which provides an interface between members of the judiciary and the academic legal community through lectures and seminars. Judge Cooke replaces Mr Justice Nial Fennelly of the Supreme Court in the role.

## HEI Access officers graduate

Staff from thirteen Higher Education Institutions formed the first graduating class from the *Equality and Higher Education Access* course in May.

The course, designed by the UCD School of Social Justice in partnership with the HEA National Access Office and the Network of Access Officers working in Irish higher education, is part of the Equality Studies outreach and Continuing Professional Development programme.

The course covers Access research and policy, management issues, and Access practice.

It allows students to deepen their understanding of the issues that contribute to persistent inequalities in Higher Education Access and participation. It also allows students to develop skills to address some of these issues including research, reporting, strategic planning and programme management.

The course was delivered for the first time in 2008-9 as a 10-credit module for occasional students, but is now offered as a Level 9 Certificate of Continuing Professional Development.

Some of the first class to graduate from the *Equality in Higher Education Access* course are shown here with UCD academics. Back row (l-r): Breege Loftus (NUIG Access); Martha Branded (NUIM Access); Kelly Anne Roche; Muiris O'Connor (HEA); Deirdre Creedon (CIT Access); Margaret Ryan (IT Tallaght Access). Front row (l-r): Prof John Baker (Head of UCD School of Social Justice); Dr Phyllis Murphy (Equality Studies Centre CPD Coordinator); Fiona Sweeney (UCD Access); Prof Kathleen Lynch (UCD School of Social Justice); Deirdre O'Connor (UL Access); Prof Brigid Laffan (Principal of UCD College of Human Sciences); John DeLap (DIT Access); Kathleen O'Toole (TCD Access)



# Putting flesh on the bones

We all know about fossils that catch the eye - dinosaur skeletons that make the headlines, intricate shells entombed in polished slices of rock and even scatterings of petrified ancient teeth. Dr Paddy Orr talks to Claire O'Connell (BSc 1992, PhD 1998).

Using modern technology to put flesh on the bones and build up a bigger picture of life on earth many millions of years ago, his lab's discoveries include insights into ancient amphibian muscles and dinosaur feathers.

"We work on absolutely anything that is a little bit odd," says Dr Orr, referring to the eclectic mix of animals and environments that have fallen under the gaze of his lab since he came to the UCD School of Geological Sciences in 2003.

"Most of the fossil record is made up of the hard parts of organisms, the bones, shells and teeth, the biminerallised tissues, and out of that you tend to simply get isolated bones, or if you have a multi-element skeleton you get disarticulate, separate elements," he explains.

"But we look at exceptionally preserved fossils, like when you get articulated skeletons for vertebrates for example, or when you get soft tissue that would normally decay very rapidly."

Much of the research hinges on relatively new, non-destructive techniques in microscopy that can identify and analyse tiny segments of fossil and highlight features that would previously have been overlooked.

Those new approaches include being able to get up close and very personal with the surface of a specimen by putting it directly into the scanning electron microscope (SEM) without the need to preserve the fossil first, explains Orr.

Then a method called "ion beam milling" allows the scientist take a tiny sliver of an interesting portion that they can go on and examine in minute detail under the transmission electron microscope (TEM).

The integrated processes mean the scientist can get the required information and still hand the precious specimen back to a curator without any visible damage to it, explains Dr Orr.

"The museums are fantastic archives of this information and the material we look at might be 100 or 120 years in the collection and now the

technology means it can be analysed," he says. "You can see the value of material that's archived, often from sites that no longer exist."

During his PhD work at Bristol University, Orr became interested in using microscopy to examine soft tissues and how they may be preserved. Fossils from specific environments where soft tissues are preserved to some degree can help flesh out the evolutionary record and also provide clues about the kind of ecosystems in which the animals and plants found themselves when they were alive, explains Orr.

## From a biological point of view they are little goldmines."

His lab has turned up, and contributed to, landmark discoveries from such treasures, including images of preserved muscle fibres in frogs and salamander fossils from lake beds in Spain dating from between 10 and 17 million years ago.

"These are the first examples of fossilised bone marrow and musculature as organic remains," says Orr, noting that at a molecular level there could await even more discoveries. "The importance of [biomolecules] in the geological record hasn't been fully appreciated until the last few years, largely because of what we turned up."

"There were these two competing models as to what these elongate fibrous structures were - they were either the proto-feathers, as many people believed, or they were collagen fibres from within the skin," explains Orr. "We thought if they are feathers then the key thing they should have is little pigment bodies or melanosomes."

On inspection, the international team from the University of Bristol, UCD, the Institute of Vertebrate Paleontology and Paleoanthropology (IVPP) in Beijing, and the Open University found not one but two types of melanosomes in the specimens, coming down heavily on the 'feather' side of the argument, and they compared the rounded and sausage-shaped pigment bodies with those from a modern species of zebrafinch.

The proof-of-concept study suggested that dinosaurs may have had different coloured feathers, and Orr's group now hopes to study further the distribution of the pigment body types to build up a better understanding of the animals' appearance and the function the feathers may have had.

"We know that feathers evolved before flight, so their primary function must have been something else, and you can probably start to constrain what the functions would have been if you can understand the absolute colours but also the patterning, which I think is as critical; the patterning can break up the line of an animal or is can be something that screams 'I'm here come get me'."

As Orr's lab continues to examine both the processes of soft-tissue preservation in fossils and the kinds of clues it can yield, he stresses that if you look in the right places there are rich pickings in the field that will benefit our understanding of how life on earth evolved.

**Their approach also helped solve a mystery of fibres found on 125-million-year-old fossil samples from China.**

"We think there's a lot more organic preservation in certain settings than people have actually realised," he says.

"It's nice to have been the first to turn these things up, but I think the real excitement will come when other people build up enough data to get a better picture."

*Claire O'Connell (BSc 1992, PhD 1998) is a freelance journalist.*

## Filling a 30-million-year gap in evolution

Orr's team recently contributed to work that featured on the cover of the leading journal *Nature*.

Working with colleagues in Yale University, England, France and Morocco, the group have shown that various groups of marine animals thought to have died out about 500 million years ago actually lived for another 30 million years or more.

By discovering fossils of soft bodied organisms like worms, sponges, and various types of soft-shelled arthropods, including the oldest horse shoe crabs in south-eastern Morocco, the team has provided the first examples of these ancient animals outside of classic older localities such as the Burgess Shale in Canada, which dates back 505 million years.

The lead author of the scientific article, Dr Peter Van Roy, a postdoctoral researcher at Yale University, recently completed a two-year IRCSET EMPOWER postdoctoral fellowship at UCD School of Geological Sciences. He first recognised the significance of the fossils almost a decade ago. Since then, he has worked with local Moroccan geologists and a team of international researchers to document the incredible diversity of the fossil discoveries.

"We know that the fossil record is an important record of life, but it is an incomplete record," says Dr Patrick Orr from the UCD School of Geological Sciences.

According to Orr, there was an explosion of new life forms during the Cambrian period – about 540 million years to 490 million years ago – with the shales revealing soft-bodied animals, and then the record went blank.

With these new Moroccan fossils the evolutionary story continues. It shows many of the animals from the Cambrian survived and multiplied into the next period, the Ordovician.

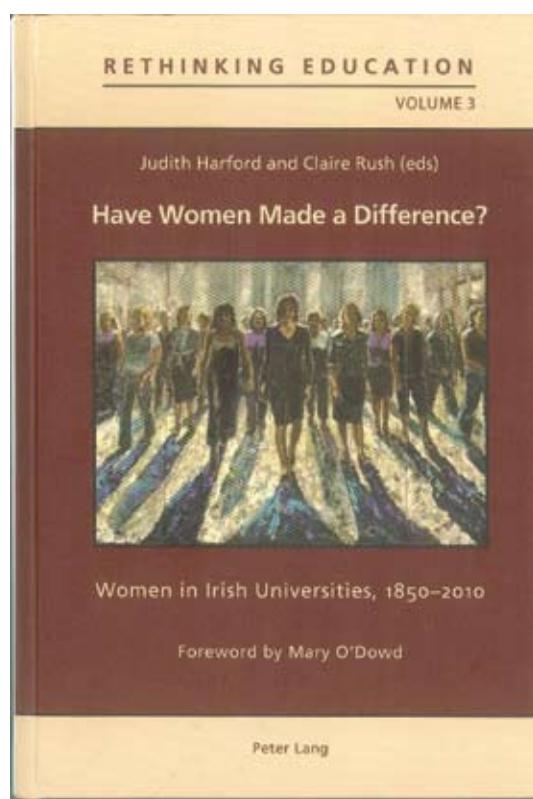
"This discovery is a landmark in evolutionary research, and provides a new window on the history of life," says Orr.



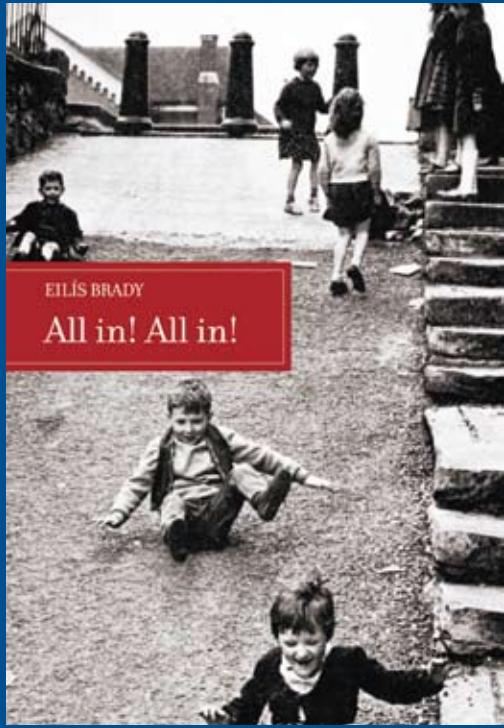
Dr Paddy Orr

## Shaping University Life – Women Who Made a Difference

Access to education has been a contentious issue for women in Ireland as elsewhere. In a new book *Have Women Made A Difference?* edited by Dr Judith Harford, UCD School of Education, and Dr Claire Rush, Queen's University Belfast and published by Peter Lang, leading scholars from the fields of education, literature, nursing, social policy and women's studies trace the evolution of the role of women in university education. At a time when women had to struggle to access university education, a small army of women defied the odds stacked against them in pursuit of education. In her chapter entitled 'Assistant Something-or-Other in the New University: Life and Letters of Mary Kate O'Kelly', Phyllis Gaffney looks at the journey Mary Kate O'Kelly undertook in education and her role at UCD. Although she is best known for being married to the later President of Ireland Sean T O'Kelly, Mary Kate was a trailblazer in her own right as one of the few women employed in academia at the time. The new book also contains essays on female academics in other universities and contains important research into the organisational culture of universities and how women have impacted upon this up to the present day.



In her new publication, "The Irish State and the Diaspora", Prof Mary E Daly (Principal of UCD College of Arts and Celtic Studies), examines how successive Dublin governments have interacted with the Irish overseas – some 80 million diverse individuals internationally who claim Irish descent. Based on her 2008 O'Donnell Lecture given for the NUI centenary, the book was launched by Chancellor of the National University of Ireland, Dr Maurice Manning at an NUI History event in April. Prof Daly is shown here (left) with Dr Manning (second from left); Dr Attracta Halpin, Registrar of the NUI; and Fergal Quinn, Senator of NUI

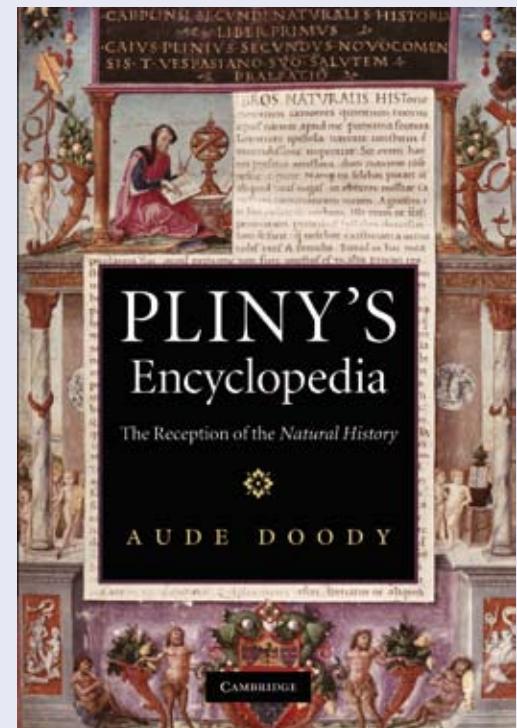


## All in! All in!

*All in! All in!* documents the secret world of children and puts in writing the fun and life-learning experiences of games played in Dublin in the nineteenth and early twentieth centuries. The chants, rituals and unwritten rules of children's street games were acquired and passed on by word of mouth and observation – arguably, this transfer was one of the purest forms of folk tradition as it was hardly influenced by formal education or literacy.

Eilís Brady (1927-2007) was a member of the Editorial staff of the Department of Education's Publications Branch. She contributed a valuable collection of children's folklore to what is now the National Folklore Collection, UCD. Her 1975 book *All in! All in!* has been reprinted by Comhairle Bhéaloideas Éireann/ The Folklore of Ireland Council and was launched by Lord Mayor of Dublin Emer Costello in April.

More information from [bealoideas@ucd.ie](mailto:bealoideas@ucd.ie)



## Pliny's Encyclopedia — The Reception of the Natural History

Published by Cambridge University Press, a major new work by Dr Aude Doody, UCD School of Classics, examines responses to Pliny the Elder's *Natural History* over the last two millennia.

The Elder Pliny's *Natural History* is one of the largest and most extraordinary works to survive from antiquity. It has often been referred to as an encyclopedia, usually without full awareness of what such a characterisation implies. In this book, Dr Doody examines this concept and its applicability to the work, paying far more attention than ever before to the varying ways in which it has been read during the last 2,000 years, especially by Francis Bacon and Denis Diderot. This book makes a major contribution not just to the study of the Elder Pliny but to our understanding of both the cultural processes of ordering knowledge widespread in the Roman Empire and the reception of Classical literature and ideas.

## Innovation in Complex Social Systems

Innovation is the creation of new, technologically feasible, commercially realisable products and processes. It ideally emerges from the ongoing interaction of innovative organisations such as universities, research institutes, firms, government agencies and venture capitalists.

