

UCD today

www.ucd.ie/ucdtoday

WINTER 2010



President Bill Clinton
visits UCD

5. PROTECTING OLDER PEOPLE

Tackling elder abuse in Ireland

7. FREAK WAVES

Harnessing mathematics to predict ocean currents

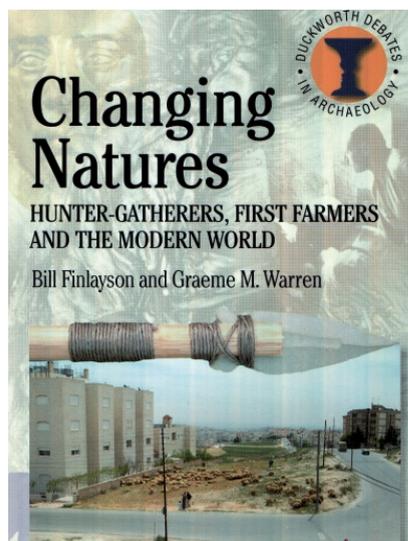
9. SHARK TALES

Protecting Ireland's unique species

13. MONOPOLES

Visualising magnetic events

what's inside ...



8 New publications in law, theology, Spanish literature and archaeology (shown here) from UCD authors.



11 The UCD Images of Research competition reveals the breadth and depth of work at the university.



21 UCD spin-out HeyStaks (shown here) secures €1million equity funding to grow their search engine business.



23 Leinster Senior League Cup victory for UCD.

Characters in conversation

The first time I sat in on a "characters in conversation" I worried that it would feel like eavesdropping on either a conversation I couldn't relate to, or a private chat open only to those 'in the know'. But, the "characters in conversation" events run by the team in UCD Alumni Relations & Fundraising are more like an open facebook wall for a different generation. I've gone to several of these evenings and although I didn't share any classes with any of the characters, I, like the rest of the audience, was charmed by the humour, the honesty, and the memories – sometimes flawed and disputed, but never dull.

Myles Dungan, historian, scholar, author and most well known as a broadcaster, who makes his living from talking had his work cut out for him getting a word in edgeways with Gerard Stembridge. Stembridge once heavily criticised a theatre production of Dungan's, but the mark of the man is such that shortly after this, Dungan invited Stembridge onto his programme.

Fadó, fadó, when they were both undergraduates in the 1970s, Stembridge became involved in debating (or performance as he saw it). His early

success was such that he was soon invited to south county parties where they "ate pavlova". And, while he enjoyed this new sensation, it didn't convert him and he still spent his summers in Limerick canvassing for Jim Kemmy.

While Dungan and Stembridge never managed to bring their conversation into the present, the evening spent listening to Denis O'Brien and Pat Kenny felt like a Chatham House Rule was in force as they discussed topical issues.

Rosaleen Linehan and Olivia O'Leary shared their earliest university memories of Earlsfort Terrace in the 1950s. Olivia was a scholarship student who was destined to change her world. Women wearing trousers was a taboo and when the young O'Leary among other women decided to don the slacks, Ms Green, the dean of discipline, came running through the hall crying "girls, girls, you'll upset me – I'll have a heart attack." Needless to say, she didn't, and the students won their battle.

Rosaleen's fate was set when her mother went to the local manager of the Hibernian Bank to ask for a position for her. "Isn't she the bright one?"

asked the manager. "Don't send her to the bank – I'll give you an overdraft to send her to university." And so it was that the young Rosaleen walked in to the main hall, straight up to the DramSoc notice board and acted in her first play opposite "the glamorous 3rd year, Des Keogh".

The next "characters" evening on 9 February 2011 coincides with the hosting of the Sigerson Cup next February, when Micheál Ó Muircheartaigh (BA '52, HDipEd '53, DPA '56, BComm '60) and Colm O'Rourke (BA '78, HDipEd '79) invite graduates, sports fans and friends to another great evening. If you haven't been to one yet, come along.

*Eilis O'Brien
Director of Communications*

Hear some of the previous conversations and watch Dave Fanning (BA '75) and Conor McPherson (BA'91, MA '94) in action at <http://www.ucd.ie/alumni/events/charactersinconversationseries0910/>

Cover Image: 42nd President of the United States of America in Belfield House on his visit to UCD in autumn 2010

UCD thanks ...

Contributors:

Suzanne Bailey, John Baker, Marie Boran, Hans-Benjamin Braun, Susan Butler, Marc Caball, Diane Cashman, Adrienne Coleton, Rose Cotter, Orla Donoghue, Angela Ennis, Bairbre Fox, Eileen Furlong, Rebecca Gageby, Geraldine Hanley, Niamh Hardiman, Eric Haywood, Vincent Hoban, Remo Hugli, Brian Jackson, Jacqueline Jago, Philip Johnston, Sinead Kelly, Stephen Kelly, Olive Keogh, Dervila Layden, Lilian Maher, Stefano Mariani, Collette McAuley, Juno McEnroe, Ann Mooney, Anne Murphy, Sean Murray, Corina Naughton, Siún Ní Dhuinn, Valerie Norton, Claire O'Connell, Caroline O'Connor, Orla O'Dea, Georgina O'Dwyer, Sharon Praedo, Elaine Quinn, Christopher Rooney, Paula Russell, Mark Simpson, Mary Staunton, Cathy Timlin, Irene Timmins, Graeme Warren, Micéal Whelan, Orla Wrynn

Produced by:

Eilis O'Brien, Claire Percy, Dominic Martella, Lisa Hughes

Design: Loman Cusack Design

Print: Fine Print

Thanks to:

Pádraic Conway, JP Donnelly, Catherine Godson, Ann Lavan, Maurice Manning, Cliona de Bhaldrath Marsh, Damien McLoughlin, Patrick Wall

In the compilation of this publication, every care has been taken to ensure accuracy. Any errors or omissions should be brought to the attention of UCD University Relations (communications@ucd.ie). We also welcome your suggestions for articles in future editions.

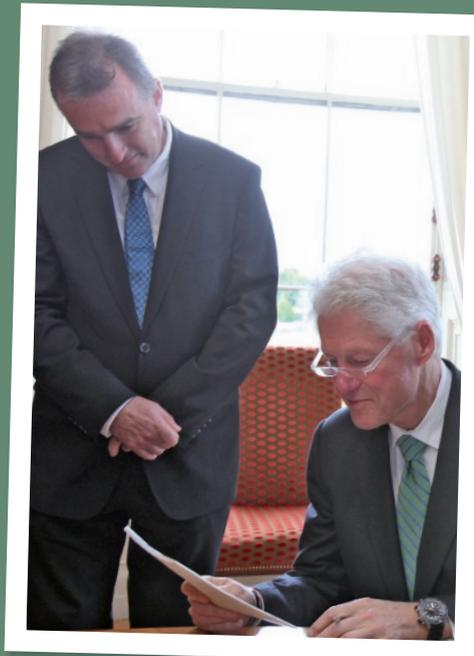
This publication is also available online at www.ucd.ie/ucdtoday



Visit of former US president Bill Clinton



42nd President of the United States, Bill Clinton is welcomed by UCD President Dr Hugh Brady

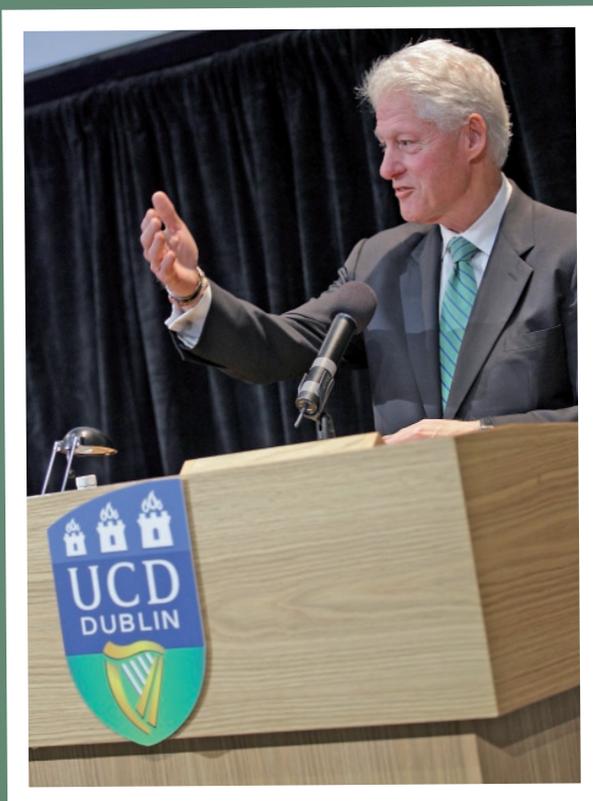


Guests to UCD are invited to sign the visitors' book. Here, President Clinton adds his name to the pages that include Archbishop Desmond Tutu, H.E. Mr Zeng Peiyan, Vice-Premier of China and The Honourable Mr Mizengo Peter Pinda, Prime Minister of Tanzania. He is shown with Director of the UCD Clinton Institute for American Studies, Professor Liam Kennedy



President Clinton meets the greeting party at UCD Belfield House. He is shown here shaking hands with Catherine Carey, manger of the UCD Clinton Institute for American Studies

While at UCD, Clinton planted a loblolly pine, the state tree of his home state Arkansas. The spade used to plant the tree was the same one used by Éamon de Valera to turn the sod of the UCD Belfield campus in 1962



President Clinton addressed students and friends at the UCD Clinton Institute for American Studies and spent time answering their questions on the growing threat to the Northern Ireland peace process from dissident republicans, US intervention in the Balkans in the 1990s, globalisation and its impact on the US as well as on Ireland. Hear highlights of his address via www.ucd.ie/news



Bill Clinton was presented with the Ulysses Medal by Dr Hugh Brady, in recognition for his ongoing commitment and contribution to the peace and prosperity of this island and to the elimination of poverty, disease and suffering worldwide.



Shown here are (l-r): Dr Kathleen Middleton, postdoctoral scholar at the HII; Dr John Cooper, York University; Dr Clodagh Tait, University of Essex; Dr Marc Caball, Director UCD Humanities Institute & project director; Dr Tadhg O hAnnrachain, UCD School of History & Archives; Dr James Murray, National Qualifications Authority of Ireland; Dr Robert Armstrong (TCD); Dr Mark Empey, postdoctoral scholar at the HII

Religion, change and communications in early modern Europe

UCD Humanities Institute (HII) hosted a series of workshops recently which examined issues of religious change and debate in early modern Europe in the context of the communicative power of print and the complementary media of verbal expression and script. Irish and international scholars participated in three workshops which examined the communication of Protestantism in Ireland, England and colonial America during the period 1560-1720; the translation of the reformation in northern Europe; new directions in research on religion in early modern Britain and Ireland. The Protestant reformation and the Catholic counter-reformation determined religious, cultural and political patterns and traditions which exercise a profound influence in Europe and in former European colonies to this day. This field of research is especially timely and relevant given current debates in regard to religion, identity and globalisation in the age of electronic communications. Among the distinguished scholars who contributed to the workshops were John Cooper (University of York), Tuija Laine (University of Helsinki), Peter Marshall (University of Warwick) and John Coffey (University of Leicester). The workshops, which were attended by both early stage researchers and senior scholars, were organised in the context of the IRCHSS and Department of Taoiseach-funded project 'Protestants, print and Gaelic culture in Ireland, 1567-1722'.

Mary Robinson speaks on Climate Justice at UCD Earth Sciences Institute seminar series

Adopting a climate justice approach means building greater awareness amongst political leaders and the broader public about the interconnectedness of climate change with issues of development and social justice, according to Mary Robinson, former President of Ireland and previous United Nations High Commissioner for Human Rights.

Speaking at the UCD Earth Sciences Institute 'Transforming Ireland' autumn series, Robinson spoke of Climate Justice as a way of bridging the divides which have beset global climate change negotiations and ensuring that the rights, needs, and voices of those most affected by environmental changes are prioritised. The conference, in conjunction with the TrinityHaus, was chaired by Minister Eamon Ryan and commentators at the seminar were Professor Paul Walsh, UCD School of Politics and International Relations, and Dr Pdraig Carmody, TCD.

The Transforming Ireland Series highlights the role of innovation in meeting Ireland's 2020 obligations and creating a green economy. Past speakers have included Dermot McCarthy, Secretary General, Department of the Taoiseach and Chairperson of the Innovation Taskforce; Dr. Eddie Commins, Enterprise Ireland; Cathal Gallagher, Bord Gáis Energy and Michael Roche IBM.



In recognition of his published research, Professor Gerry Byrne, UCD School of Electrical, Electronic and Mechanical Engineering (shown here), has become the first Irish recipient of the Frederick W. Taylor Research Medal, an award by The Society of Manufacturing Engineers [SME]. The medal is awarded to individuals who are leaders in manufacturing engineering research. Professor Byrne is Director of the university's Advanced Manufacturing Science Research Centre and is currently Chairman of the UCD Innovation Board and Director of the tidal energy company OpenHydro Ltd as well as President of CIRP, the international organisation in manufacturing engineering research. Professor Byrne is shown here receiving the award from Dr Barbara M. Fossum, SME president 2010

UCD alumni "adopt" 350 books in UCD Library

Responding to the need for additional essential texts for the UCD Library, the UCD Foundation launched an *Adopt-a-Book Appeal* in early 2010.

Alumni were asked to support the appeal by donating €50 to the Library. In recognition of their gift, a bookplate with their name, or a name in memoriam, will be placed in selected titles in the UCD Library.

Over 350 donations were received, totalling €25,000.

"This appeal has given alumni the opportunity to give back to UCD and the Library and we are very grateful to all who contributed. UCD Foundation is committed to supporting the library with the funding needed to continue to provide an excellent service to UCD students and alumni," said Irene Timmins, Director of Annual Giving, UCD Foundation.

Accreditation for Statistics MSc

The masters degree in Statistics at the UCD School of Mathematical Sciences has now gained professional accreditation. Students undertaking the postgraduate degree will now be automatically entitled to the grade of Graduate Statistician with the Royal Statistical Society. They will also be eligible for the postgraduate prize offered by the Society each year.

The MSc in Statistics is the first degree in Ireland to be accredited by the Royal Statistical Society and builds upon the accreditation of the Bsc in Actuarial and Financial Studies already in the discipline of Statistics and Actuarial Science. Professor Nial Friel, Head of Statistics and Actuarial Science said "This is great news, and should be of real benefit to both our students and the School of Mathematical Sciences".

Protecting older people

More than 10,000 older people have been mistreated in Ireland over the last 12 months with adult children as the main perpetrators, a new study has revealed. Olive Keogh (BA 1979, MA 1984) talks with Dr Corina Naughton on the nature of the issue in Ireland.

The study, the first of its kind in Ireland, was carried out by the UCD-based National Centre for the Protection of Older People (NCPOP). It focused on people aged 65 years and older living in the community, either independently or in a family setting. Older people living in residential care settings were not included in the study.

According to the findings, financial abuse was the most commonly reported mistreatment, followed by psychological abuse, physical abuse and neglect. Those in their seventies and eighties were more likely to experience abuse than those in their sixties and the rate of abuse reported by women was higher.

For the over 80s, financial abuse was the most common form of mistreatment, while levels of mistreatment and neglect were shown to increase with declining health. Those with lower levels of education, lower socio-economic status and lower incomes were the most vulnerable. Over one-third of those who experienced abuse or neglect did not report it.

