

UCD

today

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INSIDE

Accounting for the banking crisis:

Professor Eamonn Walsh on the pre-2007 limitations of accounting regulations and how the banking sector can avoid the same mistakes

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UCD's place in history: 1916 as we see it today



EILÍS O'BRIEN
Director of Communication and Marketing

100 years ago, as the steps towards independence gathered momentum, staff, students and graduates of University College Dublin played a role in the actions that took place. Thomas MacDonagh, Assistant Professor of English, was a signatory to the Proclamation and commandant of the Dublin Brigade, Eoin MacNeill, Professor of Early and Medieval Irish History was Irish Volunteers Chief of Staff, Mary Hayden, Professor of Modern Irish History was a founder of the Irish Catholic Women's Suffrage Society, and Agnes O'Farrelly, Lecturer in Modern Irish was a founder of Cumann na mBan..

Students and graduates too numbered among the activists who fought for social justice, women's rights and of course, independence. Well-known names included Pádraig Pearse, Louise Gavan Duffy, Francis and Hanna Sheehy Skeffington, Jack & Geraldine Plunkett, James Ryan, Kevin Barry, Kevin O'Higgins, Ernie O'Malley and Richard Mulcahy.

Beginning 16 October, UCD and the Irish Independent will publish a series of supplements on 1916. With anchor contributions from faculty from History, Irish, English, Geography, Social Justice, Music, Politics, Law, Archives and the Library, the supplements aim to contextualise the events of 1916, to prompt discussion and to inform understanding of what happened and why.

The supplement will be distributed to all schools throughout the country and I would encourage readers to buy a copy on Friday. We will put the publication schedule up on the Decade of Centenaries website: centenaries.ucd.ie. The first supplement will include a section of the timeline on that website.

This series is just one of a number of public outreach projects running alongside the academic programme of events organised by faculty. Details of this programme are also to be found on the Decade website.

UCD thanks...

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



€2.7 million Horizon 2020 funding for UCD spin-out OncoMark

UCD spin-out company, OncoMark, has received €2.7 million in funding through the Horizon 2020 SME Instrument. The funding will help the company to commercially develop a new diagnostic test for breast cancer patients.

"The majority of early-stage breast cancer patients are treated with chemotherapy, despite many not benefiting from such treatment, thereby exposing individuals to severe side effects," said Des O'Leary, CEO of OncoMark.

"Approximately 30% of patients develop a recurrence of the disease within 10 years after initial surgery and, therefore, require aggressive chemotherapy, but it has been difficult to identify these individuals."

"We are delighted to announce this award, which will enable us to accelerate the OncoMasTR test from the laboratory to the clinic, as well as creating employment

opportunities and promoting the worldwide recognition of Ireland's capabilities in the clinical diagnostics field," he added.

OncoMark was co-founded by Professor William Gallagher, Professor of Cancer Biology in the UCD School of Biomolecular & Biomedical Science and Steve Penney as a spin-out from the UCD School of Biomolecular and Biomedical Science. It is focused on the development of novel panels of cancer biomarkers to aid treatment decisions and allow more tailored patient management and is headquartered at NovaUCD, the hub for new ventures and entrepreneurs at UCD.

The Horizon 2020 SME Instrument is designed specifically for single or groups of highly innovative SMEs with international ambitions, determined to turn strong, innovative business ideas into winners on the market. It provides full-cycle business innovation support from the stage of business idea conception and planning (phase I) over business plan execution and demonstration (phase II) to commercialisation (phase III). Participants will be able to call on business innovation coaching for the duration of their projects.



Prof. Arlie Russell Hochschild was recently presented with the UCD Ulysses medal. She is pictured (centre) with (left) Dr Anne Cleary, Deputy Head of UCD School of Sociology and (right) Dr Diane Payne, Head of School UCD School of Sociology

World-leading sociologist awarded UCD Ulysses Medal

Professor Arlie Russell Hochschild from the University of California, Berkeley, has been awarded the UCD Ulysses Medal, the highest honour that can be bestowed by the University.

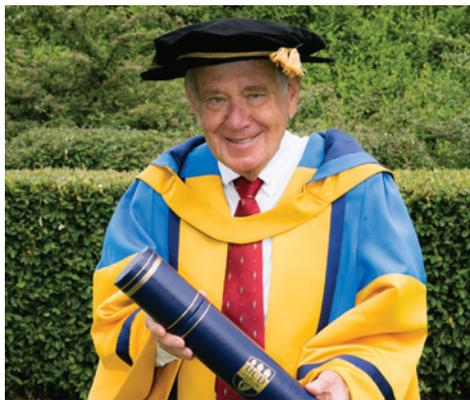
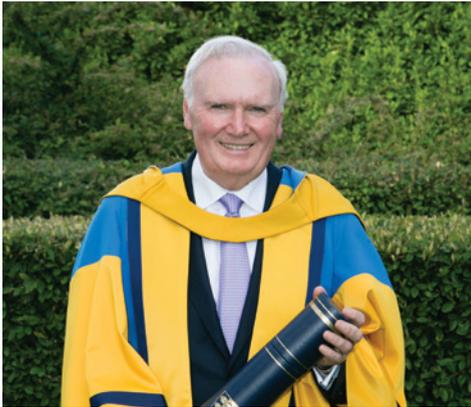
Professor Hochschild has produced an influential body of work exploring the ways in which humans manage emotions in their personal lives as well as in the workforce, an area she calls 'emotional labour'. Her seminal text, *The Managed Heart*, was a founding pillar in research on the sociology of emotion and her work in the area has been mentioned in over half a million publications and cited in more than 10,000 academic papers.

Professor Hochschild was presented with the Ulysses Medal at the UCD-TCD Sociology Public Lecture Series.

Professor Hochschild delivered a special address titled *Strangers in Their Own Land: Allegory, Emotion and Right Wing Opposition to Equality*. The address explored the challenges to achieving equality in society. It drew on her recent research into the Tea Party movement in the southern United States and the reasons for its support. Her analysis explored the emotional pull of this and similar organisations, as well as the rationale for their position on divisive issues.

"Arlie Russell Hochschild, professor emerita at the University of California, Berkeley, is one of the most influential sociologists of our time," said UCD President, Professor Andrew Deeks. "Her work moves thematically through key issues – the family, work, relationships, love and caring – and the influence of her ideas spans many disciplines and arenas."

The UCD Ulysses Medal was inaugurated in 2005 as a means of recognising individuals who have made an outstanding global contribution. Previous recipients include former US president, Bill Clinton, former Irish president, Mary McAleese, and Nobel Prize for Literature winner, Seamus Heaney.



UCD recently awarded honorary degrees to a remarkable group of individuals, who have achieved distinction in their fields of endeavor, including: (top row, l-r) Dermot Gallagher; Dame Professor Rosemary Cramp; Owen Brennan; (bottom row, l-r) Michael Dowling; Professor Karsten Harries, Howard H Newman Professor of Philosophy at Yale University; and Emeritus Professor of Education at UCC, Áine Hyland

UCD bestows honours during graduation week

Some 3,400 degree, masters and PhD students graduated at UCD between August 31st and September 4th, joining the 224,000-strong cohort of UCD alumni worldwide.

During the week of graduation ceremonies, a remarkable group of individuals, who have achieved distinction in their fields of endeavour, were awarded honorary degrees by the University.

In recognition of his outstanding contribution to the Irish civil service and Irish diplomatic relations, UCD awarded Dermot Gallagher an Honorary Degree of Doctor of Laws. In addition to roles in the European Commission, as Ireland's Ambassador in Washington, and as a key participant in Ireland's peace process, Mr Gallagher was chair of UCD's Governing Authority from 2009 until 2013.

Dame Professor Rosemary Cramp, a British archaeologist and academic considered the most influential archaeologist in the long history of Anglo-Saxon research, was awarded an Honorary Degree of Doctor of Literature.

UCD awarded Owen Brennan, who is Executive Chairman of Devenish Nutrition, an agri-technology company, which has grown from being a small local supplier to an international technology-driven, research-focused organisation, an Honorary Degree of Doctor of Science.

Michael Dowling, who is president and chief executive officer of the North Shore-Long Island Jewish Health System, was awarded an honorary Degree of Doctor of Literature by UCD. Headquartered in Great Neck, New York, North Shore-LIJ is the largest integrated health system in New York State, based on patient revenue, and the 14th largest healthcare system in the United States.

Professor Karsten Harries, Howard H Newman Professor of Philosophy at Yale University was awarded an honorary Degree of Doctor of Literature. Professor Harries, a native German speaker, is best known as an interpreter

of the German philosopher Martin Heidegger and was one of the first to challenge Martin Heidegger's intellectual relationship with National Socialism.

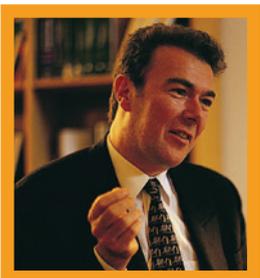
UCD awarded an Honorary Degree of Doctor of Literature to Professor Áine Hyland as

a tribute to the outstanding role she has played in education and in public life in Ireland. A Bachelor of Arts graduate from UCD, Áine Hyland (née Donlon) is Emeritus Professor of Education and former Vice-President of University College Cork.

Launch of Healthy UCD initiative



Minister for Health, Leo Varadkar TD, pictured launching the Healthy UCD initiative as part of the Government's Healthy Ireland Programme: (l-r) UCD Ad Astra Elite Athlete Dora Gorman, International soccer player and Stage 5 Medicine student; Minister Leo Varadkar; UCD Ad Astra Elite Athlete Colm O'Riordan, GAA Footballer and Stage 2 BA student; UCD President, Professor Andrew Deeks; and UCD Ad Astra Elite Athlete Ciara Everard, International 800m athlete studying for a Masters in Physiotherapy



Professor Eamonn Walsh

Just a handful of years ago, few people cared about corporate risk and financial statements. These were issues for the world of commerce, while the rest of the world went about its daily business. In 2008, however, the global economy toppled over and slid out of the pudding bowl. Suddenly the average person on the street knew all about the importance of financial stability.