The new publication, *Innovation in Complex Social Systems*, edited by Professor Petra Ahrweiler of UCD CASL, uses a "hard science" approach to examine innovation in a new way. Its contributors come from a wide variety of backgrounds, including social and natural sciences, computer science, and mathematics. Using cutting-edge methodology, they deal with the complex aspects of socio-economic innovation processes. Its approach opens up a new paradigm for innovation research, making innovation understandable and tractable using tools such as computational network analysis and agent-based simulation.

The book, which is part of the Routledge Studies in Global Competition, combines empirical analysis with a discussion of the tools and methods used to successfully investigate innovation from a range of international experts, and will be of interest to postgraduate students and scholars in economics, social science, innovation research and complexity science.

## Anonymous donor creates Smurfit Aspire Scholarships

An anonymous private donor is offering €500,000 for graduates to undertake a Masters at UCD Michael Smurfit Graduate Business School. The *Aspire* scholarships provide an opportunity for up to 60 graduates who would otherwise be unable to afford fourth level education to attend Ireland's premier business school. The fund was set up by the donor to support the Irish economy. Professor Tom Begley, Dean of UCD Smurfit School, said, "Many talented minds are unable to consider doing a Masters due to a lack of finance. The *Aspire* scholarship will facilitate top-quality candidates who find themselves in this position to undertake a further step in their education."

## Lotus leaf analogy wins Science Speak for UCD nano-scientist

Drawing inspiration from the action of an aquatic plant, Charles Nwankire, a PhD student in the UCD School of Electrical, Electronic and Mechanical Engineering, won the 2010 Science Speak competition after describing his research into a self-cleaning surface.

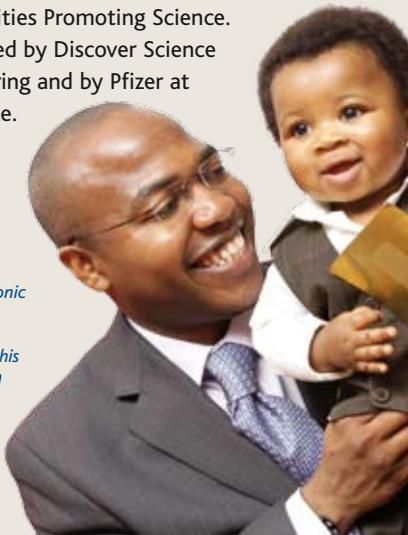
"It was all about imitating a lotus leaf," Mr Nwankire told the audience on the night. The lotus leaf uses small projections that prevent water sticking to the surface. Inspired by the water-resisting powers of the leaf, Mr Nwankire and his supervisor Dr Denis Dowling, Director of the Surface Chemistry Group in the UCD School of Electrical, Electronics and Mechanical Engineering, set out to imitate this approach.

In his winning presentation entitled 'Nano Engineered Surfaces to Prevent Fouling' Mr Nwankire's work showed the environmental importance of finding suitable coatings to prevent fouling of industrial machinery, fish farm nets and household radiators.

Mr Nwankire bonded polymers onto metal surfaces to make them self cleaning and he found that changing the polymers could affect whether the surface would shed water or oil. There is already significant commercial interest in the work.

Science Speak is a joint PhD science communications initiative organised annually by the RDS and The Irish Times in association with Irish Universities Promoting Science. It is sponsored by Discover Science and Engineering and by Pfizer at Grange Castle.

*Science Speak* winner Charles Nwankire, a PhD student in the UCD School of Electrical, Electronic and Mechanical Engineering, is shown here with his 7-month-old son Chidiebap



## GE Healthcare invests \$3 million in TRIL

GE Healthcare has become the second industry partner of the TRIL (Technology Research for Independent Living) Centre at UCD with an investment of \$3 million.

With GE Healthcare alongside co-founder Intel and academic partners UCD, Trinity College Dublin and NUI Galway, TRIL will be able to extend its range of research activities exploring the physical, cognitive and social consequences of ageing and designing technologies to help address them.

"GE Healthcare's focus on innovative thinking and commitment to improving healthcare while reducing costs will make them a valuable contributor to our research efforts," says Dr Brian Caulfield, UCD School of Public Health, Physiotherapy and Population Science, who is the Academic Director of the TRIL Centre.

A key goal of TRIL's research is to enable older people to live independently in the homes of their choice for as long as possible, with the help of

technology - and in the process, help ease the strain on global healthcare systems as the world's population ages.

Home health is a key business focus for GE Healthcare. "We are delighted to be part of the TRIL Centre and to be involved in the groundbreaking research being done there," says Agnes Berzenyi, General Manager of GE Healthcare's Home Health Business.

"The world is getting older and this is presenting enormous healthcare challenges in the care of elderly citizens and the prevention and management of chronic disease. We are looking forward to working with TRIL to drive innovation in this emerging area and ultimately transforming the lives of elderly citizens."

Since TRIL was founded by Intel Corporation and IDA Ireland in January 2007, over 600 older adults have been assessed in the TRIL Clinic and many have participated in the TRIL technology home deployment programme.

## Website supports UCD teaching and learning

To promote innovation in teaching, learning and assessment across the university, UCD has developed a new website with comprehensive teaching resources and information on awards, grants and funding available to support developments in the area. Designed as a resource for educators, the Teaching and Learning website will also showcase good practice across the university.

The site, [www.ucd.ie/teaching](http://www.ucd.ie/teaching), includes resources for understanding how students learn; for planning and structuring a teaching session; and for teaching large and small groups of students.

The website also outlines the teaching and learning awards and grants currently available including: the President's Teaching Award; College Teaching Awards; Fellowships in Teaching and Academic Development; and Digital Seed Funding.

The information and resources aim to assist educators with responding to the changing nature of higher education learners and developments in the teaching of their discipline.

## Report commends UCD SIF activities

In an independent interim evaluation of the Strategic Innovation Fund (SIF), US federal expert on higher education Dr Gordon Davies noted the valuable contribution of the overall SIF programme.

While he said that approximately 10% of the projects were not meeting their original expectations and should be terminated, he also praised those single-institution projects that were working well and recommended increased inter-institutional collaboration.

UCD's leadership programme, led by UCD HR, was singled out as "an impressive project that could provide a basic model for Leadership training across all of higher education".

Dr Davies also commended the Dublin Region Higher Education Alliance (DRHEA) — of which UCD is the largest recipient of funding — signalling its "potential ... for the development of Higher Education at both a national and international level".

# PhD Profile - Exploring cells on a nanoscale

Urs Ferber, a graduate of the University of Ulm in Germany, joined the Nanoscale Function Group at UCD in 2008.

"I find the combination of physics with other fields of research like biology or economics very interesting as you get to work with people from a different background who often have a completely different view on a problem."

Under the supervision of Professor Suzi Jarvis, Urs is working on a Science Foundation Ireland sponsored project, researching how cell membranes interact with the fluid environment and salts that surround them. By understanding the structure and function of these molecular interactions, novel technologies such as new drug treatments for diseases and biomedical devices could potentially be developed.

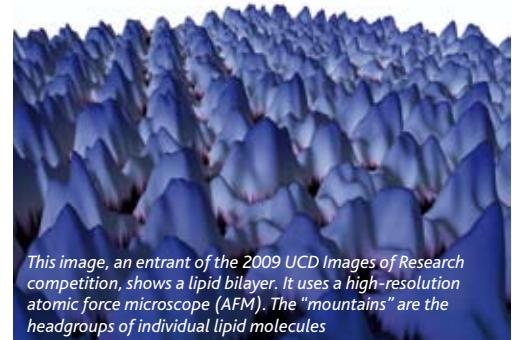
"As the cell membrane acts as a barrier for the cell, the properties of this barrier are crucial to all

molecules or particles passing through the membrane. For example, interactions with ions (such as salts) play an important role in cellular processes and drug interactions."

In order to study molecules as little as 0.1 nanometre (a nanometre is one billionth a metre), Urs uses a bespoke atomic force microscope (AFM), one of only 5 microscopes of its kind in the world. Conditions need to be perfectly still to use the microscope and the smallest vibrations can disturb the measurements.

"Everything needs to be perfect to achieve atomic resolution. Clapping your hands close to the AFM will show up in your image and nearby construction work sometimes disturbs our measurements due to generated vibrations like drilling and digging."

Working on a nanoscale project is not without its challenges and Urs advises that a lot of



*This image, an entrant of the 2009 UCD Images of Research competition, shows a lipid bilayer. It uses a high-resolution atomic force microscope (AFM). The "mountains" are the headgroups of individual lipid molecules*

patience is required but ultimately it is a rewarding field of research.

"Once you overcome the frustration of many failed tries, such as some part of your setup not being absolutely perfect, you really enjoy working on this very challenging and very interesting field of research."

## Forests more prone to wildfires as climate heats up

A change in vegetation leaf shape, alongside warmer temperatures and more frequent storms, led to a five-fold increase in natural wildfires in East Greenland millions of years ago, according to new research published on the cover of *Nature Geoscience*.

With these findings, UCD scientists claim that current rising levels of atmospheric CO<sub>2</sub> contributing to global warming, could lead to increasing numbers of wildfires.

Wildfires are a growing natural hazard in most regions of the United States, posing a threat to life and property, particularly where native ecosystems meet developed areas.

According to the US Geological Survey, more land has been affected by wildfires in recent years than at any time since the 1960s. In 2004, wildfires burned more than 8 million acres in 40 States in the US. The greater Yellowstone National Park fire of 1988 burned more than 1.2 million acres.

"We selected the boundary between the Triassic-Jurassic period, 200 million years ago, as it represents a natural global warming event, that is believed to have led to a catastrophic mass extinction event," says Dr Claire Belcher from the UCD School of Biology and Environmental Science who led the study.

"By studying how plants and fire changed in the ancient past and using experiments on living plants – much like those that grew 200 million years ago in East Greenland – we identified the conditions under which ecosystems became more flammable."

According to Dr Belcher, a warming climate and high levels of CO<sub>2</sub> in the atmosphere caused plants to evolve narrower leaves to prevent them from losing water as quickly under increased temperatures.

"Our laboratory experiments show that plants of this shape are more flammable and therefore more prone to wildfires through lightning strikes," explains Dr Belcher.

The findings help scientists to understand how climate-driven changes in vegetation can cause increases in the flammability of plants. The research



*Cover of Nature Geoscience June 2010 showing a scientific illustration of Greenland's vegetation 200 million years ago*

also helps predict that the planet may become more flammable as global warming continues.

The laboratory experiments were conducted at the University of Edinburgh's BRE Centre for Fire Safety Engineering.

"This research brought together scientists from very different backgrounds, and doing so has given us insights into ancient wildfires that we might otherwise not have had," says Dr Guillermo Rein from the University of Edinburgh's School of Engineering, who co-authored the work.

"This is the first time our flammability technology has been applied to test geoscience hypothesis and highlights how new ideas can be formed when scientists from very different backgrounds work together."

Researchers from the University of Oxford and the Field Museum of Natural History in Chicago were also involved in the study. Funding for the project was provided by the EU Marie Curie programme.

## Competence Centres in Bioenergy & Biorefining and in Composite Materials

UCD is to co-host two Competence Centres as part of a €56m industry-led research investment. Announced in March by Tánaiste Mary Coughlan TD, the centres are part of the Government's Strategy for Science, Technology and Innovation, and are being delivered jointly by Enterprise Ireland and IDA Ireland. Under the announcement, a total of nine clusters of companies will work together nationally to overcome common research challenges and drive opportunities for innovation, growth and jobs.

Dr Kevin O'Connor, UCD School of Biomolecular and Biomedical Science and UCD Conway Institute is part of the joint NUI Galway, UL, UCD team hosting the Bioenergy & Biorefining Competence Centre which will focus on ways to convert latent energy from plants into useful forms like heat, energy and fuels for transport.

Professor Alojz Ivankovic, Professor Michael Gilchrist and Dr Denis Dowling from UCD School of Electrical, Electronic and Mechanical Engineering are part of the UCD team co-hosting the UL-based Competence Centre for Composite Materials. The centre will research the properties and complexities of lightweight plastics so that they can be utilised to replace heavy metals in products like aircraft, cars and boats, wind turbine blades and construction materials.

Launching the Competence Centres the Tánaiste said: "These industry-led centres will convert the research undertaken into new products and services, leading to growth in export markets and jobs in Ireland".

Speaking about the benefits of participation to the Foreign Direct Investment (FDI) companies that are involved in the Centres, Barry O'Leary, CEO, IDA Ireland said, "Companies like Intel, Xilinx, Pfizer and Microsoft are engaged in these Competence Centres so they can access the collective expertise of Ireland's top Universities and work with Irish SMEs in partnership".

Pictured at the IBIS Annual Conference 'A Decade of Centenaries: Commemorating Shared History' were: Prof Jennifer Todd, UCD Institute for British-Irish Studies and An Taoiseach, Brian Cowen TD



## Shared history key to Irish and Northern Irish commemorations

In a speech delivered at the UCD Institute for British-Irish Studies annual Conference, which coincided with the visit of the new UK Prime Minister, David Cameron to Northern Ireland, An Taoiseach, Brian Cowen TD, stressed the need for all to recognise our shared history in the coming decade that will see commemorations of centenaries like the Ulster Covenant, the Battle of the Somme, the Easter Rising, the War of Independence, the Government of Ireland Act and the Treaty.

"Recent weeks have seen historic developments in Britain, with the formation of a new Conservative-Liberal Democrat coalition government led by David Cameron," quotes the Taoiseach, in the opening of his speech. "I had the opportunity to speak with the Prime Minister on his first full day in office and we reaffirmed our joint commitment to the peace process and to the agreements that have helped us make so much progress in Northern Ireland and in British-Irish relations."

The Taoiseach went on to recognise the work of former UK Prime Minister, Gordon Brown, especially with regard to the devolution of policing and justice.

During the course of his speech Cowen stressed the need to be conscious of Ireland's shared history in the coming decade of commemorations in Northern Ireland and in the

Republic. "For most of the last century when we looked across the border, we saw and were wary of the 'other,'" he said.

"We forced each other into making choices, into defining ourselves in exclusive terms. We failed to recognise that, even though we have different traditions and perspectives, what we share is much more important than what separates us."