"Until now we could only assume that the prevalence of elder abuse was not unlike that in other developed countries. This report gives us more precise data to work with," says Aine Brady, Minister for Older People and Health Promotion who launched the study findings.

"The insights of over 2,000 men and women who were prepared to share their experiences together with the skills of the research team will greatly assist in the development of the elder abuse service into the future."

The research team was led by Dr Corina Naughton of the UCD School of Nursing, Midwifery, and Health Systems. "The most frequently reported incidents of financial abuse were older people being forced to give money or property to someone in a position of trust," she says.

Dr Corina Naughton
of the UCD School of
Nursing, Midwifery,
and Health Systems

"The most frequent types of psychological abuse reported included verbal insults, followed by being excluded and prevented from seeing people that the older person cares about such as grandchildren. The majority of the physical abuse reported related to being pushed, followed by being threatened or hit with an object, kicked, and denied access to equipment such as a walking or hearing aid or being restrained."

According to the report, the highest levels of mistreatment occurred in intergenerational households or complex household structures where the older person shared the house with an adult child and their family or other relatives. Older people living alone or with a spouse or partner reported lower levels of mistreatment.

"In producing this study we are following best international practice. The HSE, which funded the research, is ahead of many agencies in other European countries in relation to issues associated with elder abuse," Naughton adds. "We have set ourselves an ambitious research agenda in the Centre over the next three years and have a very tight timeframe in which to complete it. To help ensure the best practice we drew on the extensive experience of other researchers in social and public health research within UCD, and three external experts who are active in this field of research — Professor Karl Pillemer of the Cornell Institute, Professor Simon Biggs of Kings College London, and Dr Isabel Iborra-Marmolejo of the Queen Sofia Centre for studies on violence, Valencia, Spain. Their experience helped us to make quick practical decisions about key issues such as sample size, methodology and the preparation of the questionnaire."

The rate of elder abuse in Ireland (2.2%) is relatively low compared to similar general population prevalence studies in Europe and the US with a range between 1%-11%. "The benchmark for us was the 2007 UK study where the rate was 2.6% while the rate in Northern Ireland stood at 2.0%," Dr Naughton says.

"Although the majority of older people do not experience mistreatment by people close to them, the risk factors for elder abuse and neglect are likely to increase as the population ages and as a greater number of older people depend on formal and informal support."

Elder abuse and mistreatment is a complex issue involving demographic characteristics, health, social isolation, social welfare and economic factors. "It is true that those in lower socio economic groups are more at risk, but where socio economic necessity puts people in close proximity family relationships are often put under significant strain anyway," Dr Naughton continues.

At the other extreme, those living alone and experiencing social isolation are also at higher risk of experiencing mistreatment. "By social isolation we mean people who do not have strong family or community support. This group of people may be perceived as more vulnerable and possibly as easy targets," Dr Naughton says.

Dr Naughton says that this report is timely in an Irish context. "Irish society has been woken up to the problem of abuse across the whole life span and to some extent this has helped to destigmatise it and people are more willing to talk about it and report it," she says.

"We hope this study will draw attention to elder abuse and help to remove the veil of silence that surrounds it. The study reflects the difficult reality for some older people living in Irish society."

Dr Naughton says her hope is that the study's illuminating findings will now feed into the development of strategies and policy on older people.

"By highlighting the issues and continuing to educate older people, their families and wider society in this regard it is to be hoped that the focus will be more on prevention and on encouraging people to put arrangements in place (such as financial arrangements) to prevent them becoming vulnerable to abuse as they age," she says.

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

National Research Centre for the Protection of Older People

According to CSO figures there were 467,900 people aged 65 and over in Ireland in 2006, equivalent to 11% of the population. By 2061 the number of people over 65 in Ireland is expected to reach 1.8 million.

The National Research Centre for the Protection of Older People (NCPOP) at University College Dublin was established in November 2009 in response to issues of elder abuse and the recommendations of the Report of the Working Group on Elder Abuse.

The aim of the NCPOP is to help policy makers understand, locate and tackle elder abuse in Ireland. The NCPOP at UCD brings together leading experts from across the fields of Nursing, Medicine, Economics, Social Science, and Public Health and was established by the Health Service Executive.

The report: "Abuse and neglect of older people in Ireland" was prepared by a team of researchers including: C. Naughton, J. Drennan, M.P. Treacy, A. Lafferty, I. Lyons, A. Phelan, S. Quin, A. O'Loughlin, and L. Delaney.

PhD success for deaf student

John Bosco Conama recently became the first culturally and linguistically deaf person to be awarded a PhD in Ireland after completing his research in the Equality Studies Centre in the UCD School of Social Justice. The research, which was supported by an NDA scholarship and researched under the direction of Professor Kathleen Lynch and Dr Maureen Lyons, involved a comparative analysis of the status of Deaf Sign languages in Finland and Ireland. John Bosco has promoted the rights of Deaf people in Ireland through his work in the Irish Deaf Society and is now the acting director of the TCD Centre for Deaf Studies.



Shown at his graduation with Professor Kathleen Lynch, UCD School of Social Justice is Dr John Bosco Conama, first culturally and linguistically deaf person to be awarded a PhD in Ireland

Maternal role in educational achievement

With more educational and employment opportunities available for women, mothers are now the key to a family's social mobility and are the strongest influence on children's educational achievements, according to new research.

The research, conducted by Ian Walker (Lancaster University and fellow of the UCD Geary Institute), Colm Harmon (Director of UCD Geary Institute) and Arnaud Chevalier (Royal Holloway, University of London and fellow of the UCD Geary Institute), found that women are now the main educational role models in households, regardless of income being lower than men's in some cases. "It seems the mother daughter relationship is now the transmission mechanism for social mobility", says Ian Walker. "It used to be said that the father was the breadwinner and that would dictate household education decisions. If the father was richer, you could afford to stay on at school rather than go out to earn a living. That is clearly no longer the case."

The researchers analysed the number of years for which teenagers stayed on in full time schooling after the age of 16. They studied data from the UK Labour Force Survey (LFS) for 43,000 teenagers who had been questioned between 1993 and 2006 and compared them with the schooling of their parents. The results showed that for every extra year a woman stayed in full time education, the likelihood of her daughter staying an extra year increased by 20%, the corresponding figure for a son was only 10%. For fathers there was no consistent or significant effect.



Barry Andrews TD, Minister for Children and Youth Affairs (shown here front centre) opened the Child Well-Being International Symposium in Dublin Castle in autumn 2010.

The symposium received contributions from international experts and senior policymakers in government from Norway, USA, UK, Ireland, Germany, Australia, Spain and Israel. The event was organised by UCD School of Applied Social Science in partnership with the Office of the Minister for Children and Youth Affairs and the Katherine Howard Foundation and in association with the International Society for Child Indicators. It was chaired by Professor Colette McAuley (shown front row centre right). Pictured here are the national and international symposium delegates

DRHEA inaugural Undergraduate Research Conference

Three UCD students delivered poster presentations at the inaugural Dublin Region Higher Education Alliance (DRHEA) Undergraduate Research Conference in October which showcased Ireland's undergraduate talents. The presentations comprised Paul Lavin, UCD College of Life Sciences, on 'The New Human: Are we creating the new species of human?', Ralphie Keane, UCD School of Architecture, Landscape & Civil Engineering, on 'Environmental Timber Jointing Technique' and Brendan Kelly, UCD School of Medicine and Medical Science, on 'Collaboration between radiologic technologists and junior doctors during image interpretation improves diagnostic performance'.

DRHEA is a strategic alliance of the Higher Education sector in the wider Dublin city region which aims to contribute to the growth of Dublin's competitive advantage in an international context.

UCD academic appointed to Central Bank Commission

Dr Blanaid Clarke, a barrister and Associate Professor at the UCD School of Law has been appointed by the Government to the new Central Bank Commission. The Commission will oversee the operations of the Central Bank and replaces the existing board. Clarke is a specialist in corporate governance, take-over and mergers law and in securities regulation. She was one of the founding members of the Centre for Corporate Governance at UCD. Her appointment to the Commission is for three years. Blanaid will continue to lecture in the Law of Contract, Corporate Governance and Takeover Regulation at undergraduate and graduate studies levels at UCD.

Making waves

When German cargo vessel, the MS München, disappeared beneath the ocean waves on a voyage to the US in 1978 not much was known about rogue waves. Investigations into the sinking of the ship theorised that it was caused by the occurrence of one or more abnormally large and powerful waves – also known as freak waves – that seemed to come out of nowhere and disappear just as quickly. Speaking with UCD professor Frédéric Dias, Marie Boran (BSc 2002) discovers how mathematicians are providing insights into these rogue waves.

For decades scientists questioned the existence of rogue waves. They were scientifically improbable and — unlike tsunamis — there did not seem to be any specific underlying cause like an earthquake or volcanic eruption that would displace huge volumes of water.

"It is always difficult to define a rogue wave because nobody can agree on a definition, but it is a very large wave which is both localised in space and time. This means that it will occupy a specific area of, for example, one kilometers squared," explains Professor Frédéric Dias, an applied mathematician the UCD School of Mathematical Sciences who specialises in ocean waves and hydrodynamics.

"These waves appear to come from nowhere but it depends on the sea state at the time. Usually these waves come in threes but sometimes alone or in a group of four and there is mathematics behind why this is so."

This means that if you're unlucky enough to be in a boat in the area of a rogue wave and there is another boat only 5km away, the observers on that boat will not even be able to see the wave. So not only are these waves rare, but seeing one in action is even more uncommon, as they are localised in space and the event will only last a minute or so.

There is, however, the Peregrine soliton: a nonlinear mathematical solution proposed by applied mathematician Howell Peregrine over 25 years ago and which theoretically accounted for the formation of these rogue waves. A "soliton" is a term in mathematics and physics describing a type of wave.

This beautiful yet simple nonlinear Schrödinger equation described a wave that was very large and localised both in space and time. The problem was that this wave had never been observed. Never observed, that is, until now.

Professor Dias is one of the authors of a paper published in Nature Physics that described a breakthrough moment whereby the Peregrine soliton was translated in reality for the very first time in lab conditions. This work, funded through schemes of the French Agence Nationale de la Recherche, the Academy of Finland, the Cyprus Research Promotion Foundation and the Australian Research Council, revealed the rogue wave as seen in the lab.

This area of applied mathematics specialises in ocean waves and hydrodynamics and sees Dias working with physicists in the field of non linear optics.

Interestingly the discovery was made not by observing waves in the ocean or a wave tank in the lab but by carrying out experiments with optic waves.

"A few years ago some researchers observed similar extreme phenomena in optics and the origin of this amplification is the same type of instability as is found in ocean waves," says Dias.

"Several teams reproduced this experiment including a team I know in France. So then we decided to work together – applied mathematicians and physicists – to try to better understand the other conditions that create this big wave."

It became really exciting for Dias and his co-researchers because the advantage of optics meant that they could perform experiments relatively easily in a smaller lab space and parameters within the experiments were easier to control.

But what about the mathematics behind these experiments? The Peregrine soliton accounts for a huge wave, which by its very nature is volatile and of a fleeting existence, but importantly the work being carried out by Dias and the other co-authors of the paper means that rogue waves do not have to be unpredictable

Studying the nature, formation and causation of these waves may lead to accurate forecasting of where they might hit next.

As an applied mathematician Dias does not solely work on research surrounding rogue waves but also on the mathematical modelling and prediction of tsunamis. While there has been much work done on this area not all elements are well understood and the modelling of sediment as a contributory factor to tsunamis is an emerging field showing the vast opportunity in applying advanced maths to the world's oceans in order to better understand the forces of nature.

"The equations we use to model ocean waves are very complicated. We always look for simpler models and one of these is the nonlinear Schrödinger equation. Essentially this model equation can reproduce some effects in ocean waves, optics and plasma physics as well as some other fields," he explains.

This equation describes the evolution of wave amplitude as a function of space and time and it turns out that this equation has a very simple solution, which is called the Peregrine soliton.

Beginning at a finite amplitude the wave will amplify over time, give a very high peak and then disappear. Before the Nature Physics paper — although known to mathematicians — the Peregrine soliton was merely a mathematical object. "It had no connection with reality," explains Dias.

If this mathematical solution is applied to ocean waves it describes not the wave itself but the envelope of the wave, which is the curve that joins the crest of one wave to another. So if the Peregrine soliton is the envelope then beneath this are the oscillations with the central peak being the rogue wave and, as has been observed, these waves often come in three with two smaller ones surrounding the highest wave.

The next step for Dias and his co-researchers is to extrapolate this work in optics to ocean waves. However, as Dias says, there is very little data, as the occurrence of these dangerous rogue waves is – fortunately for seafarers – quite rare, as are the chances of a scientist seeing one in action.

Marie Boran (BSc 2002) is a freelance science and technology writer.

Professor Frédéric Dias, UCD School of Mathematical Sciences





Show at the decenary celebrations of the UCD Law Review were (l-r): The Right Honourable Lord Hutton; Ms Fiona McKeever, Arthur Cox; Professor John Jackson, UCD School of Law; Mr Justice Donal O'Donnell (Irish Supreme Court); Mr Ian Dalton (Deputy Editor, UCD Law Review)

Ten years of UCD Law Review

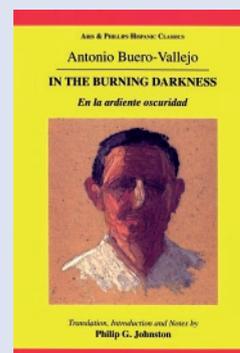
The Tenth Volume of the UCD Law Review was recently launched at a reception in the UCD School of Law by Lord Hutton, former Lord Chief Justice of Northern Ireland and British Lord of Appeal in Ordinary. Lord Hutton was joined by former Law Review editors and senior members of the Irish judiciary, in celebrating the success of this student-edited journal. The journal was founded in 2000 by then student Niall Buckley and Law School lecturers Dr Gavin Barrett and Dr Oonagh Breen.

In his address, Lord Hutton praised the standard of writing and the spectrum of topics covered by the journal, which included articles on the free movement of students in the EU, forensic evidence and DNA databases, and crime prevention through environmental design.

The Maples and Calder Award for Outstanding Article went to Ronan Condon for his extrapolation of the law relating to vicarious liability. Addressing the audience on behalf of the Editorial Board, Ian Dalton, Deputy Editor, thanked Arthur Cox Solicitors, the Review's long-time principal sponsor, for its support.

The UCD Law Review is available internationally through the Heinonline database and also directly from UCD School of Law. More information from ucdlawreviewboard@ucd.ie

New Buero-Vallejo translation



Spain's leading playwright of the last century, Buero-Vallejo has published thirty original plays. Now one of his famous works, *En la ardiente oscuridad* (*In The Burning Darkness*), has been translated from Spanish into English by Dr Philip G.

Johnston, Senior Lecturer at the UCD School of Languages and Literatures.

Set in a teaching centre for blind people, the play focuses on how one protagonist's actions challenge the values of the centre, a place where coercion is rife. First appearing in the 1950s, the play is deemed by many to be ahead of its time and Dr Johnston describes it as having 'a broad, universal appeal' that transcends Franco's regime and the background of censorship against which it was written. The political and philosophical themes of dictatorship, blindness and social anxiety will resonate with today's audience, part of the reason why it has now been translated into English. Dr Johnston is also the author of *inter alia*, a study of the poet Antonio Machado.