The expertise of academics like Eamonn Walsh, the PWC Professor of Accounting at the UCD College of Business, became vital. "I'd spent ten years working at New York University during the 80's and 90's, focusing on the economics of financial statements which is, essentially, how balance sheets and profit and loss accounts can be best used from the perspective of investors," Walsh recalls. "This was an area of research that, although a hot topic in the United States – the world's largest capital market by a long stretch – had received very little attention in Europe."

One of his specialist areas is taking reams of accounting information and helping investors and companies to make sense of it. To what end? "If you're an investor, you need a way to identify companies that are undervalued or overvalued. It's about trying to find what pieces of information are there to assist you."

Pre-2008, investment firms wanted the information, but there was little public interest in this work. "The broader impact was zero," says Walsh. "Reading through financial statements to see, for example, how derivatives affect performance, was done behind closed doors."

In 2008, a huge global recession brought the importance of this information noisily crashing through the walls of virtually every household in Ireland. It became clear that private commerce affects society and the state; Professor Walsh's

insight has been to apply the lessons from private companies to the wider public sphere.

In February 2015, he appeared before a parliamentary banking inquiry in Dublin to share his insights. "The rules used to compile this information are still not generally well understood. I told the inquiry that the set of rules used by banks have still not changed, so banks using standard accounting measures can still appear profitable even if they are in deep difficulty. These rules will change from 2018."

As part of his expert submission to the enquiry, Professor Walsh outlined the limitations of IAS 39 (International Accounting Standard 39 "Financial Instruments: Recognition and Measurement", the key accounting standard for banking entities as their balance sheets are dominated by financial instruments) which contains the guidance on loan impairment.

"With respect to bank lending, provisions for loan losses are the most challenging accounting problem. If one had certain knowledge of future losses, it would be straightforward to decrease bank profits to reflect these losses. For example, if a bank engaged in more risky lending, then one would increase the provisions and decrease income (and hence capital). However, certain

"People didn't see these issues as important. That has changed utterly."

knowledge is not available and some judgement is necessary in order to establish the provision for loan losses or loan impairment."

He quotes the guidance directly (IAS 39, Para.59): "Losses expected as a result of future events, no matter how likely, are not recognised." Professor Walsh expressed that "This is a very conservative definition of impairment since it requires objective evidence that a loss has been incurred. As a result, one could argue that impairment accounting is procyclical. In periods of expansion, as a bank expands its loan book, the bank will appear far more profitable since profit measures exclude expected loan losses."

"These accounting issues are well known to informed users of bank financial statements. It is

also fair to say that uninformed users may be forgiven for failing to understand that increased bank profits during a growth phase are almost inevitable. However, disclosures to the financial statements are a key part of understanding the impact of these issues. In my opinion, there was inadequate disclosure concerning the increased risks that were faced by banks. Through the lens of 2002 balance sheets in the sector, users could have concluded that increased profitability was synonymous with increased 'cushions'. Through the lens of 2007 balance sheets, it would have been much easier for a sceptical observer to understand the underlying sources of these profits. If one were seeking a financial reporting failure, it was the absence of detailed requirements to disclose credit risk prior to the 2007 fiscal year when IFRS7 became effective (IFRS 7 "Financial Instruments: Disclosures" became effective for annual periods commencing on or after January 1, 2007).

It was very difficult for outsiders to comprehend the seismic shift that had taken place in bank balance sheets prior to 2008. In summary, I believe that the real challenge for external users of financial statements was understanding the changing nature of the risks on aggregate bank balance sheets until 2007. Had users fully understood the increased exposure to commercial and speculative lending – and that it was concentrated among a relatively small group of borrowers – it would have been far easier to realise that the quality of profits had declined and that mattresses rather than 'cushions' were required."

Overnight, Walsh, having worked in the US where he had gained an understanding of these issues at a time when they were not widely understood, became one of the most influential academic financial analysts in Europe. "Before 2007 and 2008, people didn't see these issues as important. That has changed utterly. Now there is a general interest in the consequences of allowing banks to fail, the balance sheets of Central Banks, the accounting numbers for regulating banks and what was needed to run a bailout programme. Governments and the public need to know if a financial system will collapse. I hope my work helps to do this."

Professor Eamonn Walsh was in conversation with Peter Maguire, a journalist with The Irish Times

Exhibition on Thomas MacDonagh's literary work on display in UCD Library

An exhibition on the literary career of UCD alumnus, lecturer and revolutionary figure Thomas MacDonagh (1878-1916) was on display in the foyer of the UCD James Joyce Library from June until the end of September. The exhibition showcased items from the Constantine Curran Collection of UCD Library Special Collections and was set up to explore MacDonagh's engagement with various Revival projects.

The exhibition illuminated his diverse literary output, ranging from poetry and drama to literary criticism and editorial work in the periodical *Irish Review* (1911-1914). Curated by Dr Giulia Bruna and Catherine Wilsdon, from the UCD School of English, Drama and Film, the exhibition was part of a project funded by the Irish Research Council in the New Foundations Scheme 'Marking the National Decade of Centenaries' and the UCD Humanities Institute.

The project - "Revival to Revolution: The Literary Career of Thomas MacDonagh" - featured a symposium on MacDonagh held in June at the National Gallery of Ireland and organised by Bruna, Wilsdon and Dr PJ Mathews, UCD School of English, Drama and Film. Speakers at the event included Dr PJ Mathews, Dr Conor Mulvagh, UCD School of History, as well as experts from Irish and American institutions, including Professor Declan Kiberd and Professor Denise Ayo, both University of Notre Dame and Professor Kurt Bullock, Grand Valley State University.

The MacDonagh exhibition is complemented by an online resource which showcases additional items from the Curran Collection. This resource is available at <http://revival2revolution.omeka.net/>. These initiatives are part of the dissemination projects of the Irish Revival Network, a research network which brings together scholars from a variety of disciplines working on the Irish Revival. Further information about the Irish Revival Network can be found on the network Facebook page and on twitter @IrishRevival.



Professor Tadhg O'Keeffe, UCD School of Archaeology, was among an inter-disciplinary team of researchers who have found evidence to re-identify a site at Rincrew, Co. Waterford as the ruins of the homestead and estate centre of a thirteenth-century manorial lord, rather than the ruins of a monastery

Archaeologist in UCD collaborative research project discovers a unique medieval site

An inter-disciplinary research project investigating a mysterious medieval site in Rincrew, Co. Waterford, has discovered that it is a unique survival of a type of site once very common in Ireland, and hope that its imminent publication will lead to its preservation.

The ruins at the site are long believed to be those of a 'monastic castle' that was owned by the Knights Templar, an order of military clerics founded to protect pilgrims to the Holy Land. The Templars, famously disbanded after heresy trials in the early fourteenth century, came to Ireland after the Norman invasion. Very little Templar archaeology survives in Ireland.

Professor Tadhg O'Keeffe, UCD School of Archaeology, Eamonn Cotter, a Cork-based archaeological consultant, and Dr Paul MacCotter, UCC School of History, have been exploring the history and archaeology of the Rincrew site.

They have found evidence that the association of Templars with Rincrew is a post-medieval invention. The ruins are not those of a monastery. Instead, they are the ruins of the homestead and estate centre of a thirteenth-century manorial lord.

The team has re-identified the two main buildings as a small, single-storey, domestic hall (used for communal eating and various

administrative activities) and an attached residence. There are very fragmentary traces of other structures around what was obviously a small courtyard.

"Ironically", explains Professor O'Keeffe, "what makes Rincrew so significant now is that it was so insignificant in the middle ages."

"Small manorial settlements like it were everywhere in Norman-controlled parts of Ireland. We have historical references to halls, chambers and other buildings at the centres of small estates owned by people who – and this is important – were too low in status to have owned castles. There must have been hundreds of these originally."

"No settlement of this grade, with a courtyard still containing a hall and chamber, has ever been identified. None of the documented sites survives. The condition of Rincrew is very far from pristine, and the small hall is particularly ruined, but it is quite a thrill to stand inside what may be the last remaining example of its type in Ireland."

According to Professor O'Keeffe, the analysis of Rincrew shows the value of specialists in different fields working together. "Collaboration has allowed us put to bed the myth of the Templars at Rincrew on the one hand, and identify a unique archaeological site on the other."

UCD Clinton Institute co-hosts Irish diaspora summit at Dublin Castle

Owing to historic patterns of emigration, Ireland is the only country in the world whose population is lower than it was 150 years ago. With these patterns in mind, the Irish state has invested more than €120 million in its outreach efforts to Irish citizens abroad since the inception of the Emigrant Support Programme in 2004.

The UCD Clinton Institute for American studies has been engaged, and continues to engage, in contributing to the efforts of the Irish state to progress and improve its relationship with its diaspora. One such engage-

ment is the Global Irish Civic Forum, which was co-hosted in June at Dublin Castle by the Irish Abroad Unit at the Department of Foreign Affairs and Trade and the UCD Clinton Institute for American Studies.

Arriving shortly after the March launch of Global Irish, the national government's diaspora policy, the summit aimed to help further improve Ireland's position as one of the world leaders in diaspora engagement. Both the Minister for Diaspora Affairs, Jimmy Deenihan T.D., and Minister for Foreign Affairs and Trade, Charles Flanagan T.D. were among those in attendance.

Professor Liam Kennedy, Dr Madeleine Lyes, and Dr Martin Russell, all of the UCD Clinton Institute for American Studies, provided key findings from Supporting The Next Generation Of The Irish Diaspora, a report commissioned by the Irish Department of Foreign Affairs and Trade, the findings of which contributed to the Global Irish policy.