Academic and media speakers at the conference included: David Adams (Irish Times), Ian Adamson (The Somme Association), Brian Feeney (Irish News), David Hoey (Apprentice Boys' Maiden City Festival), Professor John Horne (Trinity College Dublin), Tony Kennedy (Community Relations Council), Professor Brigid Laffan (UCD College of Human Sciences), Professor Evanthia Lyons (Queen's University Belfast), Dr Marc Mulholland (University of Oxford), Dr Margaret O'Callaghan (Queen's University Belfast), Daltun O Ceallaigh (Setanta Initiative), John O'Dowd (UCD School of Law), Ronnie Pedlow (Parades Commission), Sir George Quigley, Professor Bill Rolston (University of Ulster).

The Taoiseach's full address, along with the speech of Mr Nelson McCausland, MLA, Northern Ireland Minister for Culture, Arts and Leisure and the remarks of UCD President Dr Hugh Brady, can be accessed from [www.ucd.ie/ibis](http://www.ucd.ie/ibis).



UCD researchers Dr Gethin McBean, Dr Alice Vines and Dr Alfonso Blanco Fernández are pictured here on an advertising screen on New York's Times Square. The team from the UCD School of Biomolecular and Biomedical Science and UCD Conway Institute won the 2009 Accuri Flow Cytometer Creativity Award Programme for their research outlining the use of a flow-cytometric method for continuous measurement of intracellular calcium concentration

## Charles Institute moves ahead on skin disease research

Minister for Health, Ms Mary Harney TD unveiled the foundation stone for the Charles Institute, the first national institute devoted to dermatology in Ireland.

Skin disease is a serious and common problem – particularly in Ireland. Skin conditions are the fourth most common reason for GP visits in Ireland and skin cancer is the commonest form of cancer in Ireland. Today, between 25% and 33% of the Irish population suffers from a dermatological condition at any one time.

Funded by the City of Dublin Skin and Cancer Hospital Trust from the sale of the Hume Street premises and by UCD, the Charles Institute will undertake research into common skin diseases such as psoriasis, eczema, skin cancer as well as rare genetic skin diseases and training for undergraduate and qualified health professionals. The location of the building, adjacent to the UCD Conway Institute and UCD Health Sciences Centre,

is designed to foster cooperation between scientists and healthcare professionals to address the issue "from bench to bedside".

The Institute is also directly linked to the teaching hospitals in the Dublin Academic Health Centre, St Vincent's University Hospital and Mater Misericordiae University Hospital and the Board of governors of the City of Dublin Skin and Cancer Hospital Charity as well as extending to patient groups and charities in the community.

Speaking at the event, Minister Harney said, "The Charles Institute at UCD will recruit upwards of 50 scientists, graduate students and medical practitioners, devoted to dermatology research and training. The outcomes of this work will help to tackle and treat skin conditions and give us the opportunity to develop an international centre for research excellence in this area. And, the calibre of the international advisory panel brings an added layer of expertise to the Institute."

The International Advisory consists of four international experts in dermatology. They are: Professor James G. Krueger: D. Martin Carter Professor in Clinical Investigation, Laboratory of Investigative Dermatology, The Rockefeller University, New York; Dr Stephen Katz: Director, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, USA; Professor Jean-Hilaire Saurat: Dept of Dermatology, Hospital Cantonal, Geneva, Switzerland; Professor Rod Hay: Chairman of The International Foundation for Dermatology, (and based in St John's Institute of Dermatology in King's College London).

In his public lecture marking the laying of the Charles Institute foundation stone, Dr David Fisher, Chief of the Department of Dermatology at Massachusetts General Hospital, Harvard Medical School, addressed the science and risks of UV radiation and the skin.

## Forming Global Minds

**Set against a challenging economic climate, UCD has launched its strategic plan to 2014, *Forming Global Minds*.**

The plan will see the next phase of development of UCD's ground-breaking UCD Horizons undergraduate curriculum, significant expansion of the University's 4th level portfolio and international programmes, and the mainstreaming of innovation as the third pillar of activity alongside teaching and research in the context of the UCD-TCD Innovation Alliance.

*Pictured at the launch of Forming Global Minds - UCD Strategic Plan to 2014 (l-r): Dr Philip Nolan, UCD Registrar; Prof Des Fitzgerald, Vice-President for Research, UCD; Dr Hugh Brady, UCD President; Prof Brigid Laffan, Principal, UCD College of Human Sciences; and Mr Gerry O'Brien, UCD Bursar*

"Over its 155 year history UCD has played an important role in the development of modern Ireland." UCD President Dr Hugh Brady said at the launch event in April, attended by students, staff and stakeholders. "Now, in a time of national and

global difficulty, UCD is once again committing its intellectual resources to the rebirth of economic prosperity in Ireland."

The UCD Strategic plan to 2014, *Forming Global Minds* can be downloaded from [www.ucd.ie/president](http://www.ucd.ie/president)



## Forming Global Minds – Education

The next phase of development of the UCD Horizons undergraduate curriculum will expand the international opportunities for UCD students and further internationalise UCD's student body, preparing graduates for life and work across international borders. There will be a focus on stimulating creativity, innovation, entrepreneurship and active citizenship among students.

The university will establish the UCD Ad Astra Academy for highly talented students. The Academy will create individualised programmes for the top students, offer them early access to advanced modules and accelerated entry to Masters programmes. The Academy will also nurture the development of top class students in sport and the performing arts.

The new UCD Institute for Learning Innovation will bring the latest developments research on university teaching and learning to bear on enhancing education at UCD as well as making the wider world aware of the major changes in UCD's approach to teaching and their possible impact on students.

UCD will mainstream the assessment and enhancement of teaching quality, utilising student evaluation of modules and programmes, student satisfaction and experience surveys and feedback on the wider student experience.

While maintaining its undergraduate population at its current size, UCD will increase graduate student numbers from 26% to 33% of the student body by 2014. The university will widen the participation of non-traditional students on undergraduate programmes from 17% to 25% by extending the number of students from socio-economically disadvantaged backgrounds, mature and part-time students as well as students with disabilities. The percentage of international students will increase from 17% to 25%.

Ultimately, the education strategy is committed to creating UCD graduates that are: academically excellent, intellectually flexible, culturally literate and globally engaged. To underpin this, renewed focus will be given to the holistic UCD student experience to ensure a supportive and encouraging environment in which students can realise their full potential.

## Forming Global Minds – Research

The past five years have seen extraordinary growth in research activity at UCD. In the area of research and PhD training, UCD has prioritised four major themes:

- Earth Sciences, Energy and the Environment
- Health and Healthcare Delivery
- Information, Computation and Communications
- Global Ireland

These build on the University's established or emerging strengths, dovetail with national research policy objectives and contribute to Ireland's cultural heritage and the development of solutions for current global challenges.

As Ireland's largest producer of advanced science, engineering and technology graduates, UCD believes it has a major role to play in the national recovery process with particular emphasis on key areas such as biopharmaceutics, ICT, renewable energy and agrifood, all of which link to priority UCD research themes.

It will further develop its research institute model to promote interdisciplinary thematic research and PhD training. Specifically, the university is developing three new interdisciplinary institutes: UCD Earth Sciences Institute, UCD Complex Adaptive Systems Laboratory and UCD Charles Institute (for dermatology) using the approach that successfully established the Conway Institute (biomedical research) and Geary Institute (microeconomics and social change) over the past decade.

Emphasising the humanities and social sciences, Dr Brady said in launching the plan: "It is equally important in these challenging times that Ireland does not lose sight of its cultural heritage and tradition, continues to explore its identity and values, engages its diaspora and develops a compelling social and cultural framework for national renewal."

While these thematic research areas will receive particular attention, UCD academics will continue to work across the entire range of disciplines in the humanities and the sciences and the university will continue to invest in core disciplines as the bedrock of individual scholarship and postgraduate education.

## Forming Global Minds – Innovation

Outlined in the plan is the University's ambition to link education, research and innovation more effectively.

UCD has three core objectives for innovation:

1. To maximise the impact of UCD's knowledge and expertise to benefit Ireland, especially from converging disciplines
2. To foster a culture of innovation and entrepreneurship at 3rd- and 4th- levels
3. To foster innovation amongst all UCD staff

In March 2009 UCD and TCD launched their Innovation Alliance. Significant progress has been made towards the establishment of a joint 4th level Innovation Academy in September 2010 which will strive to transform the training of advanced science, engineering and technology students with a view to producing a new breed of business-minded and entrepreneurial graduates who will drive the Smart Economy. The Innovation Alliance will build on key national partnerships already developed by UCD, including: Molecular Medicine Ireland; the National Institute for Bioprocessing Research Training (NIBRT); the National Digital Research Centre; and TRIL (Technology Research for Independent Living).

In addition, Ireland's two leading universities are adopting a joint approach to technology transfer and enterprise development and were participants in the Government's Innovation Taskforce.

## Forming Global Minds – Highlights of the past five years

Placing the strategic plan in context, at the launch event the President highlighted a number of major reforms and achievements of the university over the past 5 years. The introduction of UCD Horizons, a modular, semesterised and credit-based curriculum for undergraduates, has broadened the appeal of UCD degrees to Irish and international students.

New academic structures created five colleges and 34 schools to replace eleven faculties and ninety departments and were designed to help promote interdisciplinary research and teaching. The creation of graduate schools facilitated structured PhD programmes to support 4th level training. UCD has 31% of all full-time PhD students in Ireland.

The research strategy placed specific focus on the development of large thematic multidisciplinary research programmes with consequent increases

in funding awarded, national and international collaborations, publications and research outputs. Over the period, the university developed five research institutes, two SFI Centres for Science Engineering and Technology (CSETs), seven SFI strategic research clusters and three major industry partnerships as well as some of the largest national investments in research, including the IDA-backed NIBRT. UCD climbed to 33rd in Europe in the QS World University Rankings in 2009.

The internationalisation strategy led the university to join Universitas 21, a network of global research universities. Closer collaborations

at home were formalised through the signing of MOUs with TCD and Queens University Belfast. The formation of the Innovation Alliance with TCD marked a unique partnership between the two leading universities.

An overhaul of academic recruitment, development and promotions systems gave younger academic staff greater opportunity to advance their careers based on merit. Alongside, the university introduced a Performance Management Development System (PMDS).

A timeline of key achievements of the last five years can be downloaded from [www.ucd.ie/president](http://www.ucd.ie/president)



*Showcasing the launch of Forming Global Minds - UCD Strategic Plan to 2014 were UCD Students (l-r): Rachael McKenna (Arts); Christine Lewis (Science); Simon Makuvaza (World Heritage Management); Sihan Feng (Commerce); Mark Langtry (Physics), Cong Xu (pre-master's accounting)*

## Forming Global Minds – Enabling Foundations

The Strategic Plan also sets out an ambitious programme of activities in the areas that provide the support systems for the university: Finance; Human Resources; Library, Information and Knowledge Management; Communications; Development and Alumni Relations; and Student Administrative and Support Services.

Key Finance plans include the development of revenue-enhancing strategies; development of international and postgraduate offerings; pursuit of effective cost-reduction strategies; elimination of University deficit over the period of the plan; implementation of a service-level agreements for all finance support services; heightening of financial and control awareness; development of improved management information.

In terms of Human Resources, key areas of action include: establishment of clear HR-planning policies; recognition of innovation, commercialisation and income generation in UCD development pathways and reward systems; evolution the Performance Management Development System (PMDS) and leadership programmes; actions to strengthen collegiality and to build staff morale; initiatives to enhance flexible working arrangements; development of staff mentoring programmes; and development of service-level agreements for all HR support services.

The objectives in Library, Information and Knowledge Management are summarised in four major areas:

1. To make available to the UCD community data, information and knowledge needed to promote learning and to catalyse the creation of new knowledge
2. To enable members of the UCD community and the external partners to use, interact with and collaborate around information on robust information systems, platforms and networks
3. To enhance capacity for communicating the outcomes and social impact of the University's teaching, research and innovation activities
4. To enable the effective management of administrative information and the capacity to translate that information into actionable organisational intelligence

The focus for Communications actions will be: promoting the single UCD brand; associating UCD and innovation in the public mind; developing and delivering UCD Horizons communications; developing and delivering a co-ordinated graduate marketing strategy; highlighting individual academics' research achievements and academic expertise; building a sense of community through major outreach events and initiatives; developing a user-driven intranet to provide staff with one location for all internal information; developing a suite of student-focused communications.

The key Development and Alumni Relations actions fall into three areas: the successful launch of the Campaign for UCD - Forming Global Minds; delivery of a multifaceted fund-raising programme including major gifts, mass fund-raising (telethons/direct mail), corporate fund-raising, Trust and Foundation fundraising and legacy-giving; growth of an Alumni Relations programme and an active global alumni-association network to affiliate alumni more closely with the University.

The key plans for Student Administrative and Support Services include: greater integration of student and academic services; seamless provision across centralised and distributed academic and student support functions; support of curricular flexibility, new modes of study and the student experience; creation of an integrated student-support model; development of services and supports that specifically foster students' intellectual flexibility and skills for a rewarding life; development of excellent services to ensure the well-being, health and welfare of students; enhanced engagement with prospective students and those who advise and support them.

## Forming Global Minds – Capital Development

UCD will use the new Gateway Campus Masterplan to guide the development of Belfield as a living, green and sustainable campus which is a laboratory for and an exemplar of energy-efficient building design and landscaping.

The University will complete its recently launched €300m capital development programme that includes:

- Redevelopment of UCD Science Centre
- UCD Sutherland School of Law
- UCD Charles Institute for Dermatology Research and Training
- New Student learning, Leisure and Sports Centre
- Development of a new support facility for UCD's international and graduate students
- Refurbishment and expansion of student residences
- National Institute for Bioprocessing Research and Training (in partnership with the IDA).

Importantly this programme employs a leveraged model whereby less than 50% of funding comes from the exchequer. In total the programme will provide over 2000 construction-related jobs while providing key infrastructure to support Ireland's knowledge economy.

UCD will also complete a masterplan for the UCD Newman/Library Humanities Complex and UCD Smurfit Graduate Business School.

## Prehistoric birds were poor flyers

The earliest known 'dinobirds', *Archaeopteryx* (145 million years ago) and *Confuciusornis* (120 million years ago), were incapable of vigorous flapping flight, according to new research published in the leading scientific journal *Science*.