Shown at the launch of *Karl Rahner, Theologian for the Twenty-first Century* were: (l-r): Professor Emeritus Seán Freyne, Trinity College Dublin; Dr Pádraic Conway, Director of the UCD International Centre for Newman Studies and Dr Fáinche Ryan, Mater Dei Institute

Karl Rahner, Theologian for the Twenty-first Century

In the twenty-five years since his death, Karl Rahner moved from being the most celebrated Roman Catholic theologian of the twentieth century to among the most neglected of the twenty-first.

A new book, *Karl Rahner, Theologian for the Twenty-first Century* edited by Dr Pádraic Conway, Director of the UCD International Centre for Newman Studies and Dr Fáinche Ryan, Mater Dei Institute, attempts to redress this imbalance, with the contributors treating all the major themes and legacies of Rahner's theology.

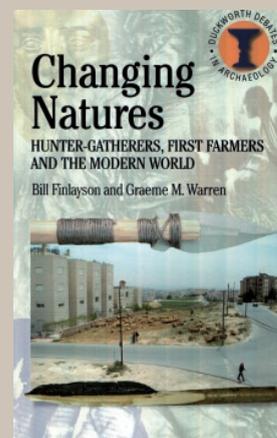
Rahner emerges from this collection as a paragon of a theology which is never insular or inward-looking but is always bold and innovative in its engagement with the range of questions

with which contemporary theology is ineluctably confronted by, in our twenty-first-century world.

In launching the book, Professor Emeritus Seán Freyne, Trinity College Dublin said, "In carrying out a consummate retrieval of the best of Karl Rahner's theology, the editors and authors associated with this volume have performed a signal service, not just for the academic theological community but for all who resist the nostalgic lure of restoration and believe, like Rahner himself, that the way forward for Christianity is an open and ecumenical one."

Published by Peter Lang as part of the Studies in Theology, Society and Culture series, the book contains a series of essays from leading international contributors.

Conceptualising the Neolithic Revolution



The adoption of agriculture fundamentally revolutionised human history and paved the way for urbanisation and specialisation. More recently, the structure of the Neolithic mind has been put forward as a cognitive

revolution in itself, separating us from preceding hunter-gatherers. The so-called Neolithic Revolution is accepted as significant, but how we conceptualise it is still open to questioning.

In a new book, *Changing Natures: Hunter-Gatherers, First Farmers and the Modern World*, our understanding of the transition is analysed. This book, by Dr Graeme Warren from UCD School of Archaeology and Professor Bill Finlayson from the Council for British Research in the Levant, focuses on two themes: our understandings of hunter-gatherer diversity and change over time, with emphasis on the adoption of agriculture; and the relationships between our understandings of the modern world, and ourselves, and the models we impose on prehistory. By adopting a broad geographical perspective the book makes comparisons between two primary study areas, the Near East and Europe.

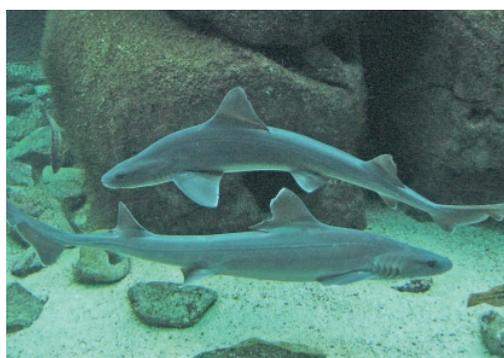
Shark Tales

Irish scientists are lobbying the EU to protect a unique species of shark in Irish waters following eye-opening research on the relatively unknown predator. Juno McEnroe (BA 2000) learns from Dr Stefano Mariani how researchers spent several years tracking the reproductive habits of the starry smooth-hound shark, a grey-brown medium-sized fish found around Irish shores.

The shark — which can grow to almost one and a half metres in length — is one of 28 species of shark inhabiting Irish waters.

Researchers at UCD School of Biology & Environmental Science now want a protection scheme established for the slender shark amid concerns the survival of the species could be under threat.

With starry smooth-hounds in the Mediterranean being fished almost to extinction, there is concern about a lack of regulations on its catch in Northern waters, and the prospect of foreign trawlers fishing out the species.



Starry smooth-hound sharks in Irish waters

UCD researchers also discovered traits about the shark's maturing age and its infrequent reproductive cycle which have raised questions about the strength of its population.

Dr Stefano Mariani, head of the research project at the UCD School of Biology and Environmental Science, explained:

"We set out to compare distribution and the population structure and the main life history of this animal around the coastal waters of Ireland. This included studying the age of the fish, when they mature, how they reproduce, what is their reproductive potential and what is their growth rate. If we don't know anything about how these animals live, we cannot estimate how to manage them."

"This was a particular problem because these animals were not being managed. It's not one of those fish that receives attention year after year in terms of how their stocks are doing. They're not primary targets for big commercial fishers. They end up being caught as a by-catch. But some of them are being targeted by southern European countries."

On the continent, starry smooth-hounds are highly sought after and the landings from French boats, currently about 2,500 tonnes annually, are rising.

"We don't eat these sharks but the French, the Spanish, the Italians, the Portuguese, do," added Dr Mariani.

Others on the shark research team included Dr Edward Farrell, a PhD graduate at UCD, Dr Maurice Clarke from Galway's Marine Institute, and Dr William Roche from Inland Fisheries Ireland.

Supported by the Irish Research Council for Science, Engineering and Technology (IRCSET),

under the EMBARK initiative, the team began its work in late 2006 examining 200 dead as well as 600 live specimens of the shark over three years.

This involved catching fish by rod in shallow waters around Ireland and abroad and also trawling through commercial catches.

Using a genetic test and clipping fragments of the shark's fin, the research team were able to confirm the shark was the starry smooth-hound and not a related species that it is often confused with, called the common or grey smooth-hound.

They caught shark pups along the Wexford coast, a popular birthing ground for the species.

The shark likes to feed on the seabed on shellfish and monitoring its movements in shallow Irish waters was relatively easy.

While not a fast swimmer, it gobbles up crabs and other shellfish like prawns and its teeth are more similar to human molars than typical jagged shark teeth.

It is thought that tens of thousands of sharks of all different sizes come in and out Irish waters, in areas considered either feeding grounds or good nursing areas for newborns.

Until recent years, smooth-hound species were mixed up with others. But research carried out by the UCD-led team has thrown new light on the starry smooth-hound species.

Females do not mature until six or seven years of age and only reproduce every two years, taking a break between cycles. This means that if the average female lives until 15 years of age, it only has essentially four years within which to reproduce.

Pups develop inside the female for around 12 months before being born, after which the female has a rest period of another year before she is capable of becoming pregnant again.

"We now have clear data about the forecasts of the shark's population which we didn't before. It grows much more slowly than previously thought and the late maturity in both male and females has consequences for reproduction," added Dr Mariani.

The species spends spring in Irish waters mating or giving birth. Researchers not only looked at the shark in the Irish Sea but also in the English Channel, the North Sea and the Bay of Biscay, along with other locations.

According to scientists, the consequences of over-fishing the shark could see changes in the marine ecology in Irish waters. With less starry smooth-hounds, there could be more of an abundance of shellfish like crabs and prawns and the sea could literally become "soupy" with more jellyfish and smaller organisms in the waters instead of being cleaned up by the small predator.

The fish also attracts angling tourists to Ireland who after catching the shark put it safely back in the waters. This is

a revenue earner for the country that should not be lost, say the UCD team.

Researchers want to also stress that Irish people should be proud that their coastline provides beach-goers with a chance of swimming alongside these unique and harmless sharks.

Dr Edward Farrell, the UCD PhD student who initiated the four-year research, explained:

"I have always been fascinated with sharks. Most people don't even consider that sharks could be in Irish waters."

"It's more vulnerable to exploitation than we previously thought. People had thought it was an early maturing [shark] and had a high reproductive output. At the moment, there's no management for it. We need to start looking at plans otherwise it will be fished out."

The 27-year-old researcher added that the Spurdog or Spiny Dogfish was nearly fished to extinction in the 1980s in the Northeast Atlantic.

"From a moral point of view, it's good to conserve species, especially as we have very few native species in Ireland. The few we do have are in the marine world and we should do our best to manage them," stressed Dr Farrell.

The shark investigation team have published research papers in Oxford University Press's *ICES Journal of Marine Science* as well as the UK's *Journal of Fish Biology*.

Researchers now plan to lobby EU officials as well as the Irish government through the Marine Institute to roll out a marine protection plan for the starry smooth-hound.

Juno McEnroe (BA 2000) is a journalist with the Irish Examiner.



Dr Stefano Mariani, UCD School of Biology and Environmental Science

PhD Profile - Images of Research Winner



Dr Noor Aman Hamid, a second-year PhD student in the UCD School of Public Health, Physiotherapy and Population Science, is the winner of the UCD Images of Research 2010 competition. His image 'In her Best Diamonds' is a portrait of a Traveller woman. The image was taken at a recognition event in Belfast to thank the Travellers who took part in the 'Our Geels' study as peer researchers.

'Our Geels' in Traveller language or Traveller Cant means 'Our Selves' and formed part of the title for the All Ireland Traveller Health Study, a four-year population-based study involving more than 10,000 Traveller families. One of the findings related to the experience of discrimination among Traveller women. According to one participant, a Traveller woman could be dressed 'in her best diamonds' or 'glammed enough that they could walk on the red carpet in Hollywood' and they are 'not let into the pictures'. In order to be accepted, Traveller women feel they have to change their dressing practices. Parents of younger Travellers say they may also change their accent and dress

code, denying their Traveller identity, to avoid being bullied. Travellers claim that discrimination not only affects them socially, psychologically and materially but also affects their mental health and their overall wellbeing. Travellers fear for the future as such change also means they have to abandon their proud culture and heritage.

The study was 'for, with and by, Travellers of Ireland'. A crucial element was the coming together of academics, policy makers, service providers and Travellers to produce a study which gave meaningful results to all parties. Findings have already been fed into specific policy recommendations, particularly on showcasing Traveller culture to the wider community.

The study was funded by the Department of Health and Children (Republic of Ireland) and the Department of Health, Social Services and Public Safety (Northern Ireland) and is available via www.dohc.ie Aman's supervisor is Dr Patricia Fitzpatrick and the study was led by Professor Cecily Kelleher.

10,000 crann idir an Chanáil Mhór agus an Chanáil Ríoga

Tá catalógú déanta ag mac léinn PhD de chuid na hOllscoile ar na crainn ar fad idir an Chanáil Mhór agus An Chanáil Ríoga ag baint úsáide as Google Earth, Bing maps agus obair allamuigh. Is é an chéad shuirbhé cuimsitheach atá déanta ar chrainn i lár na cathrach.

Fuarthas amach go raibh breis is 10,000 crann a chlúdaíonn níos mó ná 800,497 meadar cearnach idir an dá chanáil, nó 6% den achar iomlán. Foilsíodh na torthaí seo in Irish Geography.

Tá tuairim is 63% de na crainn lonnaithe in áiteanna príobháideacha (ar nós gairdíní), agus 37% in áiteanna poiblí. De réir an eolais a bailíodh, tá crann amháin de gach duine atá ina chónaí idir na canálacha.

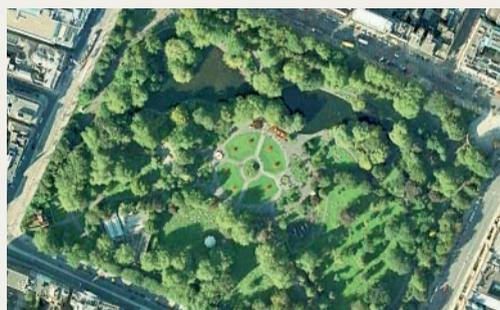
Tá 25% de na crainn a aimsíodh lonnaithe ar shráideanna. Rinneadh taighde ar na crainn seo ar feadh 9 mí chun eolas níos cruinne a fháil ar speiceas, méid, aois agus sláinte na grann.

Míníonn Tine Ningal, an mac léinn PhD sa tíreolaíocht a rinne an suirbhé "go mbíonn ról áirithe ag crainn shráide i ndearadh uirbeach agus pleanáil cathrach, má chuirtear iad taobh le bóithre agus ar stráicí féir ar shráideanna gníomhacha, is féidir iad a úsáid chun grian a ligint isteach, smacht a choinneáil ar aer, cosaint a thabhairt ó thruilleán aeir agus maolaíonn siad torann ar leibhéal sráide.

"Taispeánann an suirbhé seo bhfuil 84% de lár chathair Bhaile Átha Cliath déanta suas de cheithre speiceas- Teile (38%); Plána London (27%); Mailp (14 %); agus crann sleamhain (5%)."

Measann na taighdeoirí chomh maith go n-athraíonn 'crainn shráide' tuairim is 42,000kg de charbón gach bliain (macasamhail breis is 40,000 turais sa charr i lár na cathrach). Stóráil milliún cileagram de charbón ag aon am ar leith. Táthar den tuairim go bhfuil 81% de stóráil carbóin déanta ag aon speiceas amháin: an plána London.

"D'fhéadfadh polasaí plandáil crann a bheith an-tábhachtach mar chuid de straitéis chomhshaoil



Trees in St Stephen's Green. Image courtesy of Google Earth

ag díriú ar caighdeán saoil a fheabhsú in áiteanna uirbeacha ach teastaíonn eolas suas chun dáta de chrainn,' a deir an Dr Gerald Mills ó Scoil na Tíreolaíochta, na Pleanála agus Polasaí Comhshaoil COBÁC a bhí mar stiúthóir ar an taighde.

"Tugann an obair seo an chéad fhardal de chrainn i lár chathair Bhaile Átha Cliath, sainmhíne mar an t-achar idir an Chanáil Ríoga agus an Chanáil Mhór. Is é an fardal seo an chéad chéim i dtreo mheasúnú de luach comhshaoil de chrainn Bhaile Átha Cliath.

A recent survey, conducted by Tine Ningal, the UCD Geography PhD student shows that there are 10,000 trees between the Grand and Royal Canals in Dublin. This is one tree for every 50 residents, and 2,500 street trees. Using Google Earth, Bing Maps, and active fieldwork, Tine, under supervision of Dr Gerald Mills, catalogued the trees between the Grand and Royal Canals in Dublin's city centre. This is the first time a comprehensive survey of trees in the city centre has been completed.

Glossary

- Cuimsitheach- comprehensive
- Speiceas- species
- Crainn shráide- street trees
- Dearadh uirbeach- urban design
- Teile- Lime
- Plána London- London Plane
- Mailp- Maple
- Crann Sleamhain- hornbeam

Layering of Irish State agencies revealed by new database

A database tracing the development of Irish state institutions and agencies since the founding of the Free Irish State has been developed by researchers at UCD, revealing the complex layering of state agencies.

Showing the structures, budgets and personnel of these institutions, the database also provides comprehensive data for considering how departments and public bodies might work together more effectively.

The Irish State Administration Database (ISAD) contains entries for around 700 public organisations between 1922 and the present and found an accelerated growth in the number of new agencies established to carry out governmental functions over the past 20 years.