A two-day event, the Global Irish Civic Forum was created to bring diaspora stakeholders together in order to advance the conversation on a number of different issues, including matters of identity, mental wellbeing, assisted return and reaching out to citizens abroad.

Representatives from politics, diplomacy, academia, diaspora groups, business and culture all attended the event.

Gene regulating severity of tissue damage caused by rheumatoid arthritis discovered by UCD Professor and team

Rheumatoid arthritis (RA) is an autoimmune disease that causes the immune system to attack the body, resulting in stiff, painful and damaged joints. This often debilitating condition can develop at any age and it is estimated that 40,000 people in Ireland have RA but the exact cause is not known and there is currently no cure.



However, personalised medicine, or the tailoring of treatment based on several factors including a patient's genetic make-up, will hopefully provide more advanced and effective treatment for rheumatoid arthritis and Professor Gerry Wilson of the UCD School of Medicine is at the vanguard.

Professor Wilson and his team of scientists from UCD and the University of Sheffield recently identified a new protein known as C5orf30, which regulates inflammation and tissue damage. The presence of C5orf30 in sufferers of rheumatoid arthritis will help determine the severity of their condition and therefore the most suitable treatments.

This scientific breakthrough came about from genetics studies where Professor Wilson and his team were looking at thousands of RA sufferers to see if any genetic factors increase the risk of rheumatoid arthritis. Five years ago they found a genetic marker, or flag, that was associated with increased risk of rheumatoid arthritis.

"I have a big population of about a thousand patients where I've got a lot of information including the X-ray damage scores to their hands and feet. The X-ray damage score is a key measure of how severe the rheumatoid arthritis damage is. This is a validated, widely-used measure of severity; drug companies, for example, have to show that any drug developed for RA lessens X-ray damage scores of hands and feet".

"So what I did was I looked at my patients and I found that the marker that increases risk of disease could also increase severity of disease. So, if a patient had two copies of this risk genetic variant – one from each parent – he/she would develop severe rheumatoid arthritis with severe damage in the hands and feet."

On the other hand, those in the study group with just one copy of the risk variant (inheriting one from either their mother or father) had intermediate levels of damage, explains Professor Wilson.

However, the risk of developing the disease does not hinge on this one genetic marker alone: there are now one hundred known risk variants across the human genome that are associated with rheumatoid arthritis. Therefore, the people in Professor Wilson's study who did not inherit this one particular risk variant were found to have the mildest form of rheumatoid arthritis with the lowest X-ray damage scores for hands and feet.

The interesting thing about Professor Wilson's research was that this variant was in a gene that nobody had previously looked at. "Essentially, it was undiscovered," he remarks.

"This gene encoded a relatively small protein which seems to be anti-inflammatory and also prevents tissue breakdown.

This is the subject of the paper just published in the scientific journal PNAS, where we explain the function of this protein," he adds.

Professor Wilson goes on to say: "What I suspect is that this protein is underactive in the group of patients who have two copies of that genetic marker and this allows the rheumatoid arthritis to become more active and aggressive, causing more inflammation and tissue destruction in the joints of the hands and feet."

Similarly, in the middle group whose profile includes just one copy of the genetic marker for risk, the protein displays intermediate levels of activity while the best case scenario of this protein being at its most active, the research team believes, is the group with no inherited risk and therefore RA symptoms at their most mild.

The reason it is so important to develop these kinds of tests that can gauge the future severity of a disease rather than detect the disease itself is because at the outset rheumatoid arthritis patients present with little or no joint damage.

Previously, there has been no way of telling whether the RA would go on to be mild, moderate or severe and although modern treatments are very effective, they are also very expensive and it takes time for a patient to try each treatment. In the meantime, it is costly and if the patient doesn't respond, the joint damage has worsened before an effective treatment is decided upon.

"There are many reasons for predicting likely severity earlier and treating the disease as soon as possible. Rheumatoid arthritis is what we call a multi-system disease. It can attack organs including the lungs and sufferers are at increased risk of cardiovascular disease such as heart attacks," explains Professor Wilson.

This research essentially contributes to a personalised medicine approach where patients are stratified based on their genetic profile: "If you are the first profile (inheriting two copies of the risk factor) then you might use drugs more aggressively. In personalised medicine you try to work out who is going to get the most severe form of a disease and then work out the best drug based."

"The great thing about genes over all of these other biological markers that you can measure in blood is that genetics are stable. They don't change with age, gender or the time of day you take the sample and it is easy to assay genetic markers which means they are potentially very quick tests if you want to stratify patients according to severity."

Professor Gerry Wilson was in conversation with Marie Boran (BSc 2002), a freelance science and technology writer

An Chéad Siompóisiam ar an tSochtheangeolaíocht Cheilteach, Institiúid don Léann Daonna UCD Meitheamh 24 – 26 2015

Thriall idir thaighdeoirí ó chian is ó chónagar agus an pobal i gcoitinne ar an Institiúid don Léann Daonna, UCD, ag deireadh Mheith imh don chéad Siompóisiam ar an tSochtheangeolaíocht Cheilteach. Is iad Scoil na Gaeilge, an Léinn Cheiltigh, Bhéaloideas Éireann agus na Teangeolaíochta a reáchtáil an t-imeacht. Phléigh scoláirí aitheanta agus taighdeoirí luathghairme araon dinimicí agus staid reatha na dteangacha Ceilteacha. Fuarthas léargas ann ar fheidhmiú na dteangacha áirithe seo i measc an phobail agus sa chóras oideachais, i measc gnéithe eile. I measc na mórcheisteanna a pléadh ag an teacht le chéile bhí todhchaí na dteangacha difriúla agus a bhfuil i ndán dóibh amach anseo de réir mar a bhraitheann siad níos mó ar an gcóras oideachais chun an pobal cainteoirí a chruthú agus a chothú. Chuathas i ngleic, chomh maith, leis an tslí a mbaineann cainteoirí mionteangacha leas as focail ón mórtheanga,

an Béarla sa Ghaeilge mar shampla, agus iad i mbun cumarsáide. Cleas é sin a úsáidtear go minic chun cur leis an repertoire teanga, chun an chumarsáid éifeachtach a bhaint amach agus chun an cainteoir a chur láthair ar shlí faoi leith i gcomhthéacsanna difriúla teanga. Táthar ag súil is gur féidir an Siompóisiam a bhunú anois mar imeacht a reáchtálfar gach re bliain. Idir seo agus sin, beifear in ann teacht ar chuid d'imeachtaí na hócáide an bhliain seo chugainn in eagrán speisialta den iris idirnáisiúnta Language, Culture and Curriculum atá á ullmhú faoi láthair bunaithe ar phríomléachtaí an tSiompóisiam. Fuair eagraithe na hócáide, An tOllamh Bettina Migge, An Dr Máire Ní Chiosáin agus An Dr Noel Ó Murchadha, maoiniú fial ó fhoinsí difriúla, mar atá gréasán COST ar Nuachaintoirí san Eoraip Ilteangach, Coláiste na nDán agus an Léinn Cheiltigh, clár comhpháirtíochta Colmcille agus an Institiúid don Léann Daonna.

UCD School of Geography host major conference on Urban Environment and Resilience

Cities, which occupy less than 3% of the Earth's land area, are home to more than 50% of the world's population. They are major drivers of global environmental change and are especially vulnerable to those changes. The distinctive processes and problems found in cities are the focus of the work of the International Geographical Union (IGU) Urban Commission. The Commission's 2015 conference was hosted by UCD School of Geography during August. Its special theme on Urban Environment and Resilience was chosen because of UCD's internationally recognised expertise in this area.

The annual conference of this IGU group was organised by Dr Niamh Moore-Cherry, senior lecturer, UCD School of Geography and facilitated by UCD Earth Institute, Dublin City Council and the Geographical Society of Ireland. Owen Keegan, CEO Dublin City Council and Professor Orla Feely, UCD Vice-President for Research, Innovation and Impact opened the event in City Hall to delegates from 27 countries.

The 7-day academic and field excursion programme focused on issues including technological innovations and creative activities in cities; creating sustainability; contested social spaces; urban governance; and complex urban systems. The keynote lecture on "Real-time cities and the politics of urban big data" by Professor Rob Kitchin, Maynooth University, discussed the potential and perils of technological approaches to city management through the integration of data from a vast array of sources. Over the week there were more than 70 paper presentations, however the distinctive component of the conference was the extensive field excursions which included trips to Belfast, Galway, Limerick and walking tours in Dublin and Wicklow.

The IGU conference highlighted the need for urgent transnational collaboration to address global urban challenges. It also established the reputation of UCD School of Geography as an international centre for research and teaching on the urban environment.

A new-look UCD Student Desk



The newly refurbished UCD Student Desk was officially launched by the Registrar, Professor Mark Rogers, on September 22nd, having opened its doors to students on August 10th. The new space provides a vibrant, welcoming space for current and prospective students and alumni to source information, guidance and support in an informal setting. The new space allows staff to connect directly with students, where straightforward questions can be resolved quickly and more in depth questions can be discussed in comfort and privacy.

Mathematics meets biology

The Third International Workshop "Mathematical Methods in Systems Biology" (MMSB) took place at UCD in June 2015. The workshop was a follow up to a 2010 workshop in Tel Aviv, Israel and a 2012 workshop in Cape Town, South Africa.

The workshop's goal was to bring together applied mathematicians, statisticians and researchers working in various fields of systems biology in order to exchange ideas and initiate and promote collaborations. The programme included talks and posters covering the spectrum of research in mathematical biology, from mathematical oncology to neuroscience, from analysis of the inter- and intracellular processes to medical diagnostics, from epidemiology to genetics.