Researchers at UCD and the University of Manchester conducted a series of biomechanical tests on the feathers and wings of these ancient feathered dinosaurs to calculate the load bearing forces they would have had to withstand to support flight.

Both dinosaur fossils had primary feathers with extremely narrow central stems for their body size and feather lengths. According to the researchers, the much thinner central stem (rachis) of the dinosaur feathers must have been solid or they would have broken under the lift forces generated during flight or by gusts of wind. This solid structure is very different to modern birds, whose rachises are broader, hollow straws.

"It is impossible to tell from fossils whether the rachises were solid or hollow," says Dr Robert L Nudds from the University of Manchester, the principal author of the research paper. "But I believe the dinosaurs' feathers were solid and therefore they could fly, but very poorly. They would have been incapable of flight unless their feathers were of a fundamentally different structure to those of living birds."

"Our findings suggest that *Archaeopteryx* and *Confuciusornis* were not capable of vigorous flapping flight, rapid turns or fast ascents, rather they were soarers or gliders," explains Dr Gareth Dyke from the UCD School of Biology and Environmental Science.

These findings have important implications for interpreting the behaviour of feathered early birds and proto-birds, and understanding the evolution of flight.

"Our analysis also shows that *Confuciusornis*, which is younger by 25 million years, was worse at flying than *Archaeopteryx*. This raises the further question of lineage – did the dinosaur-bird line branch off, giving rise to flying and flightless birds?" adds Dr Nudds.



*Image of Archaeopteryx, courtesy of Todd Marshall*



*UCD Radiographer Dr Michaela Davis, UCD School of Medicine and Medical Science, was presented with a Winston Churchill Research Medal and Fellowship by the HRH the Duchess of Cornwall in London in May 2010. Dr Davis was awarded the medal in recognition of her research into the role of radiographers in dealing with non-accidental injury in children in New Zealand. Dr Davis' work included aspects specific to the Maori population and she also worked with the TePau organisation, which deals with all child protection issues in Auckland*

## High level of inaccurate fish labelling in Ireland

According to research published by the Ecological Society of America, 1 in 4 (25%) of fish products labeled and sold as cod and haddock in Ireland belong to entirely different species of fish. When only smoked fish products were included in the sample, the UCD scientists who completed the study claim that 8 in 10 (82%) were mislabeled under EU regulations.

The findings indicate that EU policies governing seafood labeling are not adequately implemented and enforced in Ireland and the EU. Under EU law, fresh fishery and aquaculture products offered for retail sale must be labeled with an approved commercial designation, the production method used and the area where the fish were caught.

Using DNA bar-coding to identify the species of fish, the scientists tested samples of fish products labeled as cod and haddock purchased from supermarkets, fresh fish counters and 'fish and chip' shops.

"We focused on cod and haddock because whitefish is the second most consumed seafood in Ireland – behind farmed salmon – and the similarities in appearance of filleted whitefish make it difficult to distinguish one species from another," says Dr Stefano Mariani from the UCD School of Biology and Environmental Science, who led the study.

"We tested samples of fish products labeled as either 'cod' or 'haddock' from randomly selected retail outlets from within ten postal districts across Dublin. Within each district, we selected two samples from each of: two 'fish and chip' shops, two fresh fish counters, and four samples (two frozen, two packaged fresh) from each of two supermarkets."

Using DNA bar-coding, the scientists genetically identified that 25% of all samples (or 39 out of 156) labeled and sold as 'cod' or 'haddock' were from entirely different fish species, and were therefore considered mislabeled under EU regulations. When the sample only included smoked fish products labeled as cod and haddock, the mislabeling reached 82%.

According to Dr Mariani, sustained consumer deception through mislabeling may hamper efforts towards the recovery of depleted cod stocks. "The high levels of cod mislabeling found in Ireland gives a false perception of market availability, allowing consumers to believe that because cod is so widely available, the stocks must be healthy."

The research recommends that the responsibility for enforcing seafood labeling and traceability standards in Ireland be assigned to one national agency. At present, three or more Irish government agencies are involved in the area of seafood labeling in Ireland.

## What did abolishing university fees in Ireland do?

University tuition fees for undergraduates were abolished in Ireland in 1996. A recent paper by UCD economist Dr Kevin Denny, UCD Geary Institute, finds that the measure was unsuccessful in achieving its objective of promoting educational equality.

In the paper, Denny shows that Secondary School performance is the critical predictor of who will go on to Third Level. On average, students from white collar backgrounds get 50-90 more Leaving Certificate points than children born to manual workers. Female students also perform better in the Leaving Certificate, and so both groups tend to be well represented at Third Level.

The paper also found that certain circumstances, such as having disabled or deceased parent, also impacted on Leaving

Certificate performance and saw students achieving on average 50 points less than the national average. Children of unemployed fathers were shown to achieve some 30 points less than average.

The paper is based on data from the ESRI school leavers' surveys where 2,000 to 3,000 young people are interviewed nine months after leaving school. It suggests that students from lower socio-economic groups or disadvantaged backgrounds are unlikely to achieve the Leaving Certificate points required for highly-competitive programmes such as Medicine, and so, the abolition of fees did not help these students to participate, particularly as many low-income families would also have been entitled to a higher education grant.

## Teanglann nua

Oscalaíodh an Teanglann nua athchóirithe le deanaí. Bhí Cathal Goan, Ceannasaí RTÉ, i láthair leis an oscailt oifigiúil a cheiliúradh i measc cairde ó fhoireann Scoil na Gaeilge, an Léinn Cheiltigh, Bhéaloideas Éireann agus na Teangeolaíochta. Labhair Cathal Goan ar a thaithí féin ar an Teanglann sna blianta atá caite agus tábhacht na forbartha seo san Ollscoil. Labhair an tOllamh Liam Mac Mathúna, Ceann na Scoile, ar an luach mór a bhain le seantaifid a choinneáil agus iad seo a shníomh leis an trealamh nua-aimseartha atá in úsáid go laethúil sa Teanglann. Tá deis anois ag mic léinn fhochéime agus iarchéime leas a bhaint as an Teanglann mar ionad closamháirc den chéad scoth. Tá taifeadtaí sa Teanglann ar chanúintí nach bhfuil ann a thuilleadh agus ó dhaoine atá imithe ar shláí na firinne. Tá an Nua-Ghaeilge lán le hábhar saibhir, ní hamháin sa Teanglann ach i gCartlann na gCanúintí atá lonnaithe sa Scoil freisin. Sa seomra beag seo gan leithead atá suite sa Scoil tá bunábhar taighde Thomás de Bhaldráithe, a chum foclóir ríthábhachtach Béarla-Gaeilge, ar coimeád i dtarraiceáin bheaga atá ar bhallaí na Cartlainne. Tá seoda na Gaeilge, idir scríofa agus labhartha, á dtabháirt le chéile i láthair nua-aimseartha. Beifear ag súil leis go mbeidh mic léinn ag tapú na ndeiseanna atá curtha ar fáil dóibh anois le breis anailísé agus taighde a dhéanamh ar an teanga a labhraíodh anallód trí theicneolaíocht an lae inniu. Tá dhá chomháltacht iardhochtúireachta taighde agus teagaisc á dtairiscint ag Láirionad de Bhaldráithe do Léann na Gaeilge don bhliain 2010/11 chun gur féidir le scoláirí taighde a dhéanamh ar an gceangal idir gluaiseachta hathbheochana agus ábhar a bailíodh ó chaint bheo na Gaeltachta san fhichiú haois agus riachtanais téarmaíochta na linne seo, chomh maith le taithí ar theagasc a fháil. Deir an tOllamh Mac Mathúna go bhfuil sé de bhuntáiste ag Stiúrthóir agus foireann Láirionad de Bhaldráithe do Léann na Gaeilge agus iad ag cur le scileanna céimithe Gaeilge sna réimsí Aistriúchán, Eagarthóireacht, Riarachán, Dlí agus Ateangaireacht gur féidir leo tarraingt ar shaibhreas aircíve na Scoile. Is buntáiste an-mhór é gur féidir obair fhorásach nuálach an Láirionada a thógáil ar an dúshraith dhúchasach seo. Tá tuilleadh eolais ar fáil ó [www.ucd.ie/gaeilge](http://www.ucd.ie/gaeilge)

## Prize for thesis on Viking longphorts

UCD graduate Niamh Arthur (2009 MA in Archaeology) was announced as the joint winner of the UK Medieval Settlement Research Group's (MSRG) John Hurst Prize for the Best MA thesis/dissertation in Britain and Ireland on Medieval Settlement (2009). This is the third time that the prestigious award has been given to a dissertation from the UCD School of Archaeology (Triona Nicholl, 2004; Jonathan Kinsella, 2005) and all dissertations were supervised by Dr Aidan O'Sullivan. The winning dissertation was on Viking longphorts or raiding bases in Ireland.

## UCD scientists and scholars at Royal Irish Academy

In recognition of their outstanding achievements, five UCD academics have been elected to the Royal Irish Academy. "This group is as accomplished and as academically diverse as any cohort elected since our founding members signed the roll in 1785," said Professor Nicholas Canny, President of the Royal Irish Academy (RIA).

Dr Hugh Brady, President of UCD; Dr Caoimhín Breathnach, UCD School of Irish, Celtic Studies, Irish Folklore and Linguistics; Professor Maria Baghramian, UCD School of Philosophy; Professor Da-Wen Sun, UCD School of Agriculture, Food Science, and Veterinary Medicine; and Professor Karl Whelan, UCD School of Economics, were among the 24 academics who achieved the distinction in May 2010 at the Academy's 225th admission of new members since it was first founded.

During his address, Professor Canny said that the promotion of research within universities must

be related to, and integrated with, their teaching mission. He noted that if government funding to support research is predicated to occur only where this funding can 'be seen to promote innovation, enterprise and immediate job creation, it would be better [to enforce such a model] in stand-alone research institutes rather than through cross-subsidisation from the teaching mission of higher-research institutions'.

The Royal Irish Academy (RIA) is Ireland's premier learned body and vigorously promotes excellence in scholarship, recognises achievements in learning, direct research programmes and undertakes its own research projects, particularly in areas relating to Ireland and its heritage.

Competition for election to membership is keen as it is the highest academic honour in Ireland and a public recognition of the highest academic achievement.



Four UCD academics recently elected to the RIA are shown here with UCD graduate, Chancellor of the National University of Ireland, Dr Maurice Manning, who was also elected. From l-r: Dr Caoimhín Breathnach; Dr Maurice Manning, Chancellor of the National University of Ireland; Prof Nicholas Canny, President of the RIA; Prof Maria Baghramian, UCD School of Philosophy; Prof Da-Wen Sun, UCD School of Agriculture, Food Science, and Veterinary Medicine; Prof Karl Whelan, UCD School of Economics

## Embassy's donation enhances Australian collection at UCD Library

Australian Ambassador to Ireland, HE Bruce Davis, visited UCD in May to make a generous presentation of Australian books to the Library. The books, the second such donation in the last two years, are a welcome addition to the Library's Australian History and Australian Studies collection, and cover topics such as Aboriginal history, Australian environmental history, Anzac, politics, land and landscape, Australian colonial history. In presenting the books Ambassador Davis noted the importance of the Keith Cameron Chair and the Australian Studies Centre in promoting

greater understanding of Australia in Ireland, and in representing the continuing link between the two countries. The gift of books further confirms the Australian Government's investment in the Australian Studies Centre and UCD and Ambassador Davis looked forward to broadening the relationship between the Australian Government and UCD. The occasion was also an opportunity for Ambassador Davis to present the prize for the best essay in Australian History to Peter Molloy, whose work he noted reflected a keen appreciation and understanding of his subject.



Dr John Howard (University Librarian); HE Bruce Davis, Australian Ambassador to Ireland; Mr Don E Smith, Deputy Head of Mission and First Secretary at the Australian Embassy; Prof Katie Holmes, Keith Cameron Chair in Australian History at UCD

## Irish Times Innovation Award for BiancaMed

BiancaMed, the UCD medical technology company, won an inaugural Irish Times All-island Innovation Award in association with InterTradeIreland. BiancaMed was presented with the Product/Service Innovation Category Award, sponsored by the UCD Michael Smurfit Graduate Business School, for its breakthrough wireless sensor technology for the non-contact monitoring of sleep and breathing in the home.

BiancaMed has developed and is marketing SleepMinder™, an accurate, contactless and convenient device for the measurement of sleep and breathing in the home. The core of BiancaMed's proprietary technology is a sensitive radio frequency motion sensor that can detect respiration and movement without being connected to the human body. The sensor incorporates sophisticated

biometric software that converts the motion data into a measurement of sleep.

BiancaMed, founded in 2003, currently employs over 20 people and is headquartered in NovaUCD, the Innovation and Technology Transfer Centre at UCD. The SleepMinder™ technology was initially developed at UCD's School of Electrical, Electronic and Mechanical Engineering by Professor Conor Heneghan and Dr Philip de Chazal.

Last year the company secured an additional €6 million in funding led by pan-European venture capital firm Seventure Partners with existing investors ePlanet Ventures, Enterprise Ireland and ResMed. BiancaMed, which also has an office in Sunnyvale, California, is currently working with several major corporations to launch a range of consumer products in 2010 and 2011.



Pictured at the Irish Times Innovation Awards ceremony were (l-r): Dr Philip de Chazal and Dr Conor Hanley, BiancaMed co-founders with Paul Haran, Chairman, UCD Michael Smurfit Graduate Business School

## Corporate Entrepreneurship is key to innovation

The generation of good ideas is generally not the bottleneck in the innovation process for Irish companies. Their real challenge is the successful commercialisation of those ideas. This requires companies giving their employees the freedom to act as entrepreneurs and providing them with adequate structures and processes to create an entire entrepreneurial environment within the company.

This was the main message from Professor Peter Russo, an international entrepreneurship expert, who delivered the InterTradeIreland 2010 Innovation Lecture, *Corporate Entrepreneurship - the Key to Making Innovation Happen*, at NovaUCD.

Professor Peter Russo is founder and Director of the Strascheg Institute for Innovation and Entrepreneurship at the European Business School, Frankfurt, Germany. His research expertise

includes innovation management, corporate entrepreneurship and growth management. He has also held senior positions within the banking and the high-tech industry and has co-founded a number of start-up companies.