Dr Niamh Hardiman, UCD School of Politics and International Relations, who headed the project, said "In many respects, the Irish experience of agencies can be conceptualised as a form of institutional layering, similar to the 'Russian doll' character of British governing structures, ranging from Ministerial and non-Ministerial departments at the core to independent inspectorates and self-regulatory bodies at the outer layer."

The three year 'Mapping the Irish State' project was funded by the Irish Research Council for the Humanities and Social Sciences and was officially launched by the Minister of State for Public Service Transformation, Dara Calleary TD in November. The Minister said the database would assist the Government in working with the Public Service and driving implementation of the Croke Park Agreement and the Transforming Public Services agenda announced by the Government at the end of 2008.

Images show research from all around UCD

Over 170 images, representing all UCD Colleges and Schools, as well as Research Institutes and Major Collaborative Programmes, were adjudicated in the 2010 UCD Images of Research competition. The images vividly bring to life the work of some of UCD's researchers, with subjects ranging from urban living to ancient stones, from cat scans of cats to the sound systems of bats and longitudinal sections of liver fluke.

All 2010 winning and shortlisted images are now available in a digital exhibition on the UCD Research website: www.ucd.ie/research/images

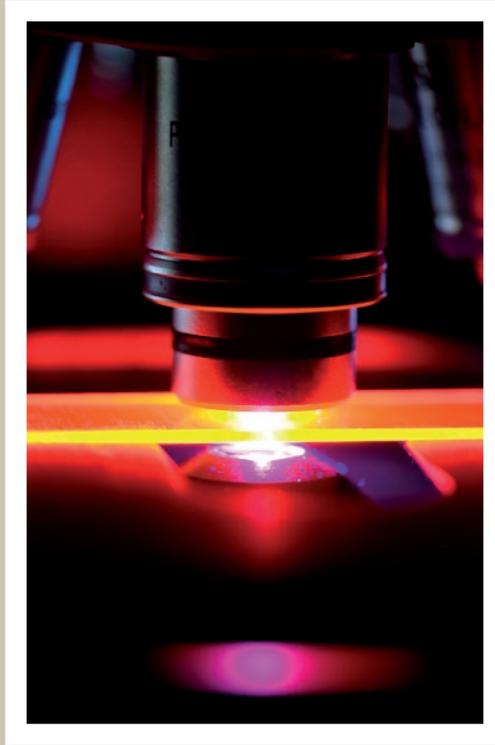
The annual UCD Images of Research competition aims to discover the most compelling and imaginative research images that convey the depth and diversity of work conducted by UCD researchers. It is open to all UCD researchers including academics, postdoctoral fellows,

postgraduate students and technical officers, as well as staff of UCD's affiliated teaching hospitals.

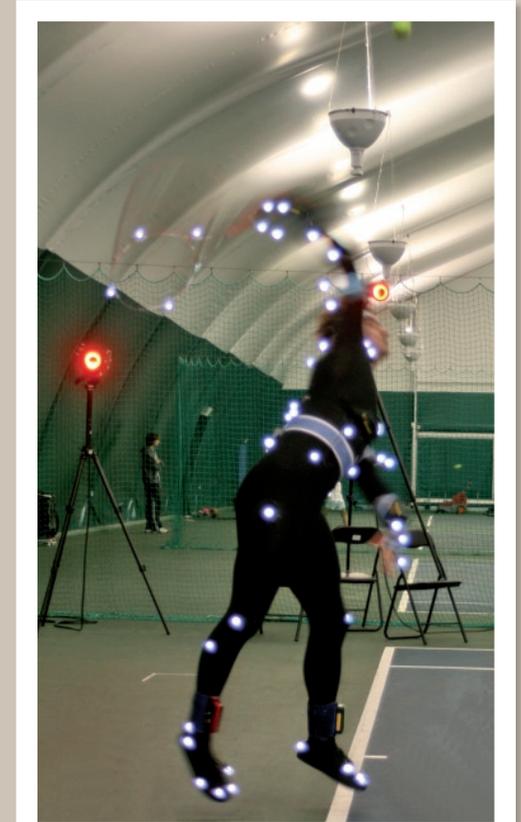
The winning image from Dr Noor Aman Hamid, PhD student in the UCD School of Public Health, Physiotherapy and Population Science depicts a member of the Traveller community, highlighting their participation in this year's All-Ireland Traveller Health Study. For more on Dr Hamid's work, read the PhD profile on page 10 of this edition of UCD Today.



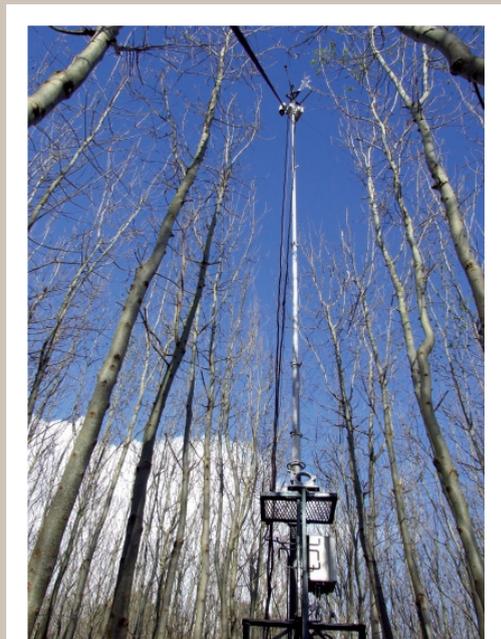
"Flight control" by Billy Clarke in the School of Biology & Environmental Science shows a hummingbird hovering at flower. It represents work ongoing in the school involved in the study of bird flight and its evolution.



Fluorescent microscopy, used to view immuno-fluorescent stained tissues and cells, plays an important role in scientific research. Researchers at the UCD Conway Institute have used this method to discover a novel signalling pathway in human platelets, the blood cells that are central to the processes in haemostasis and thrombosis. Using this understanding will be crucial to the future development of novel anti-thrombotic agents. This photo was taken by Naheda Alkazemi UCD School of Biomolecular & Biomedical Science.



The small stable sensors worn by this tennis player provide researchers from the CLARITY Centre for Sensor Web Technologies with data on the athlete's movement. The team is working on a wearable sensor system that provides feedback on sporting and rehabilitation movements, which may help people heal faster from injury, perform better in sports and live healthier lives. The photo, taken by Matthew Patterson UCD School of Physiotherapy & Performance Science, is shot in Dublin City University.



Dr Brian Tobin, UCD School of Agriculture, Food Science & Veterinary Medicine, was awarded second place for his visually stunning image "Reaching for Heaven" which depicts an extendable mobile mast carrying meteorological and air-sampling instrumentation reaching above a canopy of young ash trees.

Connell Vaughan, UCD School of Philosophy picked up third place for 'Concrete Chrysalis', a striking image of a butterfly which landed on a mural being photographed during a research study, echoing the transitory nature of mural art.



UCD supports proposal for "BlueLine" southeast Dublin transport service

Dún Laoghaire-Rathdown County Council in association with UCD, St Vincent's University Hospital, RTÉ and the Sandyford Business Estates Association are promoting a proposed Southeast Dublin rapid transit service — "BlueLine".

"BlueLine" would run from St Vincents University Hospital (Nutley Lane) to the Sandyford Business Estate via UCD. The service would be very similar to light rail in terms of journey time, operating hours, frequency, reliability and comfort. However, road vehicles similar to the existing LUAS trams would be used for the system, which would run along a fixed corridor on road.

A detailed assessment of the project shows that it could be built for around €33m.

The promoters anticipate that it would offer a high quality, high-frequency, high-capacity public transport service featuring all the benefits of a fixed-rail tram system with the flexibility of being able to drive on the road.

"BlueLine" would provide safe, quick and dependable journey times, improving connectivity and reducing dependence on private car travel in Southeast Dublin. Connections would be established between DART, BUS and LUAS services. The ten proposed stations are: St. Vincent's University Hospital; RTÉ; UCD Main Gate; UCD Central; Roebuck Road; Mount Anville; Goatstown; Kilmacud (Interchange with LUAS and "Park & Ride"); Stillorgan/ Sandyford (LUAS Interchange); Sandyford Central.

More at www.blueline.ie



Pictured at the UCDVO annual ball (l-r): Prof Frank Monahan, UCD School of Agriculture, Food Science and Veterinary Medicine/ Group Leader for UCDVO Haiti 2010 project; Caroline O'Connor, Manager of UCDVO; Ros McFeely, UCD Student Adviser/Group Leader for UCDVO Tanzania 2010 project; Theresa Phelan and Prof Jim Phelan, Dean of Agriculture/Chairperson of UCDVO

Over €3,000 raised at UCDVO annual ball

The sold-out UCDVO Annual Ball and reunited some of the six hundred UCD students, staff and alumni who have travelled with the charity since it began and also raised over €3,000 towards the charity's projects in India, Haiti, Nicaragua and Tanzania. Founder of UCDVO and former Chaplain of UCD Fr Tony Coote spoke on the night, saying "One of the biggest achievements of UCDVO has been the sense of belonging it has given students as they try to settle into university", while Professor Jim Phelan, Dean of Agriculture and Chairperson of UCDVO highlighted the tremendous work by the UCDVO Campus Committee throughout the year.

Volunteers were presented with certificates to mark their achievements at the awards ceremony held in October.

Five Best Paper Awards for computer scientists

The UCD School of Computer Science and Informatics gained five Best Paper awards in recent months. The awards were:

- At this year's IEEE/WIC/ACM International Conference on Web Intelligence, "Niche Product Retrieval in Top-N Recommendation" by Mi Zhang and Dr Neil Hurley was awarded Best Paper.
- At the ACM Recommender Systems Conference 2010 (RecSys'10) the award for Best Short Paper went to Guangyu Wu, Dr Derek Greene and Professor Pádraig Cunningham for "Merging Multiple Criteria to Identify Suspicious Reviews."
- Best Paper Award at the National Conference on Artificial Intelligence and Cognitive Science (AICS'10) went to Kevin Foley, Dr Derek Greene and Professor Pádraig Cunningham for their paper "Optimizing Conflicting Objectives in NMF Using Pareto Simulated Annealing."
- At the International Conference on Advances in Social Network Analysis and Mining (ASONAM'10), Dr Derek Greene, Donal Doyle and Professor Pádraig Cunningham presented "Tracking the Evolution of Communities in Large Social Networks" and were awarded Second Best Paper.
- "TrickleTree: A Gossiping Approach to FastStaggered Scheduling for Data Gathering Wireless Sensor Networks" by Wojciech Bober, Dr Xiaoyun Li and Dr Chris Bleakley was awarded Best Paper of SENSORCOMM 2010, The Fourth International Conference on Sensorm Technologies and Applications.



In autumn 2010, the UCD Literary & History Society held the 'L&H Newman Debate' on the motion that "That this house believes that Newman's idea of a University is past its sell by date".

The debate, in which the house found the motion to be unanimously defeated, was chaired by Supreme Court judge Mr Justice Adrian Hardiman.

Proposing the motion were Professor Gerard Casey, UCD School of Philosophy and Professor Tom Hayden, UCD School of Biology & Environmental Science with UCD Law student L&H debater Barry Singleton. Pitted against them were the opposition (shown here): Dr Pádraig Conway (Director, UCD International Centre for Newman Studies); Dr Finola Kennedy (former Lecturer in Economics at UCD) and UCD Engineering student and L&H member, Kieren Daly.



In recognition of her contribution to musical performance and research, the world-leading mezzo-soprano, Cecilia Bartoli was awarded the Honorary Degree of Doctor of Music from UCD. Bartoli is shown here with Professor Harry White, UCD School of Music. In giving the citation, Professor White said, "Through the agency of [her] voice, she has brilliantly retrieved and miraculously re-incarnated a whole sound-world which otherwise would remain lost."

Visualising magnetic events

Monopoles — they have been theorised for decades, and scientists have hunted for them in terrains as diverse as the bottom of the ocean, the Earth’s atmosphere, the moon and even cosmic rays searing through the Universe. Claire O’Connell (BSc 1992, PhD 1998) learns from Professor Hans-Benjamin Braun how his team captured the first direct images of this theoretically predicted magnetic phenomenon.

Single magnetic poles, which are thought to move freely like electrical charges, have so far proven elusive. However, there’s one place they may be capable of hiding out: in a type of material called ‘spin-ice’. And a team of scientists involving physicists from UCD have just captured the first direct images of monopoles in spin-ice.

“A magnetic monopole is a hypothetical particle that is a magnet with only one single magnetic pole,” says Professor Hans-Benjamin Braun, an Associate Professor at UCD School of Physics. They were postulated around the turn of the 20th century and the theory was further developed by physicist Paul Dirac in the early 1930s, he explains.

“Every child knows that if you cut a magnet in half you get two magnets – it’s like the Sorcerer’s Apprentice repeatedly cutting a broomstick and ending up with more broomsticks,” he says.

“But Dirac considered a situation in quantum mechanics which comes as close as possible to a monopole while still satisfying the Maxwell equations.”

He postulated a configuration where magnetic flux feeds into a long ‘string’, like a hose, leading to the monopole where it radiates out like water from a sprinkler.

In recent years, researchers have found evidence for the presence of such monopoles in spin-ice, where the electrons in the crystal are subject to many conflicting requirements, a state that physicists call ‘frustrated’, explains Professor Braun.

Researchers theorised that if the electron spins lined up, much like compass needles align, a structure resembling a Dirac string could arise. However the materials which showed such behaviour required extremely low temperatures.

The UCD group led by Professor Hans-Benjamin Braun, and including Dr Remo Hugli a Postdoctoral Research Fellow at the UCD School of Physics, decided to see if they could capture the monopoles and Dirac strings in the act at room temperature using an artificial material called ‘kagome spin-ice’, which they manipulated to

form tiny magnetic lattices only a few hundred nanometres across.

But how do you visualise magnetic events at such a scale? They worked with Dr Laura Heyderman and her team at the Paul Scherrer Institute in Switzerland and used a light source called a synchrotron to image the material.

“In a synchrotron, you have electrons whirling around in a circle of several hundred meters circumference [at nearly the speed of light], and charge which is not uniformly moving radiates,” explains Professor Braun. “You increase that radiation by forcing them to wiggle in magnets, then you have highly intense X ray radiation coming out whose intensity is many orders of magnitude higher than what you have in hospital.”

The intense X-ray radiation knocks out electrons in the material you want to image, and by looking at the orientation of the spin of the emitted electrons you can figure out the magnetization direction in the material.

When they applied increasing magnetic fields to the kagome spin-ice, the researchers saw that the magnetic dipoles lined up along the lattice structures, effectively forming the hose-like structures of a ‘Dirac string plus monopole’ configuration.

“The magnets just topple over along a line — because of its frustrated nature the system organises in such a way that it creates these strings like lightning rather than spreading uniformly over the whole sample like in ordinary magnets” says Professor Braun, whose group receives funding from Science Foundation Ireland. “And what is amazing is that if you further increase the field, you see them grow all over the place, like growing worms.”

Their findings, published in Nature Physics, generated widespread interest and debate among Physicists on social media websites such as Facebook and Twitter, and also received more formal acknowledgements from other scientists, who praised their “spectacular” agreement between theory and experiment.