Four distinguished scientists gave the keynote talks; Professor Philip Maini, Director of

the Wolfson Centre for Mathematical Biology at Oxford University; Professor Adrian Raftery, member of the US National Academy of Science and founding Director of the Centre for Statistics and Social Sciences at the University of Washington in Seattle; Professor Walter Kolch, Director of the UCD Conway Institute for Biomolecular and Biomedical Research and Systems Biology Ireland; and Professor Martin Steinhoff, Director of UCD Charles Institute for Dermatology.

Many presentations were based on analysis and interpretation of clinical and experimental

data. This represents an important step in the development of systems biology: from models and theoretical studies to practical applications, in particular, personalised medicine. One of the major topics of the workshop was mathematical oncology: cancer modelling, treatment and diagnosis. It is very relevant for Ireland, which has one of the highest levels of genetic (inherited) cancers in the world.

The special lecture was given by leading Irish oncologist Professor John O'Leary from Trinity College Dublin, who gave an overview of major developments in cancer treatment and introduced a multi-year roadmap for interdisciplinary research in systems biology from the clinical and experimental community points of view.

A volume of the workshop proceedings will appear as a special issue of the journal *Mathematical Biosciences and Engineering*.

How should we lead our lives

There are many good but incompatible answers to that question

She was born in Iran. Her parents are part of the Armenian diaspora. Her grandmother was Russian speaking. She speaks Armenian, Persian, French and English and writes in languages using three very different types of alphabet. And she attended university in Belfast and Dublin.

It's no surprise, then, that Maria Baghramian, Professor of American Philosophy at the UCD School of Philosophy, doesn't just think in one language or see the world in one way. From a young age, she was interested in what unites and divides humanity, and soon realised that philosophy tackles many of these questions. "I think of where we agree and where we disagree," she explains. "What are the significances of what seems to separate us, and what lies beyond those differences?"

This quest led Baghramian to the notion of relativism, one of the key concepts in philosophy. "There is such a diversity of cultural points of view about right and wrong and good and evil. Can we move beyond this to find some objective criteria? Relativists claim that judgements of moral values, aesthetics, truth and falsity, and even knowledge and justification depend on their cultural contexts. For the relativists there are no absolute or universal truths."

It's a debate that goes back at least 2,500 years, to the time of Plato. In this century, however, Baghramian has made a seminal contribution to the topic including her widely-hailed 2004 publication, *Relativism*. Her comprehensive survey of the topic recently appeared in the authoritative *Stanford Encyclopedia of Philosophy*.

"There is such a diversity of cultural points of view about right and wrong and good and evil. Can we move beyond this to find some objective criteria?"

So where does she stand on the issue herself?

In fact, she doesn't come down on one side or the other. "My own view is to find an alternative position that goes beyond both the strong absolutist views which say that truth is singular and on the other, completely relativist views where no truth can transcend local criteria. I am in search of a pluralist option which allows for more than one right answer to normative questions without falling into the pitfall of relativism."

"If there is one guiding force behind my thinking, it is a wish to see greater tolerance for difference and diversity."

The realm of ethics is one area where pluralism is a useful approach, she says. "How should we lead our lives? Most people would agree that there are many good but incompatible answers to that question. Or we can recognise that political choices such as liberty and equality, which are not necessarily compatible, both have a value and that one is not ultimately superior."

Her nuanced views on the topic undoubtedly bring a fresh perspective. But this is just part of an impressive academic record that has seen her take up fellowships in the Massachusetts Institute of Technology, Harvard University, Institut Jean Nicod, Ecole Normal Supérieure, Paris, act as an adviser to the China Association of Philosophy of Language and win numerous awards from Irish and international funding bodies, including a tenure as a Fulbright scholar at Harvard University and membership of the Royal Irish Academy.

As Chair of American Philosophy she has published extensively on contemporary American philosophy and leads a research project on The American Voice in Philosophy. "For a woman from Iran to hold the only Chair of American Philosophy in Ireland is a good way to overcome several entrenched social and political stereotypes", she says.

By organizing over 30 international conferences, research workshops and invited public lectures, Baghramian has also been central in bringing major figures in philosophy to



Professor Maria Baghramian introduced Professor Noam Chomsky to an audience of over 1,000 visitors on the occasion of his presentation with the UCD Ulysses Medal in April 2013, following a public lecture hosted by the UCD Philosophical Society and the UCD School of Philosophy

speak at UCD. The conferences and the invited world famous philosophers, including Hilary Putnam, Noam Chomsky, Daniel Dennett, John McDowell, and Robert Brandon have helped the UCD School of Philosophy to secure a reputation as a centre for research and debate on a variety of philosophical topics.

Looking at those names, however, one thing stands out: they're all men. Internationally, philosophy has the dubious distinction of being a humanities' subject that is heavily male-dominated. Baghramian, always recognising the importance of a plurality of voices, has set up the Society for Women in Philosophy Ireland, which is part of a worldwide project to mentor and encourage women into the subject. The SWIP Ireland annual conferences have become a focal international gathering of women philosophers working within differing philosophical traditions.

"Plurality is important," she says "not just for philosophical reasons but also because of the political violence and repression I have witnessed. If there is one guiding force behind my thinking, it is a wish to see greater tolerance for difference and diversity. The best response both to political tyranny and to intellectual dogmatism is to allow more voices to be heard. But the quest for such multiplicities should be conducted within a broad framework that promotes a universal human (and animal) flourishing."

Professor Maria Baghramian was in conversation with Peter Maguire, a journalist with *The Irish Times*



At a recent Agricultural Science Knowledge Transfer Conference held at UCD were (l-r) UCD students Tomas Russell and Anne Marie Murphy, with Dr Tony Pettit, Head of Education Programmes at Teagasc and Dr Monica Gorman, UCD MAIS Programme Coordinator

School of Agriculture's MAIS Programme central to improving advisory service delivery and innovation support to farmers

EU Commissioner for Agriculture & Rural Development, Phil Hogan recently launched the Teagasc Strategy for delivery of its agricultural advisory services in the period 2015-2020. The Commissioner highlighted the increasingly important role that advisory services will play in the future as Irish and EU farmers contribute to meeting global food needs in an environmentally sound and climate-sensitive way.

The Strategy Document looks to the UCD-Teagasc Masters in Agricultural Innovation Support (MAIS) Programme, managed by Dr Monica Gorman and Dr Jim Kinsella from the UCD School of Agriculture and Food Science, as being an important contributor to improving advisory service delivery into the future.

Extract from: Strategic Pathways for the Teagasc Agricultural Advisory Service 2015-2020 (Teagasc, 2015, pages 28-29) : Improving advisory service delivery and innovation support methods

"While we live in a world that has never had as much information freely available and the huge capacity to analyse and interpret data, the role of advisors, animators, mentors and knowledge brokers has never been more important to ensure that correct use is made of relevant new knowledge. The skills required of

knowledge professionals are changing at a rapid pace and agricultural advisors continuously need new skills to influence and support the rapid pace of innovation required by the industry.

These new skills will also improve advisor efficiency and productivity. Teagasc together with UCD have been successfully implementing research in innovation support at Master's level for the last four years. The Masters in Agricultural Innovation Support (MAIS) programme accommodates 10 students per year and provides students with a significant programme of skills development through work placement periods in Teagasc Agricultural Colleges and Regional Advisory offices. These post graduates contribute to lessening the advisory workload at peak times and they also contribute to the development of significantly improved and more efficient and effective innovation support.

Teagasc now plan to support a two-year taught Masters in Agriculture Extension, also in collaboration with UCD. It is envisaged that this programme will provide a stream of highly skilled advisors for the public and private sector. Teagasc plan to support this programme by offering 10 to 12 internships per year and to also provide input into the delivery of the taught modules. These interns will support advisors in the provision of advisory services, while the interns will be mentored and supported by senior advisors."



Sinn Fein rebellion: D.B.C. Sackville Street, Dublin. Before and after. One of the '1916 Rising Postcards' collection created by UCD Digital Library from the Constantine Curran collection

Library presents 1916 Rising Postcards Collection

UCD Digital Library has created the 1916 Rising Postcards, an exciting visual collection from the Constantine Curran collection, held in UCD Library, Special Collections.

The postcards were mainly published in 1916 in the immediate aftermath of the Insurrection. They provide an excellent contemporary pictorial record of the damage to the city; one showing a "before and after" photograph of Sackville (O'Connell) Street. Some are reproductions of "under fire" photos taken by the Daily Sketch photographer and published by Easons. Other series were produced by Hely's and Coleman's publishers.

The collection contains 37 distinct postcards (as well as duplicates) collected by Constantine Curran. It can be viewed at <http://digital.ucd.ie/view/ucdlib:38376>

The UCD Digital Library is an institutionally supported, preservation-oriented digital repository that holds a heterogeneous collection of resources from UCD's cultural heritage repositories and an increasing number of data assets captured or produced by UCD research activities. It is accessible at <http://digital.ucd.ie>.

Inaugural UCD Business Alumni Inward Investment Index Briefing

On Wednesday, September 9th, the inaugural UCD Business Alumni Inward Investment Index Breakfast Briefing took place in the offices of business law firm Mason Hayes & Curran. Guest speakers included Brendan McDonagh, Head of Strategic Policy at the IDA; Martin Murphy, MD of HP Ireland and Eamonn Walsh, Professor of Accounting at UCD College of Business; with the session chaired by Philip Nolan, Partner & Head of Foreign Direct Investment at Mason Hayes & Curran. The briefing focused on Ireland's inward investment prospects, based on perspectives drawn from a major survey of UCD Business Alumni working in Ireland and internationally. The presentation on the insights by Professor Eamonn Walsh was followed by a panel discussion and open forum question and answer session for all participants.