Professor Russo's innovation lecture was delivered as part of the InterTradeIreland All-island Innovation Programme. This Programme, a partnership between InterTradeIreland, Queen's University Belfast, NovaUCD and the Centre for Innovation and Structural Change, NUI Galway, aims to promote and encourage innovation across the island of Ireland. Best international practice in an area of innovation is shared with business leaders, students, academics, knowledge transfer professionals and policy makers in each region via innovation lectures, seminars and master classes.



Brian Farrell, co-founder, Tethras, one of the new high-tech ventures which has located to NovaUCD since the start of the year

## NovaUCD client companies create 30 jobs in 2010

Thirty new high-tech jobs have been created by NovaUCD client companies since the beginning of the year. Four new start-ups, Cernam, LogScreen, SmartBuilder Software and Tethras, have also located at NovaUCD, adding to its growing community of entrepreneurs.

Tethras, established earlier this year by Brian Farrell and Brendan Clavin, is developing web-based localisation tools for Smartphone application developers, and already employs 7 people. Other NovaUCD companies which have taken on new staff include Aonta Technologies, BiancaMed and Enzolve Technologies.

"The creation of new jobs by NovaUCD client companies is clearly important for the long term development of Ireland's Smart Economy," says Dr Pat Frain, Director, NovaUCD. "It is particularly satisfying for us in that these new jobs are further evidence of the growing confidence that has been evident among our client companies in recent months."

"We are also delighted to welcome our latest company recruits to NovaUCD. These companies are developing innovative products and services and they bring unique expertise and experience to NovaUCD which will make a significant contribution to our community of entrepreneurs."

New invention disclosures at UCD are up by 60%, according to the latest figures released by NovaUCD. Researchers at the university reported 85 new invention disclosures in 2009, up from 53 the previous year. A total of 247 inventions have now been disclosed to NovaUCD over the past 5 years.

The NovaUCD 2009 Annual Report is available via [www.ucd.ie/nova](http://www.ucd.ie/nova)

## A RendezVu with entrepreneurial success

RendezVu, the NovaUCD-based e-learning venture, has won the David Manley 2009 Emerging Entrepreneur Award. On winning the Award RendezVu received €10,000 in cash and over €100,000 worth of mentoring and consultancy services from a variety of blue chip companies.

There is currently no convenient way for most students learning languages to practice their language skills other than travelling to foreign destinations which can be expensive and impractical. To address this issue in the learning environment RendezVu has developed a next

generation learning platform to provide immersive education for languages and other subjects using virtual world and gaming technologies.

RendezVu was co-founded in 2008 by Paul Groarke and Garrett Hussey, both ex-Baltimore Technologies employees, and the company was previously the overall winner of NovaUCD's 2008 Campus Company Development Programme.

The 2009 David Manley Emerging Entrepreneur Awards were presented at a ceremony in the RHA Gallery by An Tánaiste Mary Coughlan TD and Dr Chris Horn, co-founder and former CEO, Iona Technologies.



Garrett Hussey and Paul Groarke, co-founders, RendezVu

## Innovation Alliance bursaries and graduate programme

Responding to the publication of the Innovation Taskforce Report's recommendations in March 2010, UCD President Dr Hugh Brady and the TCD Provost, Dr John Hegarty welcomed the Taskforce's acknowledgement of the Innovation Alliance and its endorsement as a model which should be rolled out nationally.

Taken in their totality, the recommendations of the report provide a platform connecting all parts of the innovation ecosystem including education, enterprise and government and have the potential to change the future of Ireland.

Also on the occasion of the first anniversary of the Alliance, both universities jointly announced a series of new, focused, Innovation Bursaries through a joint €2 million fund.

In its suite of funded interdisciplinary PhD studentships and postdoctoral awards, UCD offers bursaries in priority research themes: Earth Sciences, Energy and the Environment; Global Ireland; Health and Healthcare Delivery; and Information, Computation and Communications. Trinity College will be promoting innovation and research on the theme of Sustainable Society.

UCD and TCD have also launched the rollout of the graduate training programme of the Innovation Academy, the educational centrepiece of the Alliance. Professor Julie Berndsen (UCD School of Computer Science & Informatics) and Professor Carol O'Sullivan (TCD) are working with colleagues from both universities to advance this. Professor Suzi Jarvis (UCD School of Physics and UCD Conway Institute) has been appointed to the role of UCD Course co-director of the Innovation Academy. Working closely with her counterpart Paul Coughlan in Trinity College Dublin, Professor Jarvis will lead the design and implementation of the academy education and training programme.

The mission of the Innovation Academy is to develop a new breed of creative graduate, with a thorough understanding of how innovation can convert knowledge, ideas and inventions into products, services and policies for economic and social benefit.

UCD and TCD students will participate in events in both locations. Ramping up from an initial master classes series, the first intake of UCD and TCD students for a joint Postgraduate Diploma in Innovation is scheduled for September 2010. The programme will draw on faculty from both institutions, as well as external industry mentors and speakers. It will combine innovation and entrepreneurship modules and workshops with case studies and real experience.

"We believe that the Innovation Academy can and will play a central role in the emergence of Ireland as a global hub for innovation. Through its formation our two universities aim to 'future proof' quality graduate education – furnishing highly skilled graduates uniquely positioned to contribute to Ireland's recovery and prosperity," concluded UCD President, Dr Hugh Brady and TCD Provost, Dr John Hegarty.



*The President of Stanford University, Dr John L. Hennessy has become the first International Advisor to TCD-UCD Innovation Alliance. Shown here on a visit to the Stanford School of Engineering and its internationally renowned 'D-School' programme are (l-r): Dr John L. Hennessy; An Taoiseach Brian Cowen TD; TCD Provost Dr John Hegarty; and UCD President Dr Hugh Brady.*

*President Hennessy's appointment augments and complements the established relationship with the Silicon Valley-based Irish Technology Leadership Group. President Hennessy will lend his expertise as a specialist academic, the leader of one of the top universities in the world and will share his experiences of building companies through successful entrepreneurship.*

## Engineering design innovation event

New biomedical devices, building networks on Twitter, estimating the carbon footprint of travel-to-work journeys and detecting damage to wind turbine blades were some of the research and potential commercial products on display at a recent engineering design innovation forum.

Speaking at the opening of the event, the Minister for Science, Technology, Innovation and Natural Resources, Mr Conor Lenihan T.D welcomed the industrial partners who supported the research on display and encouraged more intense collaboration between research and industry.

Held under the auspices of the Innovation Alliance, the event was organised by UCD College of Engineering, Mathematical and Physical Sciences and the TCD School of Engineering. Between them, TCD and UCD have approximately 2,000 advanced science and engineering postgraduate students in training who will be the entrepreneurs and innovators of Ireland's knowledge economy.

The research presented via elevator pitches, poster displays and demonstrations to industry representatives and potential research



*Pictured at the TCD-UCD Innovation Alliance Engineering Design Event are (l-r) Interaction Designer Flip van den Berg; Minister for Science, Technology, Innovation and Natural Resources, Mr Conor Lenihan T.D; and Social Science Researcher Chiara Garattini. This TRIL research project, based at UCD, is entitled Building Bridges and explores new ways that communication technology can help reduce risks of loneliness and social isolation in older people*

collaborators focused on key areas of national importance under four themes; future energy solutions; sustainable infrastructure and environment; information, communication and media technologies; and bioengineering for health. A panel discussion chaired by Dr Chris Horn, President of Engineers Ireland, with industry and academic representatives addressed the question of furthering university-industry interaction.

## Transforming Ireland lecture series

Ireland faces the economic imperative of recovering its productivity to secure jobs and living standards. It must also meet its legally binding obligations to reduce its annual greenhouse gas emissions. The country must adapt to the climate change induced changes that are already underway.

Innovation in terms of technology, policy, enterprise and management – smart technology and smart policy – is essential if these national and global challenges are to be met successfully.

The 2010 'Transforming Ireland' lecture series is organised by UCD Earth Sciences Institute with TCD TrinityHaus, in conjunction with the TCD-UCD Innovation Alliance Public Lecture Series. It brings together researchers, business and community leaders and citizens to discuss how to bring the right technologies to the right people and places at the right time, so that productivity is

enhanced, jobs are provided, climate change, energy and other objectives are met, and adaptation in Ireland and in the poorest parts of the world is made feasible. While the series focuses is on Ireland, the scope and relevance is global – Ireland can be seen as a laboratory and test bed for solutions that are potentially global.

The series runs from March to December 2010 and covers topics ranging from farming, wildlife and climate change to bioenergy, carbon storage and renewable energy. Enterprise and Innovation was covered, with presentations from Enterprise Ireland, IBM, Intel Ireland, Episensor, Clarity, Siemens Ireland and ESB. The autumn programmes will cover topics such as energy efficiency, energy diversification, transport and economics.

Further details of the Transforming Ireland Series are available from [esi.admin@ucd.ie](mailto:esi.admin@ucd.ie)

## UCD St Vincent de Paul — top local winners of AIB Better Ireland Awards

The UCD St Vincent de Paul Society has been awarded the €5,000 through the AIB Better Ireland Awards. Under the scheme, each local AIB branch can donate a total prize fund of €10,000 to worthy causes voted for by customers. At the UCD AIB branch, the second prize of €3,000 was awarded to the Grove After School Care Management Co Ltd. The UCD Students' Union received €2,000.

The St Vincent de Paul Society was entered into the AIB Better Ireland Award by the Belfield AIB branch because of their charitable work such as organising parties throughout the year for disadvantaged children. Conor Tonry, Auditor of UCD SVP, said "We were delighted with the award as it gives us money to help out the youth groups that we work with. We were also happy to win as it was a recognition of the work our volunteers did over the year."



The UCD Student Welfare fund has received a donation of €27,356.78 from Ricoh Ireland Ltd in conjunction with UCD IT Services. The donation is a result of accumulated student printing credit left over in accounts no longer in use. UCD Vice-President for Students Dr Martin Butler and former Students' Union President Gary Redmond received the cheque on behalf of the Fund. Pictured here at the presentation are (l-r): Ciara Acton, Head of Customer Services, UCD IT Services; and Aine O'Shea, Marketing Manager, Ricoh Ireland Ltd

## UCD Law students win national advocacy challenge

Two UCD Law students have won the inaugural National Advocacy Challenge organised and sponsored by McCann Fitzgerald. Andrew McElwee and Ian Boyle Harper came through a series of qualifying rounds to reach the final at Dublin's Four Courts. In the final they beat off strong competition from another team of UCD Law students, Mark Curran and Nichola Delaney, to scoop the top prize of €2,000. Professor John Jackson, Dean UCD School of Law, said "I would like to pay tribute to McCann Fitzgerald on inaugurating this important initiative for students. I am delighted that two UCD teams made the final and congratulate the winning team."



The winning team, Andrew McElwee, (second right), and Ian Boyle Harper, (centre), are pictured with the judging panel, Mr Justice Peter Kelly (left), John Cronin, Chairman McCann Fitzgerald (right) and Rose Hynes, Chairman, Bord Gáis Eireann

## Skyware Global partnership creates opportunities for engineering students

UCD has teamed up with Skyware Global, the world's first and only total-solutions provider of satellite terminal equipment, to deliver an industry-focused partnership for top engineering and technology students. The partnership enables students from the UCD School of Electrical, Electronic and Mechanical Engineering to gain applied experience in mechanical and RF engineering in various departments of the multi-national company as part of an internship programme.

Professor Tom Brazil, Head of Electronic Engineering at UCD commented: "Through this partnership our students will be able to work with Skyware Global's engineering teams based in the UK, Germany and the US on cutting edge satellite technology, gaining valuable industry experience

and potentially changing how people around the world communicate."

Skyware Global has a strong tradition of working with educational institutions and in bringing innovative products to market. David C McCourt, CEO of Skyware Global commented, "Tom Brazil and his team are renowned experts in microwave and RF communications, which is why this partnership makes sense for Skyware Global – our own history has shown the effectiveness of academic and commercial partnerships.

Skyware Global has a long-standing reputation in the design and manufacture of leading-edge solutions for satellite broadband antennas and electronic components to cover a wide range of applications. Skyware Global and UCD are exploring additional collaborations in research and development.

## Energy expertise secures Veolia scholarships for graduate engineering students

Veolia/Ireland fund of France Scholarships have been awarded to two UCD Masters of Engineering students based on their research proposals in the field of energy. Eamon Keane and Craig Reddin received their awards at a reception hosted by French Ambassador His Excellency Yvon Roe d'Albert in April 2010.

The winning students will conduct research into techno-economic subjects, focusing on how international energy services companies can best meet the public sector energy demand through performance based contracting models, and the effect of increasing wind generation on combined heat and power and how this may challenge the

position of natural gas as the dominant price driver for electricity in Ireland.

Speaking about the win, Dr David Timoney, Dean of Engineering at UCD said: "This support from the Ireland Fund of France and the environmental services group Veolia is critical to the professional development of our students. It provides them with practical and applied experience as they pursue their research projects, and ultimately their professional career in engineering. We encourage all of our Masters in Energy Systems Engineering students to work with industry partners."

# A quest for CLARITY in the sports arena

From high-end bespoke broadcasting to sports visualisation and match analysis, Professor Gregory O'Hare tells Marie Boran (BSc 2002) about the potential of a new Disney-CLARITY research collaboration.



*Professor Gregory O'Hare*

As the biggest entertainment organisation in the world, The Walt Disney Company is known for weaving a world of magic for children and adults alike, but what many may not know is that behind the much-

loved Mickey Mouse mascot lies years of research and innovation on subjects ranging from robotics and human-computer interaction to data mining and computer vision.

When Disney Research, a business unit under Walt Disney Imagineering, began to look at the future of sports broadcasting and how advanced technology could open up new opportunities for dedicated sports channels such as ESPN (which is owned 80pc by the Walt Disney Company), it looked to the CLARITY Centre for Sensor Web Technologies research centre here in Ireland.

CLARITY is a partnership between University College Dublin, Dublin City University and Tyndall National Institute, and has a group located on UCD campus. It is a Science Foundation Ireland Centre for Science, Engineering and Technology (CSET) centre whose research focuses primarily on adaptive sensing and information discovery, and in an age where 'too much information' is a common complaint, it has joined forces with Disney Research to look at how sports broadcasting can take streams from multiple cameras and deliver smart, enhanced results for the sports fan as well as the coach and indeed the sports players themselves.