While the direct images are in an artificial material and the magnetic monopoles lack the quantum properties envisioned by Dirac, the pictures offer something tangible, according to Professor Braun.

“It’s early days and you never know how it is going to evolve. But the dream is to learn how such monopoles behave, this is the best manifestation we have for Dirac’s ideas and it can give us some insight on the basic side,” he says.

“And on the other hand, having something like magnetic charge instead of electric charge means you ask what can we do with it — can you hold it, pipe it through, manipulate it, do logic with it?”

The electronics industry is interested in manipulating magnetic charge to fit more information into smaller chips, and also try to avoid laptop burn.

“We know that magnetic devices in general have more advantages when it comes to power than electric ones, because with electric ones you have the problem that as the lines become narrower and narrower you have more resistance and heat,” notes Braun, whose goal is now to continue to analyse monopoles.

This kind of fundamental research is important to keep the well of expertise replenished, he explains. “In recent times, funding has gravitated away from fundamental or basic research and towards more applied research.”

Braun would like to see more funding ring-fenced for high quality and high risk research. “This type of research is extremely important for the international reputation of Ireland as a knowledge-based economy,” he says.

He also notes that looking at a scientifically interesting but perhaps less immediately obvious question can guide researchers to new answers. “You are going about something, you find it interesting, and it captures you,” he says. This may suddenly give you serendipitous insight into an unresolved problem.

“Sometimes it’s like when you look at a particular star in the night sky: you see it clearer if you look just beside it.”

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



Professor Hans-Benjamin Braun

Solar-powered blood pressure monitors

A new solar-powered device to measure blood pressure may help slow the worldwide increase in cardiovascular disease by providing affordable and reliable blood pressure testing in low-income countries, according to research published in *Hypertension: Journal of the American Heart Association* lead by UCD Conway scientists.

The solar powered device — 94% in agreement with the standard blood pressure testing method for systolic blood pressure — is in field testing in Uganda and Zambia, Africa. The device costs about \$32 (€25), with significant savings from not having to provide and use batteries regularly.

"Hypertension leads to stroke and heart attack as the major cause of death around the world. It is greater than malnutrition, cancer and AIDS," said Professor Eoin O'Brien from the UCD Conway Institute of Biomolecular and Biomedical Research, who lead the study.

"The incidence of hypertension is rising dramatically in these countries and many low-income countries have a short supply of trained medical personnel," he said. "We have been able to provide an accurate, robust and inexpensive device to diagnose high blood pressure. It's a start. If we can't measure blood pressure, we certainly can't begin to treat hypertension."

The World Health Organization, who funded the research, asked multiple companies to devise a blood pressure measuring device that was accurate, easy to use and solar powered. One device met their criteria. After initial testing showed the accuracy of the selected device, it was used in two centres in Uganda and one center in Zambia.

Staff, trained on the fully automated device in about 15 minutes, took blood pressure readings on about 716 participants, using the new device and a standard one. They repeated the tests one month later. Both patients and healthcare professionals preferred the new device.

"Solar energy eliminates the need for expensive rechargeable batteries in remote areas where electricity and the availability of batteries might be scarce, but sunlight is plentiful," said Professor O'Brien. "It can be run on batteries, but it can also be left in the sunlight to charge, making it ideal for rural areas and use out in the bush."

Donations of the device, the Omron HEM-Solar, were made to Haiti in the wake of the 2010 earthquake. Professor O'Brien linked with Irish charity the *Soul of Haiti Foundation* and with Denis O'Brien's Digicell Company to facilitate the distribution of the Omron devices throughout Haiti.



Emmeline Hill is IMAGE Entrepreneur of the Year

Dr Emmeline Hill, genomics researcher in the UCD School of Agriculture, Food Science and Veterinary Medicine, and co-founder of Equinome, has been presented with the 2010 IMAGE Entrepreneur of the Year Award.

Dr Hill was recognised for the innovative idea and commercialisation of her equine genomics company Equinome, which uses genomic selection tools for the bloodstock and racing industry.

Traditionally thoroughbreds have been selected using only a mix of visual assessment combined with historical bloodline data to infer their likely genetic composition. However, research led by Dr Hill in 2009 resulted in the world's first successful identification of a performance-related gene in thoroughbred horses. This gene was found to predict sprinting ability and stamina potential, which can immediately identify a thoroughbred as a potential sprinter, middle-distance or long-distance horse.

The identification of the 'speed gene' in thoroughbreds has the potential to transform breeding decisions in an industry which has remained relatively unchanged for over 300 years.

Based at NovaUCD, Equinome was co-founded by Dr Hill and Jim Bolger, the well known Irish breeder and trainer.

Dr Emmeline Hill



Shown l-r are: Nicholas Canny, President of the Royal Irish Academy; Jenny Young, Director of Invest Northern Ireland; UCD physics student and Hamilton prizewinner Mark Ross-Lonergan; and guest speaker Robert Merton, Distinguished Professor of Finance at the MIT Sloan School of Management

UCD maths student awarded Royal Irish Academy Hamilton Prize

Mark Ross-Lonergan, a Theoretical Physics student at the UCD School of Physics, was the UCD winner of the Royal Irish Academy Hamilton Prize 2010. The recipients of the Hamilton Award in Mathematics are students who have achieved the best performance in Mathematics in nine of the Higher Education Institutions in Ireland.

Along with other awardees, Mark received a scroll and €1000 cheque, sponsored by Invest Northern Ireland. This event formed part of Hamilton Day activities at the RIA, which celebrates the life and contribution of nineteenth-century Dublin mathematician and physicist William Rowan Hamilton.

Veutility at UCD wins Globe Forum Innovators' Challenge

UCD campus company, Veutility, has won the Globe Forum Innovators' Challenge for new technology developed by Dr Antonio Ruzzelli from the UCD School of Computer Science and Informatics. The software application enables companies to get an integrated data view of their energy consumption by site, building, room, tariff or square metre.

With energy and electricity costs remaining the greatest overhead burden in businesses, an application such as Veutility offers a real competitive advantage to SMEs and large companies, who will be able to collect, compare and benchmark their energy consumption online.

The technology has already been patented out of UCD and Veutility is currently testing it in a number of different sites, where they are reporting savings of between 20 and 40%. The company is currently seeking investment of €500,000 to bring it to the next level.

"Our target market are companies with significant monthly energy bills exceeding €500." Says Ruzzelli. "With Round 1 seed funding, we hope to roll out to 30-40 customers. There is massive potential for this product, not just in the domestic market, but worldwide."

A research fellow at CLARITY, in the UCD School of Computer Science and Informatics, Ruzzelli's research focuses on data mining from low-power sensor systems and wireless networking protocols with an emphasis on energy-efficiency

in buildings, carbon footprinting, network control, and appliance recognition.

In 2009, Ruzzelli received €4 million in EU funding under the FP7 — small or medium scale focused research project — for two collaborative projects on energy consumption.

The business team at Veutility, led by John Feighan, can put the Innovators' Challenge prize to good use with free incubation space at NovaUCD and bespoke entrepreneurship support through the entrepreneurs programme for 1 year, mentoring from the TCD UCD Innovation Alliance, website support from IQ content, mentoring from Accenture and PR support from Limelight Communications. The prize also includes membership in Globe Forum's facilitator programme for one year.

Having driven the technology side Veutility, Ruzzelli believes it is now time for him to become more involved in the business side. "It's time to become a salesman."



Dr Antonio Ruzzelli, winner of the Globe Forum Innovators' Challenge



This image showing a detail from the ceiling of saloon at UCD Newman House (85 St Stephen's Green) is one of the items in the Domestic Architecture of Georgian Dublin Collection, now internationally accessible via the ARTstor collaboration

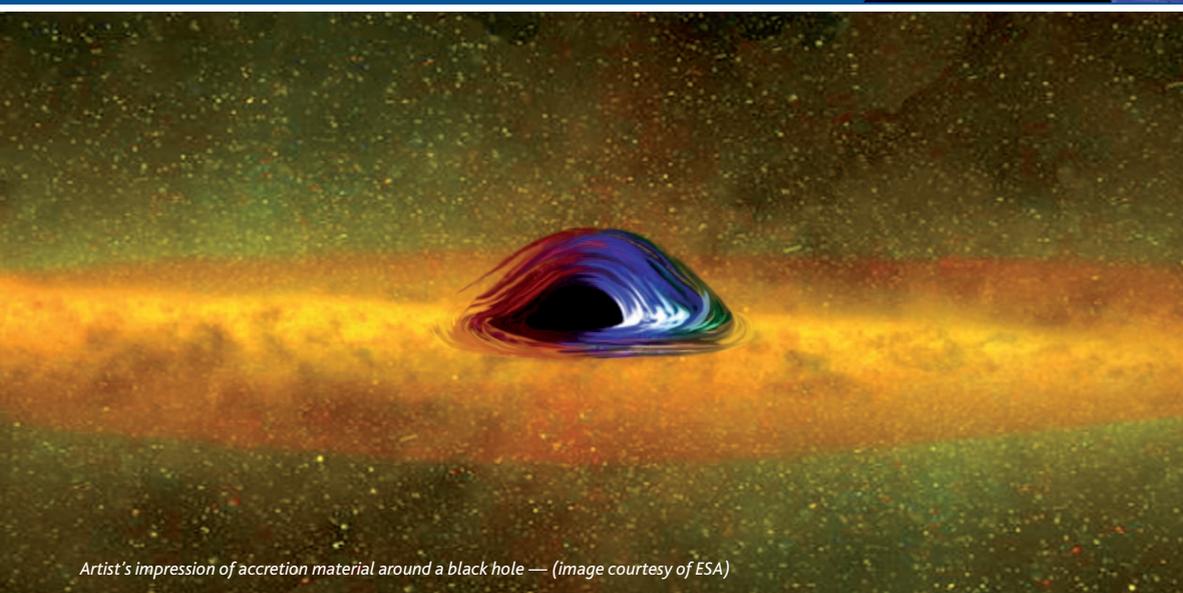
Image archive of Dublin's architecture joins global digital library

Hundreds of images of Dublin's architecture, ranging from the medieval to the early modern period, will be made available internationally under a new agreement between the UCD School of Art History and Cultural Policy and ARTstor, a non-profit, digital library.

"There are over 600 images in the UCD collection including images of many of Dublin's major civic and ecclesiastical buildings," says Professor Kathleen James-Chakraborty from the UCD School of Art History and Cultural Policy. "Together the images provide valuable documentation of the historic and ongoing changes to the urban fabric of Dublin, whether through development, demolition, or conservation."

The collection, which will be available on ARTstor in 2011, is drawn from the UCD School of Art History and Cultural Policy's extensive collection of 35mm slides — 200 images were digitised as part of the UCD Irish Virtual Research Library and Archive (IVRLA) project.

Jointly funded by Science Foundation Ireland (SFI) and the HEA, the initiative aims to increase the availability of a wide range electronic journal services to Irish university libraries.



Artist's impression of accretion material around a black hole — (image courtesy of ESA)

ESA space satellite results presented at UCD hosted conference

For the past eight years INTEGRAL (the International Gamma-Ray Astrophysics Laboratory) has conducted scientific observations of the universe from an orbit more than 60,000km above the Earth as part of the European Space Agency's (ESA) Horizon 2000 Science Programme. It is the first space observatory that can simultaneously observe objects in gamma rays, X-rays, and visible light.

At the UCD-hosted INTEGRAL International Conference, officially opened in September by the Minister for Science, Technology & Innovation, Mr Conor Lenihan TD, delegates were presented with the latest INTEGRAL data including space satellite results.

Professor Lorraine Hanlon, UCD School of Physics, said "The catalogue of information produced by the ESA satellite provides insights into the most violent and exotic objects in the Universe: black holes, neutron stars, supernovae and active galactic nuclei (AGNs) located at distances approximately 652 to 980 million light-years away from Earth."

Ireland has been a member of the ESA since 1975 and Minister Lenihan spoke of the important role this membership plays in our efforts to succeed as a knowledge economy.

European Family Therapy Association award

Professor Alan Carr, UCD School of Psychology, has received an award from the European Family Therapy Association (EFTA) for his contribution to family therapy research.

Presented by Professor Peter Stratton, University of Leeds, at EFTA's 7th triennial conference in Paris, the award recognised the influence of Professor Carr's textbook *Family Therapy: Concepts Process and Practice*.

Professor Stratton said 'Alan shows that the way forward for family therapy involves the integration of ideas from many schools of therapy, and a commitment to practice that is informed by research. The integrative model presented in this book is an important contribution to our field.'



UCD School of Nursing, Midwifery and Health Systems hosted an inaugural school for Advanced Practice graduates in autumn 2010 in collaboration with nursing colleagues from Duquesne University in Pittsburgh. Pictured here are the participants (standing) and facilitators of the event. Seated (l-r): Ms Eileen Furlong, Lecturer, UCD School of Nursing, Midwifery and Health Systems and Academic Director of the MSc (Advanced Practice) programme; Dr Lenore Resick, Faculty of Nursing, Duquesne University; Dr Laserina O'Connor, Advanced Nurse Practitioner in Pain Management, Mater Misericordiae University Hospital & Senior Adjunct Lecturer, UCD; Dr Luann Richardson, Faculty of Nursing, Duquesne University; Ms Katie Wedgeworth, Lecturer UCD School of Nursing, Midwifery and Health Systems

Japanese honours for UCD historian

To celebrate fifteen years teaching of Japanese History at UCD, the Japanese Embassy in Ireland, presented the Ambassadorial Commendation to Dr Declan M. Downey of the UCD School of History & Archives. The Commendation is in recognition of Dr Downey's work in promoting Japanese studies and closer academic, diplomatic and cultural relations between Ireland and Japan. In his address, His Excellency Ambassador Toshinao Urabe noted the importance and strategic significance of UCD's academic relationships with Japan and its universities and in particular, the fact that UCD is the only Irish university that provides courses at degree level in Japanese history and international relations.

1,000 students and teachers attend National Maths Week at UCD

Students and teachers from over 25 schools attended UCD Astra Hall for National Maths Week at UCD in October 2010. Talks covered a range of topics explaining how maths is part of everyday life.

The event opened with one of the most popular talks on the *Maths behind the iPod* by Professor Gary McGuire. Professor McGuire is Director of the Claude Shannon Institute, where research is ongoing into new and improved methods of encryption.

A new talk this year on the world of ocean waves was delivered by Professor Frédéric Dias (see feature piece on page 7 of UCD Today).

Dr Neil Hurley from the UCD School of Computer Science and Informatics explained the Maths behind Googling and Social Networking, while Professor Pádraig Cunningham, also from the UCD School of Computer Science and Informatics, spoke on randomness and human intuition.

EU-Canada exchange programme on "MegaRegions"

The UCD School of Geography, Planning and Environmental Policy is part of a consortium of universities developing a new transatlantic exchange between the EU and Canada looking at issues in urban planning.

The MEGAPOLITAN consortium is formed under the common focus on *Canadian and European Cities in MegaRegions: Planning for the Global World* and this Trans-Atlantic Exchange Partnership is funded under the 'EU-Canada Programme for Co-operation in Higher Education, Training and Youth'.

The project will develop a new framework for urban planning and public investment by examining, documenting and comparing methods, ideas, designs and programs that unite people across jurisdictional boundaries. Practical solutions for the next generation of urban policymakers will be developed using four important Canadian and European cities: Quebec City, Vancouver, Barcelona and Dublin as the setting for MegaRegion studies.