At the UCD Business Alumni Inward Investment Index Breakfast Briefing, were (l-r) Martin Murphy, MD of HP Ireland; Philip Nolan, Partner & Head of FDI at Mason Hayes & Curran; Eamonn Walsh, Professor of Accounting at UCD College of Business; and Brendan McDonagh, Head of Strategic Policy at the IDA



(l-r) An Tánaiste Joan Burton TD; Martin Shanahan, CEO, IDA Ireland; John Farrelly, Head, SAS Ireland; An Taoiseach Enda Kenny TD; Richard Bruton TD, Minister for Jobs, Enterprise and Innovation at the SAS announcement

NexusUCD-based company, SAS to create 150 new jobs in Dublin

With the support of the Department of Jobs through IDA Ireland, SAS, the global leader in business analytics, is expanding its operations in Ireland by establishing a new Inside Sales and Customer Contact Centre.

The move will see the company's workforce increase six-fold and significantly reinforce its presence in the region. The expansion will create 150 jobs over three years, equating to an investment of some €40 million.

The new centre, which will initially be located at NexusUCD, UCD's industry partnership centre, will support sales of data analytics software into markets across Europe, Middle East and Africa (EMEA).

"I have discussed investment opportunities with SAS executives at several occasions in recent years and I'm delighted to see this investment decision come to fruition," An Taoiseach, Enda Kenny TD said.

"As a global company with offices all over the world, we wanted to expand in a city as

vibrant as Dublin which has such a thriving technology ecosystem," said Carl Farrell, executive vice president and chief revenue officer, SAS.

"University College Dublin has a strong track record of working with business, through a growing portfolio of strategic and mutually beneficial partnerships which can impact the economy and wider society," said Professor Orla Feely, UCD Vice-President for Research, Innovation and Impact. "With today's announcement UCD is continuing its evolution as an enterprise campus, with enhanced opportunities for leading businesses such as SAS. By locating its new centre at NexusUCD, SAS can continue to grow its engagement with the University and in particular with the UCD Centre for Business Analytics. Through this engagement SAS can access the rich research and innovation capacity of UCD, along with the largest population of talented students in Ireland."

HeyStaks to Create 20 Jobs with €1.5 million Investment from Digicel

HeyStaks Technologies, a UCD spin-out company, has raised €1.5 million as part of a strategic partnership with telecoms operator, Digicel, to help bring its mobile Intent Analytics platform to the global market.

HeyStaks' pioneering platform analyses smartphone behaviour to understand the intent and interests of users in a privacy-enhanced way. This enables mobile operators to better serve their customers' needs and wants, while respecting individuals' right to anonymity.

The development of HeyStaks Intent Analytics was facilitated by the €1.5 million investment led by Digicel with whom HeyStaks has been working with since 2013. The company has now raised a total of €3.3 million in funding.

The creation of new jobs is also planned by the company, with 6-10 new hires to be made within the coming months and up to 20 within a year in a combination of commercial and technical roles.

Based at NovaUCD, HeyStaks was co-founded in 2008 by Barry Smyth, Digital Professor of Computer Science, UCD School of Computer Science, with Dr Maurice Coyle, and Dr Peter Briggs as a spin-out company from the Science Foundation Ireland (SFI) funded Clarity Centre for Sensor Web Technologies, now part of the Insight Centre for Data Analytics.

Two Entrepreneurs in Residence Appointed at NovaUCD

UCD has announced the appointment of Dr Sharon O'Kane and Dr Sean Baker as the first two NovaUCD Entrepreneurs in Residence (EIRs).

A NovaUCD Entrepreneur in Residence programme has been established to bring external business experience and expertise to assist the development and growth of UCD spin-out and spin-in companies, as well as the wider UCD entrepreneurial community, on a sectoral and sustained basis.

Dr Sharon O'Kane is an experienced life science entrepreneur and a former researcher at the University of Manchester. She was a co-founder and the Chief Scientific Officer of Renovo Group plc, which she helped grow from a university spin-out to a company employing over 200 people, and listed on the main London Stock Exchange.

Until she recently relocated to Ireland, Dr O'Kane was the Entrepreneur in Residence at the University of Manchester Intellectual Property (UMIP) Company and Chair of the Drug Discovery Advisory Board at the University.

Dr Sean Baker is an experienced ICT entrepreneur and a former lecturer at Trinity College Dublin. He co-founded Iona Technologies plc in 1991, where he held many executive roles including Chief Technology Officer, Chief Scientist and Vice-President Applied Research until 2008.



Pictured are the newly appointed NovaUCD Entrepreneurs in Residence, Dr Sean Baker and Dr Sharon O'Kane

Dr Baker is currently Chairman of the NDRC and is Executive Chairman of Incaplex, a healthcare software start-up based at NovaUCD. He is also the Chair of the Governance Committees of Lero and IC4.

Professor Orla Feely, UCD Vice-President for Research, Innovation and Impact said, "We are delighted to announce the appointment of

Dr Sharon O'Kane and Dr Sean Baker, as our first Entrepreneurs in Residence at NovaUCD.

The development of an Entrepreneur in Residence programme at NovaUCD will also support UCD's advocacy role, both nationally and internationally, in the promotion of entrepreneurship and innovation."

Bringing Bees Back to Belfield

The honey bee is the most economically valuable pollinator worldwide. However, bee populations are decreasing worldwide due to habitat destruction, pest and disease attacks and overuse/misuse of pesticides. The UCD Teaching and Learning SPARC initiative funded a project at the beginning of the year to literally *bring bees back to Belfield*, where they haven't been kept for over a decade. The project had four main aims: to provide bees with a safe habitat to thrive while helping to pollinate the Lamb Collection of apple trees at the Rosemount orchards (as well as other species across campus); to help found a student society of beekeeping to enrich the possibilities of students interested in bees and their management who may not necessarily be directly studying a related discipline; to allow a collaborative process for a mixture of interested staff and students to redevelop a taught elective module about apiculture and pollination; and to provide an opportunity to bring students and staff into closer contact and increase the wider community's understanding of these vital insects to the human food chain.

The core project team (consisting of 4 undergraduate students and 5 staff) successfully managed to re-establish a working apiary at the Rosemount Environmental Research Station by May 2015, in collaboration with Mr Kieran Harnett of the Dublin Honey Project.

Bee colonies at the apiary have now come through their first summer well. UCD students and international visitors have had a chance to assist with hive management activities and the collection of pollen samples for the COLOSS project (an international study on pollen diversity). A UCD pollen bank has now been started from 3-weekly samplings of pollen gathering by the bees throughout the summer. Despite a rather disappointing summer, Kieran Harnett and the group have been able to harvest the first honey from Belfield in over a decade.

A level-2 elective module in apiculture (Apiculture – bees, pollination and people; FOR20120) was developed by Dr Brian Tobin, UCD School of Agriculture and Food Science, through collaboration with the student members of the project and started in September, attracting 45, from a mix of programmes including Agriculture, Engineering, Veterinary Medicine, Geography, Commerce and Human Nutrition to register.

In order to manage colonies of bees in the UCD apiary at Rosemount, and to ensure a succession of students and staff who would



A UCD Teaching and Learning SPARC initiative project has seen bees return to Belfield. Practical classes began in September and students were introduced at first hand to the bee colonies at Rosemount. Here Kieran Harnett (Dublin Honey Project) and Kevin Kenny (UCD Rosemount) discussed hive management with the student group, which included Eoghan Carroll, Margaret Donnelly, Dan Fitzgibbon, Luke Kearney, Ed Kirwan, Damien Maher, Rebecca Mahon and Catherine McGinn

contribute to this effort, the newly-formed UCD HortSoc now has a Bee Division whose members have already begun hive management throughout the summer at Rosemount. In conjunction with Horticulture classes, hedging was planted around the apiary to shelter bees, provide protection to passing pedestrians and to provide a pollen source. In early September, bees were brought to the concourses (Freshers Week) and classrooms in order to spread awareness that bees have once again taken up residence at UCD.



A contemplative space has been opened in the rose garden next to Belfield House. Two seats have been installed, one in remembrance of the six students killed and seven seriously injured in Berkeley in the balcony collapse, and the other for all students who have died while attending UCD

UCD honours Berkeley tragedy victims

As students and staff of UCD began a new term, they remembered the victims of the Berkeley tragedy who would not be returning to college this year. A memorial service took place in O'Reilly Hall on September 9th, for students, faculty, staff, friends and families of those who were killed and injured in the balcony collapse on June 16th last.

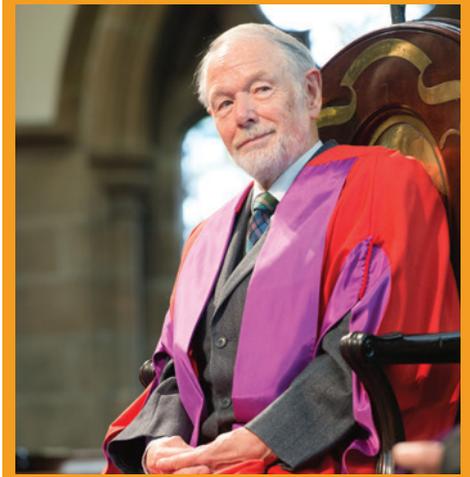
The three UCD students who died were Eimear Walsh and Lorcán Miller, both studying medicine, and Niccolai Schuster, who was studying history and politics. Members of their families were presented with bound copies of the University's online book of condolence, which had almost 20,000 signatures.

Speaking on behalf of the student body was Marcus O'Halloran, President of UCD Students'

Union. "I would like to emphasise the entire student body are here in solidarity with you all", he said. "Together we will take one step at a time and ensure that our lost friends who died and those that were injured are not forgotten."

The event coincided with the opening of a contemplative space in the rose garden next to Belfield House. Two seats have been installed, one in remembrance of the six students killed and seven seriously injured in Berkeley in the balcony collapse, and the other for all UCD students who have died while attending the college.