"The idea for the CLARITY/Disney Research collaboration had been incubating for some time: it started as a result of discussions that took place between CLARITY and Dr Joe Marks, Vice President of Disney Research. He was aware of some of the research that we were engaged in and over time there emerged a convergence of his thinking and the research agenda of CLARITY," explains Professor Gregory O'Hare, Associate Professor in the UCD School of Computer Science & Informatics at UCD, and principal investigator and co-founder of CLARITY.

As part of this collaboration, O'Hare is working closely with Professor Noel O'Connor, another principal investigator who is an Associate Professor at Dublin City University, as well as Virginia Perry Smith, Producer and R&D Manager at Disney Research and Dr O'Grady of UCD who at an operational level facilitates the engagement.

Explaining what kind of research goes on at CLARITY O'Hare says: "In terms of its broad remit it is concerned with how we manage large volumes of heterogeneous streamed data coming from a variety of sensors."

"These sensors might simply be passive infrared sensors that recognise someone moving through a door or they could be a contact sensor; reacting to a door opening, or perhaps the GPS component of your mobile phone that tracks where you are currently, or indeed could come from audio or video sensors."



*Pictured at the official launch of the Sports Visualisation Project: Emmy Award-winning Sports Director, Artie Kempner and Nikki Symmons, Irish Hockey International who holds 130 caps for Ireland, in the control room*

"Given that we're getting an ever-increasing amount of sensor data in today's world we ask questions about how to start filtering this and analysing it. How do you start to make sense of it all?"

In the case of the venture with Disney Research, CLARITY has set up multiple cameras (currently thirteen, which could potentially increase to 21) around the National Hockey Stadium situated at UCD. The data recorded from hockey matches can be relayed live to researchers at the Disney Research, Pittsburgh Lab and is also stored on servers in UCD.

"Disney researchers have direct, always-on access to this video content so they can grab it and start applying some of their algorithms".

"Specifically in the case of the sporting arena there are a number of cameras that are positioned around the National Hockey Stadium and the trick is how to be able to understand the streams of video content that you are getting from your different video sensors".

This could involve filtering feeds to extract desired footage or camera angles, or figuring out how to get the richest set of video input in order that it will give you the most compelling view of the action. A bank of monitors taking in all the camera feeds is collecting this data.

Could it be that sports fans get their own personalized view of a sporting event in the future? If you think about how the average sports fan likes to dissect game play over a pint with his or her mates you can imagine the experience of not only being able to stream footage of a particularly important goal or save to your mobile phone but being able to see that action from multiple angles.

"Absolutely. What we are really interested in is how we might be able to rapidly and dynamically segment video footage and augment or integrate it in a way to get compelling video footage of a given video incident in a sporting event – perhaps a goal scored in hockey".

The research being carried out at CLARITY also opens up the world of micro-casting: extracting these little segments from the overall video stream and sending it in real-time to people's mobile devices. This is where niche sports can be not only kept alive but find a new market by offering extra functionality based on emerging technologies.

The engagement of Irish Hockey, in taking part in this research venture in and of itself will result in the shining of a spotlight on what is regarded as a somewhat niche sport in Ireland.

"There are potentially very lucrative marketing opportunities if you are able to extract and segment particular events within a sporting match and be able to stream that to, say, mobile devices," he adds.

"In all sorts of genres of sports people want to see particular key moments. Disney Research is collaborating with us because they believe it is going to produce interesting intellectual property in the future that will give them a march on their competitors".

The technologies that emerge from this venture will not just benefit the viewer but also the sports player and coach: "The bigger picture we are interested in is not only taking video sensing feeds from the stadium but to augment that with a myriad of other inputs.

"One of the things we're interested in is biometric sensing: wearable sensors on the players monitoring respiratory rate, heart rate, possibly things like galvanic skin response," explains O'Hare.

The possibilities for the modern sports team are limitless: it could also monitor distance traveled, average speed and so on.

"In theory you could use this technology to understand not only how an individual player is performing but how they are performing as a team: the number of passes that have made and so on. For certain sports you could use the footage and placement of team mates and analyse what would have been the most penetrating pass to play at a given moment and compare it to the one that actually took place".

"All of this rich data set could potentially offer valuable insights into the aerobic performance of an individual player".

"One could envisage in the future that a coach sitting on the sideline could identify that exact moment when it is optimum to replace a given player."

*Marie Boran (BSc 2002) writes in the Technology section of the Irish Independent and for Silicon Republic and Gadget Republic.*

The UCD Volunteers Overseas Haiti Earthquake Appeal involving students, staff and alumni has to date raised €105,943. UCDVO has been working in Haiti since 2005, with students only returning to Ireland one day prior to the devastating earthquake on 12th January 2010. The monies raised will be used for small scale development projects in Gros Morne, a rural part of Haiti five hours north of the capital Port-au-Prince, which though not damaged in the earthquake, has been inundated with refugees. This June, 27 UCD students, staff and alumni led by Prof Frank Monahan return to work with UCDVO's local partners to carry out planned projects and assess future development proposals for funding. In total 116 students, staff and alumni will travel to Africa, India and South America this summer on UCDVO projects.



## Inaugural Great Lakes Novel Prize goes to MA Creative Writing Scholar

*Strangers in America* by Erika Meyers has been selected as the winner of the inaugural Great Lakes Novel Prize. A native of Mantua, Ohio, Ms Meyers is a graduate of Kent State University and is studying for the MA in Creative Writing at UCD.

Novelist Robert Flanagan was the deciding judge in the competition, run by two of Ohio's independent presses, Bottom Dog Press and Drinian Press. He described the award-winning novel as a 'Kafkaesque fable' which gives a keen insight into modern America. The novel will be published in spring.

Another MA in Creative Writing scholar, Ms Natalie Ryan won the Listowel Writers' Week Originals Short Story category with her piece 'Sunset Prayer'.

## Frank McGuinness: Honoured by Irish University Review

A special issue of the Irish University Review, dedicated to the work of Frank McGuinness, Professor of Creative Writing at the UCD School of English, Drama and Film, and marking the 40th anniversary of the publication, gives an open and candid account of the playwright's work over the past decade.

As a student at UCD in the early 1970s, McGuinness was profoundly moved by an Abbey Theatre production of Yeats' *Oedipus*. Nearly 30 years later, in 2008, he was asked to write a version for the National Theatre, London, starring Ralph Fiennes. "This was the stage play I was working on when I returned to writing for television, a film called *A Short Stay in Switzerland*, and the two tasks are, I believe, linked.

[*Oedipus*] removes himself from the city to lead a living death as exile and outcast. Stripped down to next to nothing, Oedipus does the

# Boost for eight UCD research projects under SFI Principal Investigator programme

Eight UCD research projects received almost €8 million of the €25 million funding announced by the Minister for Enterprise, Trade and Innovation, Batt O'Keeffe TD under the Science Foundation Ireland Principal Investigator Programme.

Professor Des Fitzgerald, Vice-President for Research at UCD congratulated the awardees, noting "...The UCD PIs are working on major challenges in energy, animal and human health and drug development, key areas in the UCD strategy for research and innovation". The UCD recipients are:

- **Professor Steffen Backert** of the UCD School of Biomolecular and Biomedical Science received funding of €665,934. His research into a major cause of food-borne illness and diarrhoeal disease is entitled "Importance of bacterial factors and signaling cascades in host cell invasion of the food-borne pathogen *Campylobacter jejuni*"
- **Dr Damian Flynn** of the UCD School of Electrical, Electronic, and Mechanical Engineering was awarded €666,482 for his project in renewable energy entitled, "Enhancement of short-term power system flexibility at high wind penetration levels"
- **Professor Declan Gilheany**, UCD School of Chemistry and Chemical Biology, secured €1,609,890 for work into drug development entitled, "Construction of P-Stereogenic Components of ProTide Drug Candidates"
- **Professor Joao Marques-Silva** from the UCD School of Computer Science and Informatics received €865,193 for his work in computer modelling for biological systems entitled "BEACON: BoolEAn-based deCision and OptimizatioN procedures"

• **Professor Grace Mulcahy** from the UCD School of Agriculture, Food Science and Veterinary Medicine was awarded €866,190 for her parasitology work on "Helminth co-infection as a modulator of the bovine immune response"

• **Dr Evelyn Murphy**, UCD School of Agriculture, Food Science and Veterinary Medicine received €631,223 for her work "Functional analysis of NR4A receptor activity during distinct phases of acute and chronic inflammation" regarding diseases such as psoriasis and arthritis

• **Professor Ronan O'Connell and Dr Desmond Winter** of the UCD School of Medicine and Medical Science were awarded €842,072 for their ulcerative colitis research, "Colonisation by sulphate reducing bacteria (SRB) subspecies in normal and inflamed colon and colonocyte responses to the SRB metabolite hydrogen sulphide"

• **Professor Jeremy Simpson**, UCD School of Biology and Environmental Science secured €1,588,726 for his work into "Dissecting plasma membrane to endoplasmic reticulum trafficking pathways in mammalian cells – potential new avenues for improved drug delivery"

Science Foundation Ireland's Principal Investigator Programme supports strategic work in the life science, information communications technology and sustainable energy sectors. According to Minister O'Keeffe, the selected projects have "the capacity to create new jobs in the 'smart' economy because they targeted high-growth areas at the cutting-edge of innovation".

inconceivable. Against all odds he acquires a little control over his wasted life, and that control lets him live."

That is precisely the opposite decision made by Dr Anne Turner in *A Short Stay in Switzerland*, the BBC television drama starring Julie Walters, for which McGuinness was recently nominated for a BAFTA.

Frank McGuinness, playwright, poet, lecturer, Donegal man: whose creative stimuli transcend his cultural background. He himself admits to seeking out influences beyond the traditional Irish boundaries of politics, religion and sex.

Heaping the richness of theatre from the Greeks, through the Renaissance into the contemporary, Frank McGuinness' theatre work spans the acclaimed *Someone Who'll Watch Over Me*, *Carthaginians*, *Observe the Sons of Ulster Marching Towards the Somme*, and most recently *Greta Garbo Came to Donegal*.

Edited by John Brannigan, with contributions by Patrick Mason, Anthony Roche, Anne Fogarty, Hiroko Mikami, John Cregan and Eamonn Jordan among others, this special issue of the Irish University Review (Spring/Summer 2010) gathers together a critical appreciation of some of the many highlights of McGuinness' career by established scholars of contemporary Irish drama and poetry.

The Irish University Review was established in 1970 by Professor Maurice Harmon, now Emeritus Professor of Anglo-Irish Literature and Drama at UCD. Since that first issue, it has become one of the leading journals of Irish literary and cultural criticism. Joining the current editor Dr John Brannigan and Maurice Harmon to launch the special edition were former editors. The edition can be purchased by contacting Kate Bateman at [kate.bateman@ucd.ie](mailto:kate.bateman@ucd.ie).

## UCD Centre for Food Safety designated WHO Collaborating Centre

The UCD Centre for Food Safety (UCD-CFS) has received official designation as a World Health Organisation (WHO) Collaborating Centre for Research, Reference and Training on *Cronobacter*, a potential cause of serious bacterial infections in infants.

A WHO Collaborating Centre is an institution officially designated by the Director General of the WHO to form part of an international collaborative network. The WHO has been collaborating with the Food Safety Authority of Ireland (FSAI) and the UCD-CFS in developing the scientific-based risk assessments and guidelines required for the management of *Cronobacter sakazakii* (*C. sakazakii*) as an emerging opportunistic human pathogen and the aetiological agent in life-threatening bacterial infections in infants. Although the incidence of *C. sakazakii* infection is low, the prognosis is poor. Ireland produces 15 percent of the global supply of powdered infant formula.

Professor Séamus Fanning, Director of the UCD-CFS, anticipates that this research at UCD will assist the WHO in assembling a well-characterised strain database which can be used by the broader scientific community for study and also improving understanding of the genetic make up of *Cronobacter spp.*

## Smoking Bans – less second-hand smoke reduces heart attack rates

In countries and states that have introduced policies that restrict smoking in public, people have less exposure to second-hand smoke. There is also a reduction in the number of people who have heart attacks, as well as an improvement in other indicators of health.

"Taken together, the benefits for workers and the reduction of hospital-related morbidity are impressive," says lead researcher Professor Cecily Kelleher, UCD School of Public Health, Physiotherapy and Population Science. "The balance of evidence suggests that legislative smoking bans have achieved their primary objective of reducing exposure to second-hand smoke."

The evidence from the review suggests an important impact of legislative bans on passive smoke exposure which could be replicated by policymakers in other countries. Around the world, many countries are introducing policies that restrict where people can smoke. This follows findings that tobacco smoke is the second major cause of death in the world and, according to the World Health Organization (WHO), is currently responsible for the death of around one in ten adults.

The team of researchers looked at situational studies where a legislative ban had been introduced, or where restrictions on smoking had been applied to populations. They considered data from 50 studies that monitored at least the first six months after a policy change had been implemented.

These findings are reported in The Cochrane Library a collection of databases in medicine which summarize and interpret the results of medical research.



Secondary school students who completed UCD's Introduction to Computer Science and Programming (ICSP) module celebrating with a tour of Google's high-tech Dublin HQ with UCD staff. (L-R) Shane Conroy; Prof Joe Carthy; Thea Koutsoukis; Eoghan Nolan; Nicholas Graydon; Prof Tahar Kechadi; Alan Leech; Clare Foley; Dr Michael O'Neill (UCD School of Computer Science & Informatics and UCD CASL and creator of the module); Esme Baldwin; Matthew Stabeler; Micheal Newton; Alex Cronin; Nisa Baldwin; Michael Kehoe. (Photo courtesy Matthew Stabeler)

## Biobank crucial in prostate cancer research

Some 550 people die annually in Ireland from prostate cancer, the most common malignancy among men in this country. To maximise research potential in the area, the Prostate Cancer Research Consortium was established in 2004, to connect scientists, clinicians, research nurses and patients. One of the Consortium's key successes of the last five years has been Ireland's first trans-institutional biobank of patient samples.