The consortium aims to promote mobility for Canadian and European graduate students interested in comparative urban issues and brings together Université Laval at Quebec, University of British Columbia at Vancouver, Universitat de Barcelona and UCD.

Consumer Market Monitor shows stabilisation in spending

The Consumer Market Monitor Q3 2010 results launched in autumn by UCD Smurfit Business School and the Marketing Institute of Ireland projected a 1.0% decline in consumer spending for 2010.

The figure is considerably better than the 10% drop in overall spending for 2009 and showed that consumer spending is stabilising. The monitor also highlighted that people are becoming more price-conscious, thrifty and better money managers with 75% actively looking around for better value and 73% starting to think more carefully about what they buy.

The monitor, which tracks key indicators of confidence and activity in the Irish consumer market, highlights that in 2011 there could be a modest rise in consumer expenditure of 0.4%, however this is dependent on the continual consumer spending trend seen up to the point of the report. Credit card spending remained static from May until August 2010 and repayments exceeded new spending every month this year by €157million during September 2010.

This trend correlates with the continued rise in personal savings which increased further in 2010 to 12.3%, topping 2009's peak of 11%; personal savings are expected to stay above 10% until 2013, but will reduce to around 8% thereafter.

The full report is at www.mii.ie/cmm

UCD Professor is President of American Society for Information Science and Technology

Professor Diane H. Sonnenwald, Head of the UCD School of Information and Library Studies, has been elected President of the American Society for Information Science and Technology (ASIS&T), in what is also the first time the Society has elected a President from outside the United States.

Speaking about her appointment, Professor Sonnenwald says "The Society focuses attention on the importance of information as a vital resource in today's digital age. It promotes and contributes to research, education and policy formation with respect to information, information technology, and the information society." The ASIS&T has over 4,000 members from 50 countries worldwide including leading academics across many disciplines.

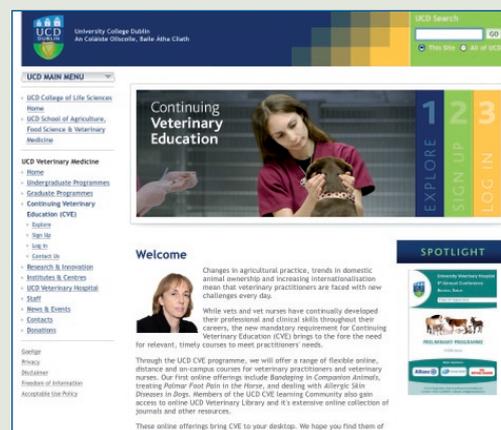


President of Ireland, Mary McAleese, gave the 2010 Newman Lecture at UCD

President of Ireland: Universities key to re-imagining Irish Society

Delivering the 2010 Newman Lecture at UCD, the President of Ireland Mary McAleese called for a more holistic approach to re-imagining Irish society and emphasised the fundamental role of universities within this. "Before we can re-imagine our universities we have to re-imagine our society and our world for all of our universities are placed four square in the public space," President McAleese said. "Newman's words are a reminder that universities will have responsibility, not just for creating and disseminating new knowledge, but for distilling the previous wisdom gained from both human failure and success into tools for the formation of tomorrow's well-educated citizens." In conclusion, President McAleese said: "If our 21st century Irish universities can re-imagine themselves as successfully as they have done to date, then Ireland itself will be more than re-imagined — it will surely be reborn."

Instituted in 2000, the UCD Newman Lecture is hosted by the UCD International Centre for Newman Studies. The Centre is an international forum for research into the legacy of John Henry Newman and the enduring significance of his thought and work.



The UCD College of Life Sciences' first online "Continuing Professional Development" channel was launched in autumn 2010. The Continuing Veterinary Education website, from the UCD School of Agriculture, Food Science & Veterinary Medicine, offers six online learning modules to veterinary practitioners, with plans to increase this number in 2011. The site responds to the needs of veterinary surgeons and veterinary nurses in light of new mandatory requirements for Continuing Education.



Shown here is *Metallomics*, a magazine of the Royal Society of Chemistry, the largest organisation in Europe for advancing the chemical sciences. The cover image depicts the work of CSCB researchers PhD student Komala Pandurangan, Dr Grace Morgan, Dr Helge Müller-Bunz and Dr Francesca Paradisi in isolating the first metal complex of the active chromophore of the naturally occurring antibiotic Actinomycin D m

College Teaching Awards

The College Teaching Awards support academics to further develop innovative teaching and learning practices. The 2009/10 winners were:

In the UCD College of Arts and Celtic Studies, Dr David Kerr and Dr Michael Staunton of the UCD School of History and Archives received awards. Dr Kerr designed the new Single Honours History syllabus with Dr Edward Coleman. Dr Staunton is currently involved in developing the School's approach to teaching student skills at undergraduate and postgraduate level.

In the UCD College of Business and Law, Dr Paul McGrath of the UCD Smurfit Graduate School of Business received an award for his Organizational Theory and Organizational Behaviour work which aims to help students to think for themselves and help them improve how they act and consider the consequences of their actions.

There were two winners within the UCD College of Engineering, Mathematical and Physical Sciences – Dr Kenneth Gavin and Dr Lorraine McGinty. Dr Gavin developed the curriculum for

the new ME programme in Civil Engineering and Dr McGinty, a senior lecturer in the UCD School of Computer Science & Informatics, has been responsible for the development and management of the largest European taught "Negotiated Learning" MSc programme of its kind.

Three awards were given within the UCD College of Life Sciences. Organic Chemist Dr Mike Casey who supplements traditional lectures with a range of other learning activities and resources; Dr Tara Cusack who has introduced inter-professional education within Health Sciences and has been restructuring professional practice education within physiotherapy; Mr Jonathan McNulty who has worked on the restructuring of the Radiography programme and has led the introduction of online graduate programmes.



Pictured are the 2009/10 College Teaching Awards Winners: Dr Mike Casey, UCD School of Chemistry and Chemical Biology; Dr Michael Staunton, UCD School of History and Archives; Dr Kenneth Gavin, UCD School of Architecture, Landscape and Civil Engineering; Prof Bairbre Redmond, Deputy Registrar Teaching and Learning; Dr David Kerr, UCD School of History and Archives; Dr Hugh Brady, President; Mr Jonathan McNulty, UCD School of Medicine and Medical Science; Dr Philip Nolan, Registrar; Dr Paul McGrath, UCD School of Business; Dr Lorraine McGinty, UCD School of Computer Science and Informatics; Dr Tara Cusack, UCD School of Public Health, Physiotherapy and Population Science

Visa Europe and UCD join forces to tackle cybercrime

Visa Europe and the UCD Centre for Cybercrime Investigation have formed a partnership to undertake forensic investigation into high tech financial crimes and cybercrime.

The partnership will see UCD CCI assist Visa Europe with criminal investigations, R&D to help develop new security features, and to support in the development of training courses for judges and prosecutors.

Commenting on the partnership, Valerie Dias, Chief Risk Officer, Visa Europe, said, "Security is fundamental to Visa Europe's business. By keeping the payments system secure, we protect cardholders, retailers and our members. Fraud and business risk are constantly changing, but we are winning the war against fraud by offering multiple layers of protection. We have seen a reduction of 19% in 2009 as a result (fraud to sales rate, VE 2009 Annual Results)."

"Cybercrime's evolving nature calls for enhanced technological education and a commitment to developing a comprehensive approach to online security. The UCD Centre for Cybercrime Investigation (UCD-CCI) at University College Dublin is a unique, world-class education and research centre and we look forward to working collaboratively with them to broaden our knowledge of cybersecurity, cybercrime, computer and network forensics and investigation techniques."

Dave O'Reilly, UCD Centre for Cybercrime Investigation (UCD – CCI) added, "An increasing number of criminal cases involve the examination of electronic evidence. Law enforcement officers, judges and prosecutors all need the necessary skills and knowledge to bring these cases to a successful conclusion. UCD CCI has a long history of supporting both national and international law enforcement in the investigation of cybercrime and other financial crimes. The establishment of this groundbreaking partnership between UCD CCI and Visa Europe will allow both organisations to support the criminal justice system by providing the knowledge required to face the challenges of the future."

Cybercrime and high tech financial crime represent new challenges for the law enforcement and judiciary systems across Europe. This partnership follows UCD's development of a European Masters Programme on cybercrime investigation. UCD-CCI will work with Visa Europe to develop and offer training courses for judges and prosecutors.

Visa Europe has long standing relationships with both law enforcement agencies and the European Commission on fighting fraud. The partnership with UCD – CCI will ensure that Visa Europe continues to lead industry efforts to combat cybercrime.

Award-winning contraception text reminder service



Pictured here winning the 'One to Watch' category at this year's Eircom Spiders Awards was UCD 3rd year Business and Law student from Belfast Chris Rooney (centre) with Peter Clerkin TV3 (category sponsor) and business partner Liam Ryan (TCD).

The 'One to Watch' category at this year's Eircom Spiders Awards was won by www.safetext.ie a service created by UCD 3rd year Business and Law student from Belfast Chris Rooney and Liam Ryan (TCD Engineering student).

Their website sends out text message reminders to women to remind them to take their contraceptive pill.

The idea for the company emerged September 2009 when the students conducted a survey of over 500 students based in the Dublin area asking them their opinions on oral contraception. One of the questions we asked was "do you ever forget to take the contraceptive pill?" We found that 64% forgot to take their pill at least once per cycle while

a further 15% forgot to take it three times or more in any one cycle. This was a worrying indication that the pill was not being taken effectively.

The service has received support for the service from UCD Students' Union, TCD Students' Union, a number of college health services as well as the Irish Family Planning Association and Dublin Wellwoman.

The judges commentary on the site stated, "Novel, brilliantly implemented, gorgeous to look at, and easy to use, the winners site also provides a genuinely useful free service that will make lots of peoples' lives better. It also cleverly and seamlessly combines internet and SMS technologies. What's not to like? This site is the real deal: one to watch."

The site also won the "Most innovative website" award in the Irish Web Awards earlier in the year and also the Action Community Enterprise Business Launch Competition, in conjunction with the South Dublin County Enterprise Board, where the company won a business start up package worth over €45,000.



Pictured at the ceremony (l-r): Professor Cormac Ó Gráda, President of Ireland, Mary McAleese, and Professor Samson Shatashvili

RIA Gold Medal for UCD Professor

In recognition of his outstanding contribution to the humanities, UCD economic historian, Professor Cormac Ó Gráda has been awarded the Royal Irish Academy Gold Medal in the Humanities by the President of Ireland, Mary McAleese.

Widely regarded as one of Ireland's most distinguished intellectuals, Professor Ó Gráda, UCD School of Economics, is internationally accepted as the premier economic historian in his field.

His published works (including his seminal book: Ireland — A New Economic History) have fundamentally changed the way we view major topics such as the Irish Famine; Irish economic history; and the history of Ireland's Jewish community.

At the same ceremony, Professor Samson Shatashvili of Trinity College Dublin was awarded the RIA Gold Medal in the Physical and Mathematical Sciences.

"This year's Gold Medals go to exemplary individuals from the Humanities and Physical and Mathematical sciences, one a leading economic historian and the other a ground-breaking theoretical physicist," said the President of Ireland, Mary McAleese who presented the awards.

"They are the kind of people who remind us at this torrid economic juncture, with its heartbreaking litany of bad news, that away from the depressing headlines we have exceptional people whose work is putting Ireland on the international map for all the right reasons. Their cutting-edge, truly exciting research is part of the massive reservoir of talent which we have in our universities and institutes of technology. Let that be a source of hope and reassurance as we start the climb up the ladder to prosperity after such a rapid slide down the snake of recession."

The Royal Irish Academy Gold Medals acclaim Ireland's foremost contributors to the world of learning and science. The Gold Medals are awarded to two outstanding academics each year and are recognised as a truly national expression of celebration for scholarly achievement. The medals are sponsored by The Higher Education Authority and The Irish Independent.

Identifying a role for cellular CO₂ sensor

UCD Conway researchers have found that carbon dioxide (CO₂) is not only involved in climate change and a waste product of respiration in cells but also plays an active role in regulating the genes involved in inflammation and innate immunity. Their research findings were highlighted in an autumn 2010 edition of *The Journal of Immunology*.

The levels of oxygen (O₂) and carbon dioxide (CO₂) in cells can vary dramatically in health and in diseases such as chronic inflammation, ischemia and cancer where metabolism rates are significantly altered. Elevated CO₂ levels that occur during hypoventilation of intubated patients have been found to decrease mortality associated with acute respiratory distress syndrome or endotoxin-induced acute lung injury.

Acute CO₂ sensing is a feature of specialised cells in lower animal species such as flies and rodents but little is known about the effect of altered CO₂ on gene expression. This research group, led by Conway fellow, Professor Cormac Taylor examined the effect of altered CO₂ levels on gene expression in mammalian cells against a background of inflammation.

"Our results suggest that a molecular CO₂ sensor associated with anti-inflammatory and immunosuppressive signalling may exist. We found that elevated levels of CO₂ had a profound effect on a master signalling pathway called NF- κ B", said Dr Eoin Cummins, postdoctoral researcher and lead author on this publication.

In previous work, the Taylor group demonstrated that the NF- κ B master signalling pathway is induced by hypoxic (low O₂) conditions. In this study, the researchers now show that a central protein regulator within this pathway, IKK α reacts to CO₂ levels in a rapid, reversible and dose dependent manner.

UCD Community Musical auditions

Staff and students will take to the stage in February 2011 with *Beauty and the Beast* in O'Reilly Hall 15-19 February. Auditions held at UCD in autumn brought talents to the fore, with try-outs for chorus and lead roles. A veteran to the UCD Community Musical, Michael Dunne, Senior Technical Officer in the UCD School of Chemistry and Chemical Biology will play one of the leads as the father of Belle (the "Beauty" of the story) and seven other members of staff will join the chorus lineup. UCD students Maebh Carron and Alec Ward will play the lead roles, while a large cast of current and former students will play supporting roles, make up the chorus and put in the vital work front of house and backstage under the guidance of producer and former UCD student Aileen Ryan. More info at www.ucd.ie/musical



Pictured (l-r): Dr Trevor Parsons and Dr Viliam Holub, UCD School of Computer Science and Informatics and co-founders of JLizard, overall winner of the NovaUCD 2010 Start-Up Award.

Software company, JLizard wins NovaUCD 2010 Start-Up Award

JLizard a new software development company has won NovaUCD's 2010 Start-Up Award. The company has developed a cloud-based product to enable organisations to reduce the time required to analyse the log data of their IT systems from days to minutes. By detecting system problems more quickly organisations can make significant cost savings. The product also allows organisations to considerably increase the detection of bugs in their IT systems.

JLizard was established earlier this year by Dr Trevor Parsons and Dr Viliam Holub. It is a spin-out company from the Performance Engineering Laboratory in UCD's School of Computer Science and Informatics.

Log data, analogous to CCTV for IT systems, is currently the fastest growing data source in large organisations, and is a particular problem for those using cloud-based systems. Many large organisations may produce up to 10,000 log events per second across their IT infrastructures, ranging from mobile phones to large enterprise applications.