"This garden is permanently open and you are most welcome to visit, contemplate and to remember your friends and your loved ones," said UCD President, Professor Andrew Deeks.



The honorary degree of DLitt was conferred upon Seosamh Watson, Emeritus Professor of Modern Irish, UCD School of Irish, Celtic Studies and Folklore, at the 15th International Congress of Celtic Studies at the University of Glasgow in July

International Congress of Celtic Studies honours UCD Emeritus Professor

Seosamh Watson, Emeritus Professor of Modern Irish, UCD School of Irish, Celtic Studies and Folklore, was honoured at the 15th International Congress of Celtic Studies.

Scholars from 25 nations, including Russia, Australia and Brazil, representing 130 academic institutions and organisations met at the University of Glasgow in July to participate in the most important international event in the Celtic Studies academic calendar. The four-yearly event has grown significantly in size and stature since it was first held in Dublin in 1959. It now provides a forum in which experts from across the full range of Celtic Studies - including linguistics, literature, history, archaeology and art history - come together to share the fruits of their work.

Four honorary degrees were awarded at the congress to honour senior academics who came to Scotland in the 1960s and 1970s and recorded dialects that have now mostly disappeared.

The honorary degree of DLitt was conferred upon: Seosamh Watson, Emeritus Professor of Modern Irish, UCD, as well as Nancy Dorian, Professor Emeritus of Linguistics in German and Anthropology at Bryn Mawr College, Pennsylvania, USA; Máirtín Ó Murchú, Senior Emeritus Professor at the School of Celtic Studies, Dublin Institute for Advanced Studies; Professor Emeritus Dr Elmar Ternes, University of Hamburg.

Professor Watson is one of the foremost scholars of Scottish Gaelic dialects and has provided rich linguistic descriptions of Easter Ross Gaelic. His book, *Saoghal Bana-mharaiche: Cunntas Beul-aithris mu Bheatha Muinntir an lasgaich ann am Machair Rois* (2007) – material collected by him since 1967 – constitutes evidence of unparalleled value for the social history of Easter Ross. His research undertaken among Gaelic speakers in Cape Breton, Nova Scotia, produced important studies elucidating linguistic variation and change in transplanted speech communities.

An attractive idea to revolutionise information processing

Professor Hans-Benjamin Braun's insights into magnetic topologies have opened up new avenues for storing and processing data

When was the last time you checked your smartphone, sent someone a message on social media or worked using your laptop?

As the ability to process and store information increases, so too do our demands, but how will technology support the crescendo?

The need for enormous data storage and rapid processing is already pushing the limits of current IT architectures, explains Professor Hans-Benjamin Braun, but he has a new insight that could break open new approaches.

Information overload

In the past 50 years we have witnessed enormous growth both in our capability to store and process information, and much of the data is stored magnetically in 'server farms' says Professor Braun, an Associate Professor at UCD School of Physics.

"Current hard disk drives are able to store nearly one terabit of data per square inch - if we represent each of those bits by a grain of rice and lay them out side by side, they would cover an area of about 10 square kilometres or 1.5 times the size of Phoenix Park" he says, noting that the exponential growth in storage density over the past decades, also known as Moore's law, is one of the fastest growth any technology has ever seen. "For comparison, when IBM introduced the first hard drive in 1956, the bit density of two kilobits per square inch would have corresponded to grains of rice covering the area of just a third of an A4 page."

Cramming such a huge amount of information into such a small space brings with it engineering challenges - for example the read head flies over the hard disk platter at a height of just five nanometers, notes Professor Braun: "This corresponds to a jet at cruising speed flying a mere 0.1 micrometers above ground - about a thousandth of the width of a human hair."

These finely engineered systems also use up an enormous amount of power, and the increasing demands for storage and processing power are pushing up the potential environmental cost, he adds.

This is why researchers around the world are looking at new approaches to increase storage density and processing capacity without incurring the expense of using yet more power.

Going three-dimensional

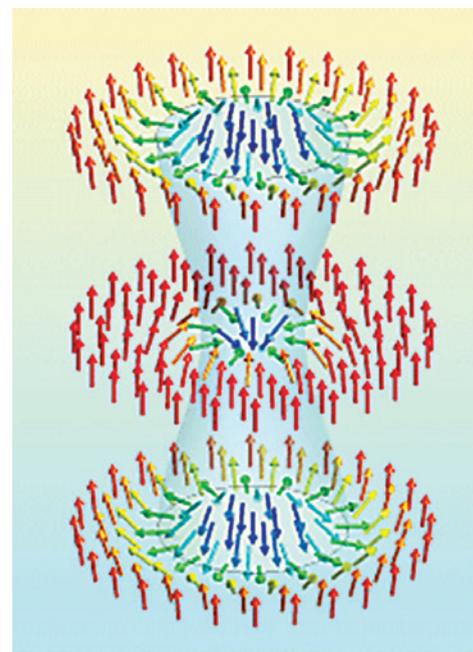
Information storage of the future could involve sophisticated three-dimensional architectures, explains Professor Braun.

"In cities when space becomes scarce you go vertical," he says. "So people are thinking about storing information in three dimensions, not just by stacking platters but by intergrating the architecture."

Professor Braun's Science Foundation Ireland-funded team, which includes Research Fellow Remo Hügli and Postdoctoral Fellow Gerard Duff, have been looking into new ways to store and process information in such architectures based on topological defects such as magnetic charges and domain walls even at the quantum level.

Professor Braun has recently been looking at skyrmions - magnetic, vortex-like structures conceived decades ago by physicist Tony Skyrme. "These are lumps in a field theory, like knots in a rope, which are stable and which you could use to describe particles," he explains. "Remarkably they also exist in magnets, where you can shift them with small currents, they are not obtrusive, they are local so they don't affect the magnetisation in the material far away from them."

Skyrmions could - at least in theory - be used to store data because they can be moved within a three-dimensional architecture to define a single bit. But until now their existence was thought to be limited to materials that have crystal structures without mirror symmetry, explains Professor Braun. "These materials are rare in nature and complicated to make, so that limitation was thought to be quite restrictive for the wider application of skyrmions," he explains.



Graphical representation of a magnetic skyrmion (Image: Professor Hans-Benjamin Braun, UCD, School of Physics)

New thinking

On a global lecture tour supported by an Institute of Electrical and Electronics Engineers (IEEE) Distinguished Lectureship Award, Professor Braun started having discussions with colleagues around the globe both in industry (HGST, Western Digital, HGST) and in Universities, including Johan Akerman from Gothenburg and Yan Zhou from Hong Kong.

"We started to exchange further ideas," he recalls. "People were telling me that they could produce permanently precessing skyrmions locally inside a nanocontact, generating a current where the electrons have their spins aligned."

"I began to think this might be something generic, and it would not depend on having this lack of mirror symmetry in the material," he says. "So I started to develop an analytical description and I observed - surprisingly - that we don't need this breaking of mirror symmetry. It was one of those moments when you say 'Wow!'"

That insight led to further work on how to create and manipulate precessing skyrmions in materials that had not previously been expected to support them, and the resulting paper was published recently in the journal *Nature Communications* by Professor Braun with colleagues in Hong Kong and Sweden.

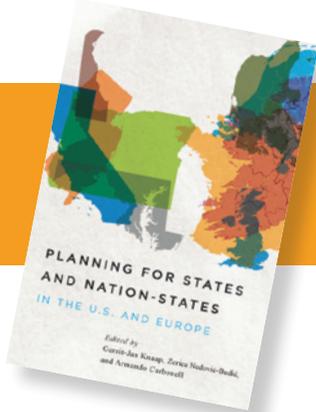
"We have shown that these skyrmions are not creatures that are limited to being caged in the zoo of exotic materials," says Professor Braun. "We have now shown that skyrmions can live outside this zoo in fairly mundane materials which were thought to be unsuitable prior to our work."

The insights could have important implications for using skyrmions for commercial or industrial application in order to make data storage and processing more effective and cut down on power consumption, although those applications are still far off, Professor Braun cautions.

"This is something completely new, it is outside of what people were thinking before," he says. "But it could feed into a long-term solution for how we manage information in the future."

Professor Hans-Benjamin Braun was in conversation with Claire O'Connell, science writer and contributor to Silicon Republic and The Irish Times

Books



Addressing planning and public policy challenges in an ever-changing society

Editors, Professor Gerrit-Jan Knaap University of Maryland, **Professor Zorica Nedović-Budić**, Chair of spatial planning and geographic information systems (GIS) UCD School of Geography, **Armando Carbonell**, senior fellow and chairman of the Department of Planning and Urban Form at the Lincoln Institute of Land Policy

Lincoln Institute of Land Policy

The fundamental challenges of building and sustaining human settlements have not changed significantly for centuries. The relative urgency of these challenges, however, has changed over time, as have the planning and public policy approaches to address them. Planners and policy makers in some European nations and some U.S. states have significantly changed the relative roles of international organisations and national, state, regional and local governments.

Climate change, economic development, social justice, and community revitalisation top the planning agenda in some European nations and U.S. states. The case studies in this book follow the changes in international planning frameworks and the roles of national, state, regional, and local governments in Delaware, Maryland, New Jersey, and Oregon in the United States and in Denmark, France, Ireland, The Netherlands, and the United Kingdom in Europe. The book is based on a symposium by the Lincoln Institute of Land Policy; the School of Geography, Planning and Environmental Policy at University College, Dublin; and the National Centre for Smart Growth Research and Education at the University of Maryland.

The opportunity to examine and discuss the institutional foundations of planning and the relative roles of governments brought scholars, practitioners, students and others to Newman House in October 2012 for a two-day symposium presented by the Lincoln Institute of Land Policy and organised by the then UCD School of Geography, Planning and Environmental Policy and the National Centre for Smart Growth Research and Education at the University of Maryland.