The Consortium's recently-published five-year report showed that the biobank, which contains samples from some 560 donor patients, had driven multi-investigator research programmes in the areas of biomarker discovery and validation, molecular characteristics and therapeutics for prostate cancer.

In the process, the Consortium has leveraged over €4 million of additional research funding and has generated 31 publications in international peer reviewed journals. The group is building the foundations for continued Irish participation in prostate cancer research by mentoring and training 33 scientists and clinicians within PhD and MD programmes.

At the publication of the report, hosted by the Irish Cancer Society and Molecular Medicine Ireland in May 2010, Professor William Watson (UCD School of Medicine & Medical Science) explained that biobank had recruited over 560 patients who have donated blood, urine, tissue and DNA to support the research of the group. The biobank's database represents the cornerstone of the research activities of the Consortium, which has published papers in the areas of biomarker discovery and validation, molecular characteristics and therapeutics.

Through the core funding from the Irish Cancer Society, the Consortium has leveraged an

additional €4 million from Science Foundation Ireland, Health Research Board, IRCSET and non-exchequer funding from the UK and the EU. This funding has allowed the Consortium to recruit and emerging scientists and clinicians in PhD and MD programmes and forge international collaborations with groups in Europe, Australia, Canada and the US.

The Consortium is setting an ambitious patient-focused research and training agenda for the next five years and has secured funding as part of the Dublin Centre for Clinical Research to support the continued collection of samples for the Biobank. Research will focus on biomarker discovery and validation, epigenetics and hypoxia.

The launch event was addressed by Mr Declan Lynch on behalf of the donor patients and by PhD researcher Dr Therese Murphy who undertook her research within the Consortium.

The Consortium brings together experts and patients in Mater Misericordiae University Hospital, St James Hospital, Tallaght Hospital and Beaumont Hospital with scientists from UCD, Trinity College Dublin, Royal College of Surgeons and Dublin City University. Some key findings by the group include:

- Novel genetic changes have been identified, which may increase the risk of getting prostate cancer
- Increased expression of specific combinations of different proteins have been detected in the serum of cancer patients indicating more extensive and aggressive forms of the disease
- Potential new targets have been found and new experimental approaches developed, which may allow new treatment approaches to be devised

## Irish researchers discover new autism genes

New autism genes have been discovered by researchers at UCD and Trinity College Dublin (TCD) as part of a Global Autism Genome Project, involving 50 institutions worldwide. The findings are published in the international peer-reviewed publication, *Nature*. The research programme has received significant funding from the Health Research Board in Ireland.

The Irish component of the work of the Autism Genome Project involves a collaboration between UCD and TCD and focused on the identification and study of children with autism and their families from across Ireland (TCD); the production of the vast amounts of data on the genetic variation in the individuals and their families (UCD); the analysis of the data, some of which is in the present report (UCD and TCD) and the coordination of The Autism Simplex Collection (TASC) project across the international clinical sites (TCD).

Professor Andrew Green and Dr Sean Ennis from the UCD School of Medicine and Medical Science, and Trinity College Dublin's Professor Michael Gill and Dr Louise Gallagher from the TCD Department of Psychiatry in the School of Medicine are co-lead investigators in the Global Autism Genome Project.

A large sample of individuals and families with autism has been recruited in Ireland and around the world by the Autism Genome Project (AGP) consortium, which consists of 120 scientists from more than 50 institutions representing 19 countries in a first-of-its-kind autism genetics consortium.

Research was carried out to identify genetic variation contributing to the risk for autism.

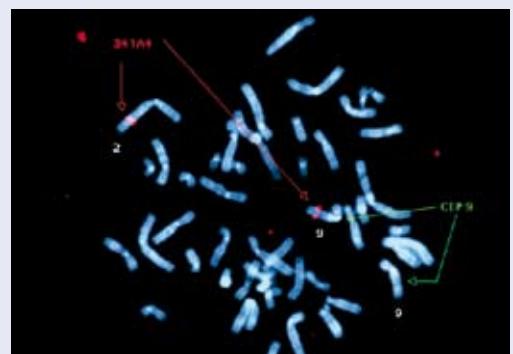
Researchers analysed genetic variation from across

the genome of over 1,000 individuals with autism and related disorders, their parents and a control sample of 1,300 individuals without autism. The Autism Genome Project reported that individuals with autism have submicroscopic sections of DNA that occur more often (duplications) or less often (deletions), called copy number variants (CNV) in their genome. These are also found as frequently as individuals with no autism, but in autism they are more likely to disrupt certain genes and in particular those previously reported to be associated with autism or intellectual disabilities. Some of these CNVs appear to be inherited, while others are de novo, or new, because they are found only in affected offspring and not in the parents.

The Autism Genome Project study also identified new autism susceptibility genes. Some of these genes belong to synapse-related pathways (the mechanism whereby one nerve cell connects with another), while others are involved in nerve cell proliferation, projection and motility in the brain, and the signaling between nerve cells in the brain. These findings will help researchers better understand the brain mechanisms involved in autism and could become targets that may lead to the development of new treatment approaches.

"Because of matching investment by the Irish government through the Health Research Board, over half of the laboratory work for this project was carried out in Ireland," said UCD's Dr Sean Ennis. "The results show that Irish researchers and Ireland can truly contribute to scientific discovery on the global stage."

"The global reach of this research consortium enables scientists to magnify their



A 'translocation' that is a switch of DNA between 2 different chromosomes

discoveries in order to bring understanding and in turn therapies to individuals and families affected by autism," concluded UCD's Professor Andrew Green.

The findings further support an emerging consensus within the scientific community that autism is caused in part by many "rare variants" or genetic changes found in less than one percent of the population. While each of these variants may only account for a small fraction of the cases, collectively they are starting to account for a greater percentage of individuals with autism, as well as providing insights into possible common pathogenic mechanisms. The overlap between autism susceptibility genes and genes previously implicated in learning disabilities further supports the hypothesis that at least some genetic risk factors for autism overlap with those implicated in learning disability. Finally, identification of these biological pathways points to new avenues of scientific investigation, as well as potential targets for the development of novel treatments.

The genetic discoveries published in *Nature* are from the second phase of the collaborative study.

## Research into equestrian headgear wins first Bertram Broberg Memorial Medal

High rates of concussion in equestrian sports led Dr Manuel Forero Rueda to research methods of improving the performance of equestrian helmets and reducing head impact casualties. Dr Rueda's PhD thesis entitled "Equestrian Helmet Design, a Computational and Head Impact Biomechanics Simulation Approach" analysed current equestrian helmets and the ability of European standards to reduce head injury risk.

The research was awarded the first Bertram Broberg Memorial Medal for best PhD thesis in the UCD College of Engineering, Mathematical & Physical Sciences by Professor Anne Buttiner-Broberg at a joint meeting of the Irish Mechanics Society and the Irish Society for Scientific & Engineering Computation (ISSEC) in May.

The Medal aims to distinguish young researchers who have recently completed a PhD thesis on a topic in line with the research interests of eminent scientist Professor Knut Bertram Broberg, whose work spanned dynamic fracture, biomechanics and applied mathematics. It is supported by the Bertram Broberg Memorial Fund, which has been established through the generosity of his widow Anne Buttiner-Broberg, Emeritus Professor of Geography at UCD.

Dr Manuel Forero Rueda's work was funded by the Turf Club, the body responsible for horse racing in Ireland. He is part of the research group of Professor Michael Gilchrist, UCD School of Electrical, Electronic & Mechanical Engineering.



*At the Bertram Broberg Memorial Medal presentation (l-r): Prof Adrian Ottewill UCD School of Mathematical Sciences; Medal recipient Dr Manuel Forero Rueda; Anne Buttiner-Broberg, Emeritus Prof of Geography at UCD; and Prof Michael Gilchrist, UCD School of Electrical, Electronic & Mechanical Engineering*

## EU FP7 success

University College Dublin has been awarded €18 million for two cancer research projects under the latest round of the EU 7th Framework Programme for Research (FP7).

One of the UCD projects, coordinated by Professor William Gallagher from the UCD Conway Institute was awarded €6 million by the EU, will investigate possible treatments for difficult-to-treat types of breast cancer.

The second UCD project coordinated by Professor Walter Kolch, Director of Systems Biology Ireland at UCD, was awarded €12 million by the EU, will explore genetic mutations that lead to the development of cancer cells. The project will focus on understanding childhood cancers.

Both cancer research projects coordinated by University College Dublin and involving partners across the EU will run for five years.

FP7 is a key tool to respond to Europe's needs in terms of jobs and competitiveness, and to maintain leadership in the global knowledge economy. It runs from 2007 until 2013 and has a total budget of over €50 billion.

Recently reviewing Ireland's successful participation in the EU 7th Framework Programme for Research (FP7) 2007-2009, the Minister for Agriculture Fisheries and Food, Brendan Smith TD acknowledged two key Irish coordinators, Professor Mike Gibney and Professor Patrick Wall of the UCD Institute for Food and Health Institute, for their leadership role in the securing EU funding for Ireland's Agri-Food, Fisheries and Forestry researchers.

# HONORARY CONFERRINGS AT UCD

## Leading Philosopher and theologian honoured by UCD

Professor Denys Turner, Yale University, was awarded an Honorary Doctorate of Letters by UCD in recognition of his academic accomplishments in the field of theology.

Denys Turner taught moral and political philosophy at UCD for ten years and during his career he has served as Norris-Hulse Professor of Divinity and Fellow of Peterhouse at Cambridge University. In 2005, he took up his present position of Horace Tracy Pitkin Professor of Historical Theology at Yale University.

"Denys Turner is a remarkable UCD graduate who has gone on to be an exceptional academic while remaining a person of generous and effective social involvement," said former UCD President, Dr Patrick Masterson who delivered the citation at the conferring ceremony in March.

Whilst in Ireland, Professor Turner also delivered a well received public lecture at the UCD International Centre for Newman Studies entitled: "Christians, Muslims and the name of God: Who owns it, and how would we know?



Dr Patrick Masterson, former President of UCD (left); and Dr Philip Nolan, UCD Registrar (right); pictured with Prof Denys Turner, Yale University receiving his honorary award from UCD

## Honorary Doctorate for President of Republic of Timor-Leste



President of The Democratic Republic of Timor-Leste, Dr José Ramos-Horta who was conferred with an honorary doctorate in March

The President of The Democratic Republic of Timor-Leste, Dr José Ramos-Horta was awarded an Honorary Doctor of Laws by UCD in recognition of his commitment to human rights and his dedication to the independence of Timor-Leste.

For 24 years Ramos-Horta led a campaign to mobilise global opinion against the Indonesian presence in his homeland, lobbying governments and promoting a peace plan. José Ramos-Horta was jointly awarded the Nobel Peace Prize in 1996 for his efforts to secure a peaceful solution to the conflict. In May 2002 Timor-Leste achieved independence from Indonesia. José Manuel Ramos-Horta formally took office as President on 20th May 2007 in the first national elections since independence.

"President Ramos-Horta is a moral giant, who from a young age has acted as a voice of his people to assist them towards independence from oppression," said Dr Niamh Hardiman, UCD School of Politics and International Relations, who gave the citation at the honorary conferral ceremony at UCD on 8th March 2010. "His advocacy has shown that the best way to respect the rights of the oppressed, and to achieve freedom and justice, is through peace-building."

## Equality in a Time of Crisis

More equal communities prosper across the board, and societal problems such as anxiety, bullying and ill-health are symptoms of inequality.

This was one of the messages of Richard Wilkinson, Professor of Social Epidemiology at Nottingham University. One of the world's leading scholars of inequality, he was speaking via satellite link at the *Equality in a Time of Crisis* international conference held at UCD in May.

Wilkinson was one of a number of international speakers at the conference, which brought together academics, activists and commentators to analyse current inequalities and imagine a socially just society.

Interdisciplinary in nature, the conference also featured a paper from the Robert W. Woodruff Professor of Law at Emory University Atlanta, Professor Martha Fineman, who was also a EWI UCD Marie Curie Transfer of Knowledge Research Fellow.

Along with speakers from UCD and other Irish and international universities, the conference heard a panel discussion on the topic of *Economic Crisis and State Reaction: Implications for Equality*. The conference, organised by the UCD Egalitarian World Initiative (EWI) and the UCD School of Social Justice, marked the end of the EWI Marie Curie Transfer of Knowledge Programme and the 20th anniversary of the establishment of the UCD Equality Studies Centre.

The proceedings from the conference can be accessed via [www.ucd.ie/ewi](http://www.ucd.ie/ewi)

## Research into frog peptides may hold clues for anti-infective medicines

Peptides in the skin of many species of frog have anti-bacterial and anti-fungal properties as well as the ability to rupture cells. This armoury is part a system of immunity that protects the amphibian from attack. Scientists are currently exploring the potential for developing frog skin peptides into therapeutically valuable anti-infective and anti-cancer medicines.

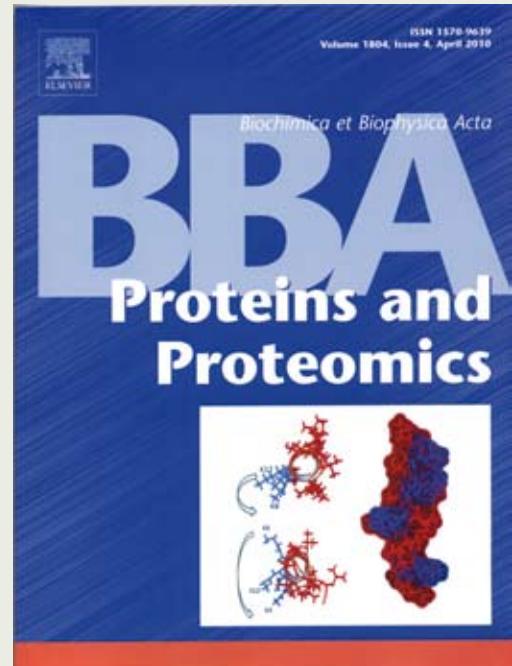
One particular peptide (XT-7), isolated from the skin of the Tropical Clawed frog *Silurana tropicalis* shows impressive activity against the growth of bacteria and *Candida albicans*, a common cause of yeast infections, but its therapeutic potential is limited by the ability to rupture red blood cells.

However, scientists have been able to change the structure of XT-7 to create an analogue that still has anti-infective properties but without the complicating haemolytic activity (damage to red blood cells). This change (a single amino acid substitution -glycine replaced by lysine) improves the therapeutic potential of this naturally occurring peptide.