Log data contains information on the state of IT systems and is often reviewed in real-time to assist in the understanding of what is happening as a system runs. Such data is also often reviewed afterwards to understand what was happening at some point in the past, in the case of security threats, performance issues or system crashes.

However log data analysis can be difficult, time consuming and costly, especially when a critical issue occurs and a system requires a quick resolution. Complicating factors include that in typical enterprise systems log data is produced by multiple sources, is stored in numerous locations, typically in different formats, and the volume of data is enormous.

To solve this problem JLizard has developed a software-as-a-service log management tool (www.logentries.com) which is focused on the system reliability of IT applications, especially those running on cloud-based infrastructures. The tool, which is scheduled to go live later this year, will be

the first to market logging-as-a-service tool focusing on cloud-based systems.

Using logentries.com, organisations can automatically collect, analysis and visualise live log data and automatically detect system problems in real-time. The product also enables organisations to avoid the need for complex log management set-ups in the cloud environment which can be difficult for them to manage and maintain.

In addition to the NovaUCD 2010 Start-Up Award, JLizard was also presented with a cheque for €5,000, €5,000 worth of legal services from Arthur Cox and six-months free desk space at NovaUCD. JLizard will also receive a year's free subscription to AccountsIQ software which allows SMEs to manage their entire accounting requirements via the internet.

The start-up award is presented to the overall winner of the NovaUCD Campus Company Development Programme (CCDP) which is supported by Enterprise Ireland.

Two other ventures, Restored Hearing and Belfield Technologies participating on this year's Programme, received runner-up awards, cheques for €3,000 and €2,000 along with €3,000 and €2,000 worth of legal services from Arthur Cox respectively in addition to six-months free desk space at NovaUCD.

"Enterprise Ireland is delighted to recognise the high level of entrepreneurial activity being undertaken in NovaUCD and to partner with NovaUCD in supporting the establishment of new market-led businesses," said Michael Moriarty, Manager, Enterprise Ireland's High Potential Start-Up's Financial & Enterprise Software Department.

"The enterprises which have completed this year's CCDP have demonstrated great ingenuity in commercialising innovative technologies. They represent an essential element in realising the full commercial potential of the significant investment in research and development being made by the Irish Government."

New academic alliance for NCAD and UCD

The Tánaiste and Minister for Education and Skills, Mary Coughlan TD recently formally launched a new academic alliance between the National College of Art and Design (NCAD) and UCD.

Director of NCAD, Professor Declan McGonagle UCD President Dr Hugh Brady signed the Memorandum of Understanding which will facilitate immediate collaborations in teaching and research across both institutions. Opportunities arise in existing areas such as Art History and Cultural Policy in UCD and Visual Culture in NCAD as well as in the development of new joint courses and research projects across Architecture, Engineering and Education in UCD and Design, Fine Art and Education in NCAD. The alliance will also create opportunities for the further development of graduate and common research activity in both institutions.

UCD has made available Newman House on St Stephen's Green as a base for joint activities of the Alliance.

NCAD will retain institutional autonomy and will continue to operate from its present location in Thomas Street. From September 2011 NCAD will transition from being a recognised college of NUI to become a recognised college of UCD and NCAD degrees will be validated by UCD.

Accelerated by the proposal to dissolve the National University of Ireland, the UCD Governing Authority also recently approved that the Institute of Public Administration become a recognised college of UCD. In addition, the Institute of Bankers is to become a "Recognised School".

Procurement Innovation Award

In recognition of collaborative work to reduce university expenditure for laboratory-based equipment, Turlough Keiran, head of purchasing at UCD won, along with Trevor Kerley, senior buyer at TCD, the Innovation in Public Procurement award at the inaugural National Procurement Awards.

Laboratory equipment is a major component of non-pay university expenditure. Following a project in 2009 for buying gases, the team expanded the scope of their activities by collaborating on all facets of laboratory procurement and to include the entire third level sector.

Irish Universities have been collaborating on procurement for over ten years on a variety of categories. By leveraging the combined expenditure of all third level institutions the buyers can achieve economies of scale that can yield savings and value-added services in excess of that attainable by any one institution acting alone.

This approach to procurement has led TCD and UCD to address the areas of DNA sequencing services and hazardous materials and the team are in the process of initiating the launch of a sector-wide tender for chemicals. Further collaboration involving the Procurement functions at all seven Irish universities is also underway on categories such as waste & recycling services, contract cleaning, photocopiers, and travel management services.



Pictured (l-r) are: Minister for Enterprise, Trade & Employment Batt O'Keeffe TD; Barry O'Leary, CEO IDA Ireland; Representing the CEMS programme Ms Marie-Sophie Baum, current CEMS Student at UCD Smurfit School; Mark Ryan, Country Managing Director for Accenture Ireland

Shared Service Centres report launched

In-depth research carried out amongst the 100-plus shared services centres (SSCs) operating in Ireland reveals that Ireland has a far greater proportion of high-end SSCs, with 25 per cent considered 'Master' operators compared with a global average of just 8%. Nearly half of those surveyed said the numbers employed in shared services in Ireland will increase in the next year.

Launching the first ever dedicated research report into Irish-based Shared Services Centres, Minister of State for Enterprise, Trade & Employment, Batt O'Keeffe TD said, 'It is clear from this research that Ireland remains a global leader in shared services, with a significantly greater number of centres operating at the high end of the value chain compared with our international counterparts. Global firms are continuing to invest in Ireland, attracted here by the availability of a highly educated and flexible workforce, competitive corporation tax rate and established global recognition as centre of excellence for shared services.'

Entitled *Sustaining high performance in shared services: An Irish perspective*, the report was developed by the IDA, Accenture and students from the CEMS Masters in International Management at the UCD Michael Smurfit Graduate School of Business under the guidance of Dr Jacob Eisenberg.

Application to capture, share and analyse protein data

UCD researchers led by Conway Fellow, Dr Jens Erik Nielsen, have created a novel application that not only facilitates the analysis of experimental data generated in the course of a research project but also ensures that this valuable data is available for future use. The team described the application in an article published recently in the journal, *Nucleic Acids Research*.

PEAT (Protein Engineering Analysis Tool) is not simply another laboratory information management system, but has been designed to address specific tasks encountered in a typical protein engineering project while integrating data deposition in the process.

Proteins are often described as the building blocks within organisms given their central role in critical cell functions. When changes occur in the structure or function of proteins, diseases such as Alzheimer's or cancer can result. Consequently, a significant proportion of research efforts concentrate on dissecting, optimising or changing proteins in an effort to find new treatments for such diseases.

Vast amounts of data are generated annually through the protein engineering techniques used in the process of studying proteins. Although this valuable experimental data could be used in other research projects, there is no requirement to deposit it in a database before publishing and so it is unavailable for re-analysis or essentially 'lost' within the pages of a thesis or journal article.

Commenting on the benefits of PEAT, Dr Nielsen said, "The task of data capture and database deposition is often seen as a tedious and unrewarding process. PEAT incentivises data storage by integrating the process with the analysis tools in a single application. I hope that researchers will see the benefits of using PEAT so that we can create and share high quality datasets on the connections between protein sequence, structure and function".

PEAT is written in the python programming language and, although still under active development, has been road tested on several projects within Nielsen's laboratory, and has been used to establish several online databases. Additional functionality specific to particular research projects can be implemented with specifically written plug-ins that allow users to tailor the functionality of PEAT to specific experiments, proteins or scientific questions.

This research is being funded through awards from Science Foundation Ireland, the Health Research Board, Higher Education Authority and a UCD Ad Astra scholarship. PEAT is available at <http://enzyme.ucd.ie/PEAT>.

HeyStaks Technologies Secures €1 million Investment

HeyStaks Technologies, the University College Dublin social web-search spin-out company, has secured €1 million of equity funding from The Ulster Bank Diageo Venture Fund, which is managed by NCB Ventures.

The funding will be used to develop the company's unique product offering, expand its existing operations and open an office in San Francisco, California. HeyStaks currently employs 4 people and now aims to increase staff numbers to 14 by the end of next year and to over 40 by the end of 2013.

HeyStaks, based in NovaUCD, the Innovation and Technology Transfer Centre, was established in 2007 by Dr Peter Briggs, Dr Maurice Coyle and Professor Barry Smyth, as a spin-out company from the Science Foundation Ireland funded CLARITY Centre for Sensor Web Technologies at UCD.

The company has developed a patent protected, desktop mobile solution that allows users to harness their social graphs as they search on their favourite search engines, and thereby get the benefit of their trusted peers' searches. HeyStaks delivers community-enhanced search results that are more personalised and relevant than conventional search engine results.

Users can create "search staks", folders that contain all relevant online searches they have conducted in relation to a certain topic; these "staks" can be made public and shared with colleagues and friends via email, Facebook and Twitter, or kept private on an invite-only basis. The product provides an effective solution for users who share a common goal or shared interest, allowing them to search the web in a collaborative fashion using mainstream search engines, to make their searches much more productive and effective.



Shown (l-r): Dr Peter Briggs Professor Barry Smyth and Dr Maurice Coyle, co-founders, HeyStaks Technologies with Leo Hamill (foreground), Partner, NCB Ventures.



Pictured at the launch of the Irish Innovation Index at NovaUCD is Peter Robbins, Founder, The Innovation Foundation.

Irish Innovation Index — New Online Tool

To assist business leaders accelerate innovation, the Innovation Foundation, a new specialist innovation agency, based at NovaUCD, has launched the Irish Innovation Index.

The Irish Innovation Index is a new, free, online tool developed to assist Irish companies, of all sizes, to grow and develop their businesses through innovation. The Irish Innovation Index offers organisations a rigorous, original and definitive online tool to assess and develop their innovation capabilities.

Now, for the first time, business leaders can complete a straightforward online survey of under 30 questions which should take less than 10 minutes to complete. By return email they receive an accurate, tailored assessment of just how innovation-centric they are, combined with practical suggestions on how they can enhance their innovation skills, processes, structures and portfolio to deliver tangible results. By using the Irish Innovation Index tool companies, large and small, can develop a roadmap to improve their own innovation performance.

The Irish Innovation Index has been developed by The Innovation Foundation in conjunction with the UCD Geary Institute and was partially funded through Enterprise Ireland's innovation voucher scheme.

The Innovation Foundation was established in 2009 by Peter Robbins, a former Global Director of Innovation Excellence for GlaxoSmithKline.

www.innovationfoundation.ie/Survey.html



Pictured at the opening of the Cultural Dimensions of Innovation conference at Newman House in November 2010 were (l-r): Petra Ahrweiler, Professor of Technology and Innovation Management, UCD Innovation Research Unit, CASL; Dr Aoibheann Gibbons, UCD Director of Research Development; keynote speaker Nico Stehr, Karl Mannheim Professor of Cultural Studies at the Zeppelin University, Friedrichshafen, Germany; Mary Hanafin TD, Minister for Tourism, Culture and Sport; Dr Philip Nolan, UCD Registrar and Deputy President; and Pat Moylan, Chairman of the Arts Council. The two-day conference examined the cultural dynamics which will shape Ireland's economic, technological and political innovation agenda. Ireland must unlock the potential of cultural and creative industries to encourage entrepreneurship; move towards a creative economy by catalysing the spill-over effects of cultural and creative industries in a wide range of economic and social contexts. The event established an interface between academia, government, business and the Irish public to foster the discussion of an important current social issue – innovation.

Innovation Dublin at UCD

The Innovation Dublin festival was established in 2009 to celebrate the innovative and entrepreneurial spirit of Dublin. The idea of the festival grew out of discussions at the Creative Dublin Alliance, a network led by the Dublin City Manager with members drawn from Dublin's local councils, 3rd level institutions, including UCD, State agencies, businesses and not-for-profit organisations. The 2010 festival, which ran from 10-21 November, involved hundreds of events including seminars, workshops, discussions, exhibitions, performances, showcases and competitions on all kinds of topics organised with the aim of pursuing new ideas and fresh initiatives for Dublin.

As part of the 2010 Festival, UCD hosted a series of events in various locations around the university and around Dublin. These events took place in areas such as education, research and development, science, business, enterprise, culture, design and music.

Damini Kumar, the award winning designer and European Ambassador for Creativity and Innovation, launched University College Dublin's programme of events when she delivered a NovaUCD 'Entrepreneurs Live!' seminar.

Damini invented the world's first non-drip spout, a patented award winning innovation which disproved years of scientific research into the ubiquitous problem of the dripping teapot and can be applied to any pouring spout from bottles to petrol pumps.

The aim of the NovaUCD 'Entrepreneurs Live!' seminar, delivered in association with the Dún Laoghaire-Rathdown County Enterprise Board, was to promote the importance of design, creativity and innovation among the academic, research and student populations at University College Dublin and beyond.

Pictured prior to delivering a NovaUCD 'Entrepreneurs Live!' seminar as part of the Innovation Dublin 2010 festival is Damini Kumar, the award winning designer and European Ambassador for Creativity and Innovation.



Have birds been around for 25 million years less than previously thought?

A famous set of ancient fossil 'footprints' discovered in the Moroccan High Atlas Mountains in the 1980s, and interpreted by some scientists as one of the earliest evidences of bird life, have been shown to belong to non-avian dinosaurs, not ancient birds.

As a result of the findings by scientists from the University of Padua, Italy, and UCD, published in the geosciences journal *Gondwana Research*, 25 million years have been wiped off the history of bird life on earth.

"We used laser scanning and 3D modelling to re-examine the ancient footprint fossil dating back to the Middle Jurassic — 165 million years ago," says Dr Matteo Belvedere from the Department of Geosciences, University of Padua, Italy.

"The technique allowed us to clearly distinguish between footprints which may have been generated by two closely-related vertebrate groups: dinosaurs and birds."

"Our evidence shows that the footprints although 'bird like' belong to non-avian dinosaurs, and not to ancient birds," he says. "In fact, the new techniques were so effective we were also able to identify some previously unseen footprints on the surface of the fossil."

According to Dr Gareth Dyke, UCD School of Biology and Environmental Science, who co-authored the paper, "the new evidence means that Archaeopteryx, the oldest existing skeletal fossil for birds dating to the Late Jurassic period 140 million years ago remains the earliest undisputed fossil evidence for the appearance of bird life on earth."

When originally discovered in the 1980s, the Moroccan footprints were described as theropod dinosaur traces, but since then they have been widely re-interpreted in the subsequent literature as being 'bird-like'. Therefore, the scientific team considered both alternatives and made comparisons in an attempt to provide an ichnotaxonomical classification. The correct interpretation of these tracks is important because of their age (Middle Jurassic: Bathonian) which would point to the earliest evidence of bird life.

By applying laser scanners and optical image capture technologies, the authors also aim to improve interpretations of other known tracks.

The international team included scientists from Università degli Studi di Padova, Italy (Belvedere, M); University College Dublin, Ireland (Dyke, G.J); Université Mohamad V, Morocco (Hadri, M); and Hayashibara Museum of Natural Sciences, Japan (Ishigaki, S).