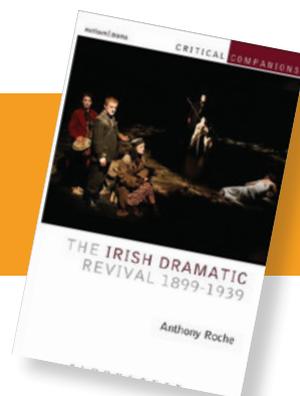
Learning from Japan's policies towards women in science and engineering

Dr Nao Kodate, lecturer in social policy at UCD School of Social Policy, Social Work and Social Justice and **Professor Kashiko Kodate**, Professor Emeritus at Japan Women's University, currently specially-appointed Professor at the University of Electro-Communications, Tokyo

Routledge

Japanese Women in Science and Engineering: History and Policy Change examines historical developments and the current gender equality situation in Japan, through the lens of women in science, technology, engineering and maths. It shows how a policy of gender equality in science and engineering has been introduced through the coordinated efforts of academia, scientific societies and the government, and how this has led to a slow but steady increase in female representation.

The book draws on extensive data including interviews with government officials, scientists and educators in Japan to provide a revealing case study on how the underrepresentation of women in the STEM fields has been approached and dealt with by a national government. It heralds a new era for female scientists, by showcasing several programmes undertaken by government, universities and national research institutions to support multiple career paths for and the progression of female scientists in Japan.



Radically redefining Irish theatre

Professor Anthony Roche, UCD School of English, Drama and Film

Bloomsbury

"All art is a collaboration", as the Irish playwright John Millington Synge states in the preface to his masterpiece *The Playboy of the Western World*. This is particularly true of the drama, which requires a concentrated gathering together of a range of artists in order for a theatrical event to take place.

The Irish Dramatic Revival was to radically redefine Irish theatre and see the birth of Ireland's national theatre, the Abbey, in 1904. From a consideration of such influential precursors as Boucicault and Wilde, Professor Roche goes on to examine the role of Yeats as both founder and playwright, the one who set the agenda until his death in 1939. Each of the major playwrights of the movement refashioned that agenda to suit their own very different dramaturgies.

The story of the Irish Dramatic Revival, in terms of Irish playwrights, is the story of the writing and the staging of the plays of W.B. Yeats, Lady Gregory, John Millington Synge and Sean O'Casey. Professor Roche sought to broaden the scope of in this book by including a chapter on George Bernard Shaw, whose work is more often mentioned in passing.

Professor Roche explores Synge's experimentation in the creation of a new national drama and considers Lady Gregory not only as a co-founder and director of the Abbey Theatre but also as a significant playwright.

A chapter on Shaw outlines his important intervention in the Revival. O'Casey's four groundbreaking Dublin plays receive detailed consideration, as does the new Irish modernism that followed in the 1930s and which also witnessed the founding of the Gate Theatre in Dublin.



Understanding human impacts on marine ecosystems

Editors Tasman P. Crowe, senior lecturer, UCD School of Biology and Environmental Science and **Christopher L.J. Frid**, Griffith University, Queensland

Cambridge University Press

Many marine ecosystems are extremely productive and highly valued, but they are increasingly threatened by human activities. Ecosystem services are emerging as a key driver of conservation policy and environmental management. Delivery of ecosystem services depends on the efficient functioning of ecosystems, which in turn depends on biodiversity and environmental conditions.

Marine Ecosystems: Human Impacts on Biodiversity, Functioning and Services features contributions from leading researchers, providing a current synthesis of key concepts for understanding human impacts on marine ecosystems and for environmental decision-making based on ecosystem services.

The authors examine the likely consequences for ecosystem service provision, covering key topics including fisheries, aquaculture, physical structures, nutrients, chemical contaminants, marine debris and invasive species. The volume links knowledge of human impacts on biodiversity and ecosystem functioning with research into ecosystem services, integrating two historically separate areas. This is a unique resource both for environmental managers and policy makers and for researchers and students in marine ecology and environmental management.



Pictured at the Spenser 2015 opening were: Dr Andrew King, UCC; co-organiser; Professor Orla Feely, UCD Vice-President for Research, Innovation and Impact; Dr Jane Grogan, UCD School of English, Drama and Film; Minister Jan O'Sullivan, Minister for Education and Skills; Dr Thomas Herron, East Carolina University; co-organiser; Professor Graham Hammill, President, International Spenser Society.

Coup for UCD and Dublin to host International Spenser Society Conference

The fifth International Spenser Society (ISS) conference, co-organised by Dr Jane Grogan, UCD School of English, Drama and Film and Vice-President of the International Spenser Society, was held with great success at Dublin Castle in June. With the four previous conferences hosted at Yale, Princeton, Cambridge and Toronto, it was something of a coup for Dublin and UCD, and Spenser scholars turned out in force from as far away as New Zealand, Japan and North America for a conference assessing 'The Place of Spenser' and 'Spenser's Places'. They had good reason: Ireland was the key place in the life of this major Tudor poet, who lived and wrote most of his poetry here from 1580 until 1598.

Three plenary talks and more than 150 papers assessed Spenser's place and writings in sixteenth-century Ireland (including his major allegorical epic romance, *The Faerie Queene*, as well as his notorious prose treatise *A View of the Present State of Ireland*) as well as the long afterlife of his work here. It was the first time the International Spenser Society had hosted an event in Ireland. Among those presenting were Professor Roland Greene, President of the Modern Languages Association of America (the largest professional association of scholars worldwide in the field of European literature) and Professor Nicholas Canny, former President of the Royal Irish Academy and Ireland's only representative on the European Research Council.

The conference was opened by Minister Jan O'Sullivan, Professor Orla Feely, UCD Vice-President for Research, Innovation and Impact; Professor Graham Hammill, President of the ISS and Professor Anne Fogarty, UCD School of English, Drama and Film. Professor Fogarty gave a brilliant opening plenary on the connections between Spenser and James Joyce, at the Royal Irish Academy. Also at the RIA Dr Marc Caball, UCD School of History, introduced delegates to the literary culture of early modern Gaelic Ireland, developing on an exhibition presented by the Library of the RIA in association with the conference. The exhibition, 'Another View: Gaelic Manuscript Culture in Spenser's Ireland', ran until 7th August 2015.

New therapeutic approach to help obese patients achieve and maintain a healthier body weight

An international study, published in the *New England Journal of Medicine*, has found that the drug, liraglutide 3.0 mg is beneficial to weight management in obesity when used in combination with diet and increased physical activity.

The SCALE™ obesity and prediabetes study was co-authored by Professor Carel le Roux, UCD School of Medicine and UCD Diabetes Complications Research Centre in UCD Conway Institute. The participants were randomly allocated either liraglutide 3.0 mg or a placebo delivered by injection under the skin once daily for 56 weeks. They were also given lifestyle advice and regularly assessed throughout the study.

The aim of this study was to evaluate the percentage of participants who experienced weight change, lost at least 5% or more than 10% of their initial weight.

Liraglutide is 97% similar to a naturally occurring human hormone called glucagon-like peptide 1 (GLP-1) that is released in response to food intake. Like human GLP-1, liraglutide controls food intake by increasing feelings of fullness after eating.

The study showed that liraglutide 3.0 mg, in combination with diet and increased physical activity, resulted in significantly greater weight loss than diet and physical activity alone.

After one year, patients treated with liraglutide 3.0 mg had lost 8.4 kg (8%) and those treated with a placebo had lost 2.8 kg (2.6%).

Professor Carel le Roux said: "The SCALE™ study has shown that this drug treatment could help patients change the biology that has inhibited their best behavioral efforts".

UCD Institute for British-Irish Studies Annual Conference

In July, the Annual Conference of the UCD Institute for British-Irish Studies (IBIS), which took place at the European Parliament Office in Dublin, addressed the issue of Women in Leadership in the North and South of Ireland. Frances Fitzgerald TD, Minister for Justice and Equality, opened the proceedings highlighting the point that the question of women leaders, or the lack thereof, is part of the broader context of addressing values. This, in turn, drives the agenda for change.

The IBIS conference looked at three key areas of leadership from a gender perspective: Women's Leadership in Political and Public Life,

Civic Leaders and the Leadership Pipeline and Political Leadership.

While the status of women in the workplace has improved somewhat in recent years, progress is still pitifully slow in some key areas. Leadership is an obvious case in point. According to the National Women's Council of Ireland: 'To build a more equal Ireland we need to increase the participation of women in the decisions which affect their daily lives'.

Women's equal participation and representation is also a key theme in the international Women, Peace and Security agenda, an agenda that is driven by civil society. Some policy makers are working together across the ethno-national divide on the implementation of the 29 recommendations published in the Northern Ireland Assembly and Executive Review Committee' Report on Women in Politics and the Northern Ireland Assembly in February. However, they highlight the need for more cross party dialogue on these issues in Northern Ireland.

Further initiatives are underway on women's leadership in the community sector and on



Pictured at the Annual Conference of the UCD Institute for British-Irish Studies were: Dr Melanie Hoewer, IBIS / UCD; Bronagh Hinds, DemocraShe / IBIS; Frances Fitzgerald, TD, Minister for Justice and Equality and Professor David Farrell, IBIS / UCD

increasing women's participation on public sector boards in the region. In the South, the introduction of gender quotas for the next general election is a step forward, but it has been highlighted that much more needs to be done to change party rules and culture.

Changes in gut microbiota may explain reduction of body fat after bariatric surgery

New research findings indicate that changes in gut microbiota may play a direct role in the reduction of body fat after bariatric surgery and could pave the way for novel probiotics to help treat obesity in the future.

A research team, led by Professor Fredrik Bäckhed, University of Gothenburg and including Professor Carel le Roux, UCD School of Medicine and the Diabetes Complications Research Centre, UCD Conway Institute, have been investigating how gastric bypass surgery results in significant weight loss. These latest findings are published in the current issue of the journal, *Cell Metabolism*.