Researchers led by Conway Fellow, Dr Chandralal Hewage from UCD School of Biomolecular & Biomedical Science carried out structural and molecular modelling of the XT-7 peptide and its analogue [G4K]XT-7 in a variety of solutions in order to understand the structural basis for the difference in biological activity. Their research indicates that in altered peptides, the reduced damage to red blood cells is a result of

the changed shape of the cells, and way the molecules interact with water. The study may allow the development of potent but non-toxic anti-infective agents from natural sources.

This work is highly praised by the editors of the international BBA Journal of Proteins and Proteomics and selected to cover the front page of the April 2010 issue.





*At the Social Work and Social Development conference were (l-r) Prof Brid Featherstone, NUI Galway; Barry Andrews, T.D., Minister for Children and Youth Affairs; Prof Colette McAuley, UCD School of Applied Social Science; and Phil Garland, Assistant National Director HSE*

## Celebrating Social Work at UCD

At a national conference hosted in UCD in March, Barry Andrews T.D. in his opening address reaffirmed the critical contribution that social workers make to children and family services in Ireland. He also advised social workers to develop a stronger national voice to ensure that their contribution is better understood by the public and other professionals. He welcomed the appointment of Phil Garland as the first Assistant National Director in the HSE for Children and Families Social Services.

Mr Garland emphasised the need for greater consistency of standards and equity in access to services and unveiled his programme of forthcoming reform. Professor Colette McAuley, recently appointed to the first Chair of Social Work at UCD, called for much closer collaboration between the HSE and social work academia to ensure that advances in research are translated into policy and practice at this crucial time for the services.

The conference (*Social Work and Social Development: Celebrating the Contribution of Social Work to Children and Families Services*) was organised by the HSE in association with Barnados, the National Social Work Qualifications Board and the International Branch of the Irish Association of Social Workers. It was planned in association with the Fourth World Social Work Day and drew strong attendance from senior social work staff across the country.

Norah Gibbons, Director of Advocacy & Central Services at Barnados will speak in June as part of the UCD School of Applied Social Science Public Lecture Series initiated by Professor McAuley. Her topic is "Professional Practice Under Scrutiny: In the Public Interest?" The series commenced in late 2009 with the inaugural lecture from Sylda Langford, Director General, Office of the Minister for Children and Youth Affairs. Details of the series, along with podcasts of recent lectures, can be accessed at [www.ucd.ie/appsocsc](http://www.ucd.ie/appsocsc)

## Scientists unpick genetic code of extinct giant cattle

Scientists have determined the first mitochondrial DNA genome sequence from extinct giant cattle (aurochs), according to findings published in the scientific journal *Plos ONE*. Mitochondrial DNA (mtDNA) is passed down from a mother to her offspring.

Following this discovery, the scientists claim to be able to sequence the complete DNA genome of the aurochs within the next 12 months.

Aurochs are famously featured in the ancient cave paintings at Lascaux, France. They were much larger and more aggressive than their modern descendants.

Standing over six feet tall to the shoulder and weighing more than a ton, aurochs were giant wild cattle that roamed the plains of Europe for thousands of years.

European domestic cattle are thought to have descended from aurochs that were domesticated at the dawn of agriculture in the region of the Near East known as the Fertile Crescent. The last recorded aurochs died in Poland in 1627.

"Our results demonstrate the incredible promise that next-generation DNA sequencing holds for archaeogenetics," says Professor David MacHugh from the Animal Genomics Laboratory and UCD Conway Institute, where the DNA sequencing was conducted.

"Once we complete the full nuclear genome sequencing, we can compare the DNA of the aurochs with that of modern domesticated cattle to identify genes associated with improved health, production and behavioural traits which have evolved since cattle were first domesticated almost 10,000 years ago," he explains.

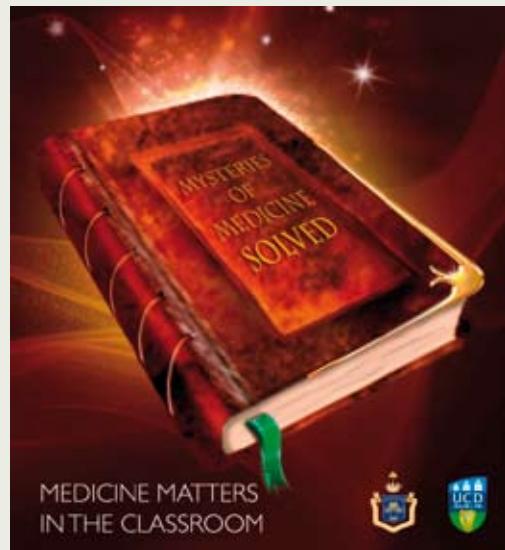
The team of scientists from UCD, Trinity College Dublin, Oxford University, the University of Sheffield, and the University of Leeds, analysed DNA extracted from a well preserved aurochs leg bone discovered in a cave in Derbyshire, England. The bone is radiocarbon-dated as being approximately 6,500 years old.

## International fascination with Hiberno-English

English has been spoken in Ireland for centuries. The country's rich literary tradition and its distinctive character is renowned worldwide and the language used is frequently cited in international scholarly works in Contact Linguistics and in the research field of Varieties of English.

Research to date has focused almost exclusively on a small number of linguistic features in Irish English, the similarities with Irish constructions, the historical development of Irish-English, and the impact on other varieties of English around the world. The impression created is that Hiberno-English can only be studied as a historical phenomenon and that it is spoken only by inner-city or rural communities.

However scholars from all over Europe, the USA and Japan presented new research on Irish English at the *New Perspectives on Irish English* conference held at UCD in March. The conference was organised by Dr Bettina Migge and Dr Máire Ní Chiosáin of the UCD School of Irish, Celtic Studies, Irish Folklore and Linguistics in conjunction with the UCD John Hume Institute for Global Irish Studies. Speakers examined many aspects of language variation and attitudes and how these play a role in expressing historical and contemporary social identities among the local population and newcomers to Ireland.



"*Mysteries of Medicine Solved*" is a community outreach programme from the UCD School of Medicine & Medical Science aimed at primary schools.

Conceived by Dr Seamas Donnelly at St. Vincent's University Hospital, it involved interactive discussions with 6th class students in schools on healthy lifestyle choices and common medical ailments.

A key part of the School's outreach educational programme, it focuses on children at an age group where through peer pressure or curiosity they are making decisions which may adversely affect their health as they get older.

Medical teachers from St. Vincent's University Hospital including Dr John Seery, Prof Donal O'Shea, Dr Seamas Donnelly and Dr Brian Kirby have been involved in the project, which covered "Smoking makes you ugly"; "You are what you eat"; "Bugs and Stuff"; and "Spotty Skin".

It is planned to expand this programme in 2011 to incorporate practical scientific demonstrations on campus at UCD. The programme will recommence in January 2011.

Further details can be obtained from Dr Seamas Donnelly at [seamas.donnelly@ucd.ie](mailto:seamas.donnelly@ucd.ie).



*In the company of more than 20 Irish Olympians, UCD launched its bid to become a pre-Olympic training base-camp for one of the international teams competing in the London 2012 Olympics. Pictured at the launch (l-r): The Minister for Tourism, Culture & Sport, Mary Hanafin TD with Irish athletes, Brendan O'Kelly and Jimmy Reardon, who competed in the 1948 Olympics (the last time the Olympics were hosted in London)*



*A UCD Cycling Club team of students and alumni successfully competed in the major eight-day international stage cycling race, the FBD Rás. All five team members completed the race, which saw them pit their skills against 155 riders from professional and semi-professional international teams from 16 countries. Team captain Anthony Walsh secured a Category II placing in one of the stages. Shown here before the race start are: L-R: Nicky Greene, team masseur; John Power, team car driver; Fergus Ryan; Killian Quill, team mechanic (in background); Ciarán Ó Conluain; Fiachra Rowan; Colm Cassidy; Anthony Walsh; Niall Dwyer, team manager*



*Over 300 Students from 26 different sports clubs were honoured in UCD Athletic Union Council Sport Awards ceremony in May. Pictured here (l-r) are: UCD Soccer manager Martin Russell; Soccer Scholar and UCD goalkeeper Gerard Barron who was awarded Dr Tony O'Neill Sportsperson of the Year; and Soccer first team captain Evan McMillan whose side were named Elite team of the year in recognition of their achievements in winning the National League First Division title, the three premier Irish soccer intervarsity competitions, and the Colleges and Universities League*



*The Irish netball team recently returned from Malta where they finished 2nd in an International European tournament featuring teams from Gibraltar, Great Britain (development), Israel, Malta and Sweden. The 12 strong Irish squad, boasting 7 UCD students, is shown here: back row (l-r): Sile Smith; Jan Haynes, Niamh Murphy; Caroline Conlon (UCD); Michelle Dunne (UCD), Sinead Bewick Darcy (UCD). Front row (l-r): Zara Hueston, Julie Fogarty (captain and UCD); Katie Henderson (UCD); Michelle Liddy (UCD), Sandra Green; Anna Heffernan (UCD)*

*Gaelic football scholar Donal Kingston of Laois in action for UCD in the first round of the Dublin Senior Football Championship. Kingston scored three points in the match, with the final score UCD 2-10 THOMAS DAVIS 1-9*

## 95 million-year-old Saharan jaw bones reveal new pterodactyl

With the help of ancient fossils unearthed in the Sahara desert, scientists have identified a new type of pterosaur (giant flying reptile or pterodactyl) that existed about 95 million years ago.

According to the findings published in the scientific journal PLoS ONE, the scientists consider the newly identified pterosaur to be the earliest example of its kind.

Unearthed in three separate pieces, the jaw bone has a total length of 344mm (13.5 inches). Each piece is well preserved, uncrushed, and unlike most other pterosaur fossils, retains its original three dimension shape.

"This pterosaur is distinguished from all others by its lance-shaped lower jaw which had no teeth and looked rather like the beak of a heron," says Nizar Ibrahim, an Ad Astra PhD research scholar from the UCD School of Medicine and Medical

Science, who led the expedition and is the lead author on the scientific paper.

"During the excavation, we also discovered a partial neck vertebra that probably belonged to the same animal, inferring a wing span of about six metres.

The scientists have named the new pterosaur *Alanqa saharica* from the Arabic word 'Al Anqa' meaning Phoenix, a mythological flying creature that dies in a fire and is reborn from the ashes of that fire.

Along with Nizar Ibrahim, the international team of scientists involved in the discovery included: David M. Unwin, School of Museum Studies, University of Leicester; David M Martill, School of Earth and Environmental Sciences, University of Portsmouth; and Lahssen Baidder and Samir Zouhri, Laboratoire de Géosciences, Université Hassan II, Casablanca, Morocco.



An artist's impression of *Alanqa saharica*, the newly identified pterosaur (Artist's impression by Davide Bonadonna)

## Fish model gives insights into diabetic blindness

New research by scientists led by Conway Fellow, Dr Breandán Kennedy from UCD School of Biomolecular & Biomedical Science indicates that treatment of diabetic blindness should look at protecting the neurons responsible for colour vision in the eye and not just targeting the blood vessels as is currently the practice. The work, funded by Science Foundation Ireland and the Health Research Board, was recently published in the journal *Disease Models & Mechanisms*.

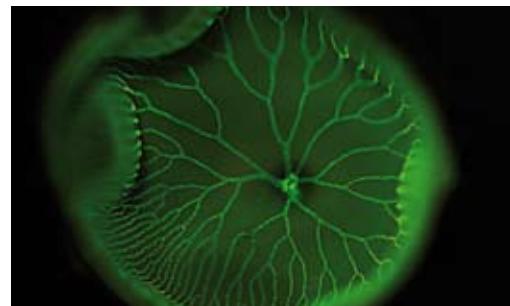
Nearly 2.5 million people worldwide are blind due to diabetic retinopathy, a secondary complication of diabetes. This disorder activates the growth of new leaky blood vessels in the eye and is responsible for the death of photoreceptors, the neurons that send visual messages to our brain.

Until now, scientists were unclear if the changes to vessels and neurons occurred independently of one other. Questions were also asked about which type of retinal neuron is most likely to die as a result of the raised glucose levels seen in diabetes.

Dr Kennedy and his team found that new blood vessels and the neuronal cell death in diabetic retinopathy can arise independently of each other. In addition, they identified that cone photoreceptor neurons, those involved in colour

vision and which we use to see during daylight are most affected by the high glucose levels.

The research team made their observations by successfully generating a zebrafish model of diabetes. The eyes of these small, tropical freshwater fish are very similar in design to humans, making it a useful species to study blindness. The high levels of glucose typically seen in people suffering with diabetes were stimulated in zebrafish and the fish studied to see whether they exhibited known diabetic symptoms. This novel model of the disease resembles the early stages of diabetic retinopathy in humans. It is an exciting development for the Kennedy group who now hope to further extend their research and establish a model of late stage diabetic disease.



Retinal blood vessels of adult zebrafish were studied as part of the research into diabetic blindness



The Minister for Children and Youth Affairs, Mr Barry Andrews TD was at UCD in April to officially open the new extension to childcare facilities at UCD Oakmount Crèche, which can now offer services for up to 110 children of students and staff of the university, and the local community. Minister Andrews is pictured here with: Bereket Mengesha Taye; Harry Judge; and Nicola Little



The UCD Choral Scholars are shown here at a performance with the EU Chamber Orchestra in Queen's Theatre, Barnstaple, Devonshire in Spring 2010. The group were invited to join the Orchestra for a performance of a Mozart Symphony, Mozart's famous motet Ave Verum Corpus, and a performance of Haydn's St. Nicholas Mass setting. Soloists at the performance included Irish mezzo-soprano Sharon Carte.

The European Union Chamber Orchestra was formed in 1981 and now gives up to 70 concerts annually worldwide. Promoting European music with its support and training of young musicians, it plays repertoire from the 17th to 21st centuries, commissioning new works each year from young composers.

"This was a great opportunity for UCD Choral Scholars to perform alongside the European Union Chamber Orchestra, we are looking forward to hosting the EU Chamber Orchestra in Dublin next April (2011) for a joint performance of Georg Friderick Handel's great work Messiah," said Desmond Earley, Artistic Director of UCD Choral Scholars