Pictured at the launch of the IVRLA were (l-r, back row): Dr Marc Caball Director, Humanities Institute of Ireland; Dr John Howard University Librarian; Eamon de Valera. (Middle row): Dr Dervila Layden, IVRLA; Professor Gerardine Meaney UCD College of Arts and Celtic Studies; UCD President Dr Hugh Brady. Front: Audrey Drohan, Professor Mary E Daly, Principal of UCD College of Arts and Celtic Studies

Digitised manuscripts made available through the UCD IVRLA

The UCD Irish Virtual Research Library and Archive (IVRLA) was formally launched by UCD President Dr Hugh Brady in November as part of the Innovation Dublin festival. The result of an interdisciplinary five-year project involving over 70 academic, curatorial, and professional staff across UCD, the IVRLA includes almost 13,000 individual objects (comprising 169,000 individual scans or parts) in 32 curated collections, 17 research projects, in preservation-only secure storage.

Dr Brady called the project a significant resource which underpinned the contribution of the humanities in driving the national innovation agenda. Dr John Brooks Howard, University Librarian, and Professor Mary Daly, Principal of the UCD College of Arts & Celtic Studies also emphasised the role of the IVRLA repository in bringing UCD's rich holdings into the digital age, communicating with a new multi-media oriented generation.

The IVRLA's collection of digitised versions of manuscripts, books, letters, photographs, audio material and more, can now be accessed publicly through the website <http://ivrla.ucd.ie> The IVRLA is a component of the UCD Humanities Institute of Ireland is based in the UCD Library and was funded by PRTL Cycle 3.

Global elite rankings for UCD Smurfit School MBA

MBA programmes at the UCD Smurfit School have held their place ranked among the global elite. UCD Michael Smurfit Graduate Business School's Executive MBA programme was ranked amongst the world's best by the *Financial Times* in the publication's ranking of the world's part-time Executive MBA programmes. The programme ranked at 54 in the world and at 20 in Europe. The school is the only Irish business school listed in the ranking. The full-time MBA programme at the UCD Smurfit School was also ranked 31 out of 100 of the world's leading MBAs by the *Economist*. Professor Tom Begley, Dean of UCD Smurfit School, commented on the results saying: "We are delighted that the school's programmes continue to be ranked amongst the global elite. More than ever, employers need people with the ability to think strategically and who possess strong analytical and leadership skills."



Laura Stephenson, Lauren Kelly, Adam Kiely and Daniel Kavanagh are shown here at the launch of the new UCD Quinn School of Business undergraduate teaching curriculum which aims to cultivate students' analytical and problem solving abilities to develop graduates who are intellectually skilled, internationally aware and informed critical thinkers. More at www.ucd.ie/quinnschool

28-strong sports scholars team join UCD

Among the 28 Sports Scholars awarded in November 2010 were three members of the Kilkenny minor hurling team that won the All-Ireland Championship in September 2010. They are James Gannon, James Hoyne and Cathal Kenny. Also receiving awards are Young Hurler of the Year 2009 and All Ireland Senior championship winner Noel McGrath of Tipperary, Irish U20 rugby player Alex Kelly and Irish international swimmer Niamh O'Sullivan.

Other recipients include:

- Ireland and Leinster rugby underage development players Paddy Dix, Mark McGroarty and Emmet McMahon
- Leinster and Irish hockey player, Jessica McMickian
- Irish underage International rower, Turlough Hughes

They join students from sixteen sports who are in receipt of scholarships that guarantee them access to top coaches and training facilities at UCD.

Some of Ireland's best known sports figures are former UCD sports scholars including the current international rugby players Brian O'Driscoll, Paddy Wallace, Robert Kearney and Fergus McFadden, athletes Derval O'Rourke & Joanne Cuddihy, Gaelic footballers Alan Brogan, Paul Griffin and Rena Buckley and international golfers Peter Lawrie and Shane Lowry.



Irish underage hockey players Ben Dobson (Cork), Jessica McMickian (Westmeath) and Conor Motyer (Dublin) were amongst the 28 first year Sports Scholars announced in autumn 2010



UCD Rugby 1st XV celebrate their Leinster Senior League Cup win with supporters

Leinster Senior League Cup victory for UCD

In rugby, UCD snatched the Leinster Senior League Cup from St Mary's College in a gripping encounter in Donnybrook on Saturday 20 November. Up until the final quarter, St Mary's held the upper hand in what turned out to be a closely contested final. Kicking ahead with a 6-3 lead at the interval thanks to fullback Gavin Dunne, St Mary's seemed to have the trophy in sight. An injury time try from UCD lock Shane Grannell, converted by out-half James Thornton, secured the victory for the UCD side for the first time since 1977 with a final result of 24-23.

UCD : M Twomey; J Conroy, A Cummiskey (capt), D McSharry, T Fletcher; J Thornton, S O'Meara; JA Lee, D Doyle, L Hyland, B Cawley, S Grannell, D Kenny, R Bent, K Croke. Replacements: K Moloney for Hyland (31 mins); K McKenna for Bent (38 mins); R Shanley for O'Meara (50 mins); M Cawley for Kenny (70 mins).

ST MARY'S COLLEGE : P Brophy; R Doherty, S Grissing, M Sexton, P Gillespie; G Dunne, D Campbell; K Carroll, D Kilbride, R Sweeney, G Logan, D Hall, P Nash (capt), G Austin, H Hogan. Replacements: M D'Arcy for Campbell (h-t); M Donnellan for Austin, K Carroll for McMahon (both 54 mins); S Bradshaw for Nash (64 mins); R Crotty for Sexton (67 mins); P Nash for Logan (70 mins); D Campbell for Hall (79 mins).

Referee: B Montayne (Leinster Branch).

A-Championship win for UCD AFC

UCD Athletic Football Club won the A-Championship, beating Bohemian FC 2-1 in the UCD Bowl in October, following an impressive display of attacking football and resilience in the UCD Bowl. Two goals from Man of the Match Graham Rusk gave the students a deserved win.

The Newstalk A Championship acts as the first stop for clubs hoping to move into the Airtricity League, giving them the opportunity to get used to the standards – both on and off the pitch – expected if they are to progress into the First Division and, ultimately, Premier Division.

UCD AFC: Ger Barron, Gareth Matthews, Ciaran Nangle, Andy Boyle, Michael Kelly, Paul O'Connor, Chris Mulhall, Stephen Roche, Graham Rusk, Keith Ward, Karl Moore. Substitutes: Michael Leahy (on for Matthews, 12 mins), Danny Fallon (on for Kelly, 80 mins), David McMillan (on for Moore, 80 mins) John Kelly, Stephen Doyle.

Bohemian FC: Chris O'Connor, Mark O'Reilly, Anto Corcoran, Roberto Lopez, Kevin Feely, Shane Keely, Stephen Chambers, Stephen Traynor, Paddy Madden, David Lodolo, Aaron Greene. Substitutes: Craig Sexton, Keith Buckley, Chris Forrester (on for Traynor, 81 mins), Lee Dixon (on for Lodolo, 57 mins), Derek Kavanagh.

Irish Short Course National Championships golds

The newly formed UCD Swimming and Waterpolo Club secured their first national title at the Irish Short Course National Championships in Galway in November. With former Olympian Earl McCarthy at the helm, his 100 metres men's relay quartet took home the gold in 3.41.33, holding off the challenge of Dolphin and Trojan.

Meanwhile, UCD Sports Scholar Niamh O'Sullivan opened the final session of the four-day meet with a win in the 400m Individual Medley in 4:50.91. A distance freestyle specialist, the 19-year-old was a second quicker than Bethany Carson as she won the 200m butterfly in 2:17.74 and she produced another very impressive performance of power and technique to take the 400m individual medley in 4:50.91.

Rugby centenary challenge

Victory for an impressive Combined Universities side over UCD failed to dampen spirits at the Belfield Bowl November's centenary match, organised to commemorate UCD RFC's affiliation to the Leinster Branch of the IRFU in 1910.

UCD RFC was affiliated to the Leinster Branch of the IRFU as a junior club on January 10th 1910. The Club played its early home matches in Jones' Road on the site of Croke Park. On April 11th 1914, the Club won the Leinster Junior Cup making it eligible for senior status.

After World War 1, the Club played its first senior match versus Trinity but ended up on the losing side. The first victory was recorded in October 1919 against Blackrock College RFC.

The Club's first representative players were Andy Courtney and Paddy Stokes who were capped for Leinster in 1919/20 with Courtney becoming the first UCD player to be capped for Ireland.

Since then, the Club has been a nursery for other Clubs and for the provinces, most notably Leinster. Sixty nine former and current UCD players have been capped for Ireland, eight of whom have captained their country; Eugene Davy, Bill Mulcahy, Jimmy Kelly, Ray McLoughlin, Tom Grace, Shay Deering, Fergus Slattery and Brian O'Driscoll. Ten former or current players have toured with the Lions. Former UCD prop forward Dave Hewett went on to win 22 caps for the All Blacks.

The UCD Academy, which has been in place since 1996, under the direction of Director of Rugby, John McClean has been a significant feeder for Leinster and Ireland since the emergence of professional rugby. Of the current Irish set up, Sean O'Brien, Fergus Mc Fadden, Kevin McLaughlin, Rhys Ruddock, Paddy Wallace, Rob Kearney and Brian O'Driscoll all came through the UCD Academy. Scores of Academy members have gained representative honours on Irish and provincial underage teams.

The centenary challenge ended UCD: 24, Combined Universities: 41.

Foundation Day Medal for renewable energy entrepreneur Eddie O'Connor

Eddie O'Connor, CEO of Mainstream Renewable Power, was honoured with the 2010 UCD Foundation Medal at an awards ceremony held during the annual Foundation Day Dinner in the UCD O'Reilly Hall. UCD graduate Dr O'Connor holds a Bachelor of Chemical Engineering (1970), a Masters in Industrial Engineering (1976) and an Honorary Doctorate of Science.

He was recognised for his outstanding contribution to engineering. After completing his bachelor degree, O'Connor joined the Electricity Supply Board of Ireland, where he held several managerial positions, until he left in 1987 to become Chief Executive Officer at Bord na Móna. He then became founder and Chief Executive of Airtricity, the Irish windfarm development company, from 1997 until January 2008, when Airtricity was sold to E.ON and Scottish & Southern Energy in 2008 for approximately \$1.4 billion. After this, O'Connor left to set up Mainstream Renewable Power. Mainstream Renewable Power's core business is to develop, build and operate renewable energy plants in collaboration with strategic

partners. The company employs over 90 highly experienced staff and has offices in Berlin, Cape Town, Chicago, Dublin, London, Santiago and Toronto.

Delivering the citations for Dr O'Connor was Broadcaster, Pat Kenny who said that "Eddie O'Connor has created a remarkable footprint in driving the global renewable energy agenda. His contribution to the issue which, more than any other, determines our future, is outstanding."

The theme for the 2010 Foundation Day Dinner was "Mission Science" to support the university's fundraising campaign to complete the development of UCD's Science District.

Acknowledging the appropriateness of Dr O'Connor's award UCD President Dr Hugh Brady spoke about the crucial importance of the entrepreneurial mindset in these times.

One of UCD's core research themes encompasses the growing area of green energy. The Sustainable Electrical Energy Systems team, led by Professor Mark O'Malley, works on developing an environmentally clean an efficient future electricity system – focusing particularly on wind power.



Dr Eddie O'Connor, who received the UCD Foundation Day Medal pictured with former classmate RTÉ presenter Pat Kenny, who delivered the citation at the award ceremony

32 of 101 NUI Awards for UCD

The National University of Ireland celebrated the academic achievements of its graduates and students at its annual awards ceremony held in the Royal Hospital Kilmainham. Presenting awards with a total value of €640,000, the Chancellor of the University, Dr Maurice Manning remarked that 'at a time when many other kinds of investments have proven to be worthless, we are satisfied that this is money well spent and will yield good returns for a long time'.

Graduates and students of UCD received 32 of the 101 NUI Awards in 2010, valued in the region of €347,600. UCD scholars secured three of the four NUI Post-Doctoral Fellowships in Literature and in History: Dr Mairín Ní Cheallaigh (UCD School of History and Archives), Dr Aintzane Legarreta (UCD School of English, Drama and Film) and Dr Conor Lucey (School of Art History and Cultural Policy, UCD). Five UCD people secured NUI Travelling Studentships in the Humanities and Social Sciences and in the Sciences. The NUI Denis Phelan Scholarship in the Humanities and Social Sciences was won by James Conran (Politics) and the Pierce Malone Scholarships in Philosophy and Engineering were won by Eve Golden Woods (Philosophy) and David Loughrey (Engineering). UCD also featured prominently in the Dr H H Stewart Literary and Medical Awards, winning 19 medals in this competition. In addition, Séan Ó Ruairc won Duais Chiste Theach an Ardmhéara sa Ghaeilge and Deirdre Ní Annracháin was the UCD recipient of the French Government Medal and the NUI Prize for Proficiency in French.



Pictured at the 2010 NUI Awards ceremony were some of the 32 UCD award winners with Dr Attracta Halpin Registrar, NUI (fourth from right at front); Chancellor of the NUI, Dr Maurice Manning (centre front); and Dr Martin Butler, Vice-President for Students UCD (fourth from left at front)

Innovation Academy officially commences

The educational centrepiece of the UCD-TCD Innovation Alliance, the Innovation Academy, was recently officially opened. Aiming to transform the PhD experience by imbuing graduate research and education with creative thinking and innovation, the Academy will develop a new breed of graduate, where a disciplinary and technical expertise is fused with ambition to create new enterprises, enhance public service and further harness Ireland's cultural heritage.

Its first intake of 33 PhD students from UCD and TCD are drawn from a range of disciplines. The students are taking ECTS-accredited modules such as *Creative Thinking and Innovation* and *Opportunity Generation and Recognition* towards the joint Certificate in Innovation and Entrepreneurship. It is expected that two additional cohorts of students will commence the programme this year.

According to the President of UCD, Dr Hugh Brady, and the Provost of TCD, Dr John Hegarty, the Innovation Academy is a practical demonstration of the progressive cooperation between Ireland's leading universities, "The

Academy is about people. In partnership with industry expertise, it is a powerful model for equipping the future thought leaders of this country with the capacity to combine cutting edge research with the entrepreneurial and innovative abilities so needed for Ireland's sustainability and revival."

The Academy is a departure from existing programmes at the two universities, which account for 50% of PhD training in Ireland. Professor Suzi Jarvis (UCD) and Professor Paul Coughlan (TCD), Course Co-Directors are leading the development of the Innovation Academy.

Professor Jarvis noted: "I have no doubt that this is the right time to bring this new dimension into our educational programmes. Ireland has created first class research programmes over the past 10 years and built a PhD education that attracts students from all over the world. We are ideally placed in this country to engender innovation in our graduates, given our strong history of invention, culture and entrepreneurship. Just look at the achievements of our diaspora. Let's bring that ambition home!"

240 scholars welcomed to UCD



Scholars from 131 schools in 27 counties were welcomed to UCD by Dr Philip Nolan in November. Entrance scholarships, awarded to the highest point students in each degree, were awarded to 177 students, 129 of whom achieved over 540 points in their Leaving Certificate (or equivalent) exams. A total of 479 First Years in 2010 reached this "High Achiever" status and almost one-quarter of all Leaving Cert students who achieve over 540 points come to UCD. In addition to the Entrance awards, scholarships were presented for sports, performing arts and Irish language abilities. Shown here are high-achieving Entrance scholars Deirdre Hogan, now studying French & Music, Julian Eberle, studying Theoretical Physics, and Arts student Ellen Howley.