In this study, the team investigated the long-term effects of bariatric surgery on the human gut microbiome and found that surgery induced significant changes to gut microbiota composition and microbiome gene content.

By placing faeces from patients that had bariatric surgery inside the bowels of germ-free mice, the team demonstrated that the gut microbiota resulting from the surgery in humans promoted reduced fat deposition in these mouse models.

Mice given gastric bypass microbiota also had a lower respiratory quotient, indicating increase

burning of fat as fuel. These results suggest that the gut microbiota may play a direct role in the increases in energy expenditure and weight loss after bariatric surgery.

“Our findings are important in light of the growing epidemic of obesity and associated diseases,” Professor Fredrik Bäckhed says. “Since surgery always confers a risk, it is critical to identify non-surgical strategies. One potential strategy would be to devise novel probiotics based on our findings that can be supplied to obese individuals.”

Obesity specialist, UCD Professor Carel le Roux added: “We are now starting to understand how operations such as the Roux-en-Y gastric bypass work. These operations help patients eat less and increasing their energy expenditure during a meal to result in long term weight loss. Unravelling these mechanisms mean that we may soon be able to mimic the effects of the surgery without a knife”.

World renowned Youth Mental Health advocate lectures at UCD hosted conference

In August, renowned youth mental health advocate Professor Pat McGorry, from Orygen Youth Health and the University of Melbourne, gave a public lecture in UCD on “Youth Mental Health Reform: An Investment in the Future”. Professor McGorry’s lecture was part of a series of Youth Mental Health Services themed events that took place in UCD, organised by Dr Barbara Dooley, UCD Dean of Graduate Studies and Deputy Registrar and Dr Eilís Hennessy, UCD School of Psychology.

Professor McGorry was in Dublin to visit the Youth Mental Health Laboratory in the UCD School of Psychology and take part in a day-long seminar entitled “Mapping out existing and new service models and systems of care for youth”. This seminar, funded by the UK Economic and Social Research Council, brought together researchers from UCD, NUI Galway, University of Nottingham and University of Greenwich to explore the ways in which mental health services are provided to young people and how they can be improved.

Tony Bates founding director of Headstrong, the Irish National Youth Mental Health Service, spoke about innovations in mental health care in Ireland and speakers from Jigsaw, Headstrong’s national network of programmes for young people, gave examples of how innovative services are run in Ireland.

The conference also heard from young people who are actively involved in Headstrong about what the service means for them and how it can transform lives. Professor McGorry spoke about the difficulty of ensuring that governments around the world provide a fair deal to young people with mental health problems. He argues very strongly that investment in direct evidence-based care, will not end up costing the earth, instead it will save lives and money because the young people who are helped can go on to live full and productive lives.



Pictured at the launch of the new \$300m Amgen facility in Dun Laoghaire were: (l-r) Richard Bruton TD, Minister for Jobs, Enterprise & Innovation; Kerry Ingalls, Amgen Vice President of Regional Manufacturing and Trevor Griffin, Amgen Senior Project Manager

SBI’s Amgen Biotech Experience programme announced as part of €600,000 investment in science education in Ireland

A science education initiative led by Systems Biology Ireland, in partnership with the Biomedical Diagnostics Institute in Dublin City University, has been announced by leading biotechnology company Amgen and its philanthropic arm, the Amgen Foundation.

The Amgen Biotech Experience programme together with a complementary programme, Amgen Teach delivered by the Professional Development Service for Teachers, are designed to support the professional development of secondary school life-science teachers, and increase students’ scientific literacy and interest in scientific careers.

Both Amgen Biotech Experience and Amgen Teach support the Irish science school curriculum, providing teachers with the skills and confidence to transform the student experience in learning science. Training is offered free of charge and emphasises hands-on, enquiry-based learning, providing teachers with practical tools they can replicate in the classroom and lab to motivate students.

Additionally, the Amgen Biotech Experience provides molecular biology resources and research grade laboratory equipment available on loan to participating schools.

“This is an exciting opportunity for UCD to partner with Amgen in augmenting teacher and student experiences of science education and facilitating engagement by our researchers with wider society”, said Professor Orla Feely, UCD Vice-President for Research, Innovation and Impact.

Together, the programmes are expected to reach over 15,000 students and nearly 150 teachers across Ireland over the coming academic year. Over the full three year commitment of the programmes, Amgen Teach and the Amgen Biotech Experience are expected to positively impact approximately 53,000 students and nearly 500 teachers in Ireland.

The Amgen Teach and Amgen Biotech Experience programmes, together with details of the Amgen Scholars 2015 Ireland recipients, were announced at an event to mark the opening of the new \$300 million Amgen facility in Dun Laoghaire.

■ €3.9 million for Connected Health researcher education

Professor Brian Caulfield, Dean of Physiotherapy at UCD and a founding director of the Insight Centre for Data Analytics, leads the Insight Connected Health research team which is part of a collaborative effort that has been awarded €3.9 million of H2020 funding that will go towards a Europe-wide redesign of Connected Health researcher education.

The huge promise of Connected Health is not yet being realised in day-to-day healthcare, according to Professor Caulfield “Despite a clear need articulated repeatedly at national and international levels and the evident promise of Connected Health, the implementation of Connected Health solutions in everyday management of health is not widespread across Europe,” he said.

Professor Caulfield is a leading expert in the field of Connected Health, an area of research that uses technology to provide the best personalised healthcare in the most efficient way possible.

He was speaking ahead of the announcement that €3.9 million of funding has been awarded to help early stage researchers understand and tackle this disconnect.

“This is essentially a redesign of researcher education in Connected Health,” Professor Caulfield said. The redesign is a Europe-wide one and involves a collaboration between 18 partner organisations from eight European countries including universities, companies and healthcare providers.

CHES (Connected Health Early Stage Researcher Support System) has been funded to the tune of €3.9 million under the Horizon2020 People Programme. It is Europe’s first networked Connected Health PhD training programme.

Part of the challenge that researchers face is that Connected Health spans many areas such as health, technology and business and expertise traditionally extends to one rather than all of the

necessary fields. CHES aims to develop connected health scientists and champions who understand multiple domains, can communicate in an interdisciplinary world and can operate across the education, industry, health and policy sectors. It will include secondments to different sectors, interdisciplinary communication skills, public engagement and outreach with particular focus on patient, clinician and policy-maker audiences.

The key here is to get researchers communicating and making connections beyond their central area of research and it is being done at a Europe-wide level.

There will be three researchers in the Insight Centre at UCD, one in the Beacon Hospital, Sandyford and two in the University of Ulster.

“CHES will work to better understand and address some of these challenges through 15 networked research projects,” Professor Caulfield said.

Connected Health is a rapidly growing field and many view it as the future of personalised, community based, affordable healthcare. It collects and analyses patient data over the long term, detecting tiny changes before a patient experiences symptoms. It connects GPs, hospitals, carers and patients creating an environment where patients are treated in the best location by the best practitioner using the most relevant and efficient methods. It can save money and lives while ensuring a better quality of life during and post-treatment.



Professor Da-Wen Sun, UCD School of Biosystems and Food Engineering, pictured receiving the IAEF Lifetime Achievement Award from Dr Michèle Marcotte, IAEF President, in June

■ UCD Professor Ranked No. 1 in the World for Agricultural Sciences Research Publications

UCD’s Professor Da-Wen Sun has been ranked No. 1 in the world for publication of the highest number of highly-cited papers in Agricultural Sciences, according to the Essential Science Indicators™ (ESI) database from Thomson Reuters, which was updated in July to cover the period from January 1, 2005 to April 30, 2015.

Professor Da-Wen Sun, UCD School of Biosystems and Food Engineering, is a global authority in food engineering research and education. He is a member of the Royal Irish Academy, a member of Academia Europaea (The Academy of Europe) and a fellow of the International Academy of Food Science and Technology.

He has significantly contributed to the field of food engineering as a researcher, as an academic authority and as an educator. His many scholarly works have become standard reference materials for researchers in the areas of computer vision, computational fluid dynamics modelling and vacuum cooling.

Highly-cited papers are defined as those papers that rank in the top 1% by citations for field and year indexed in the Web of Science.

Results of Professor Da-Wen Sun’s work have been published in more than 400 peer-reviewed journal papers (Web of Science h-index = 65), among them, 30 papers have been selected by ESI as highly-cited papers, ranking him No. 1 in the world in Agricultural Sciences.

Professor Da-Wen Sun has received many international prestigious awards for his research excellence, including the 2015 IAEF Lifetime Achievement Award presented to him in June. The IAEF (International Association of Engineering and Food) is awarded to highlight a lifetime contribution of a prominent engineer in the field of food.

■ UCD Confucius Institute for Ireland hosts Public Lecture Series

In September, a delegation headed by Professor Xu Jialu, a famous linguist, social activist and former Vice Chairman of the Standing Committee of National People’s Congress of China, visited UCD and attended the public lecture series organised by the UCD Confucius Institute for Ireland. The public lecture, held in the Lynch Theatre in the UCD Science Hub, attracted more than 200 staff, students, members of the public and esteemed guests including H.E. Mr. Xu Jianguo, the Chinese Ambassador to Ireland. Professor Liming Wang, Director of the UCD Confucius Institute, chaired the lecture.

Professor Xu Jialu, the keynote speaker, delivered an insightful lecture entitled ‘Chinese Medicine and Chinese Philosophy’. Given the cultural heritage of Traditional Chinese Medicine (TCM), he illustrated his views on how to respond to the deep crisis that society has encountered: “Suffering from the environmental deterioration and the decline of physical constitution caused by the modern lifestyle, neither Chinese Medicine nor Western Medicine is able to solve all problems on its own. It’s incumbent on human beings to cooperate, to coordinate and to innovate in facing the same crisis and challenges.” However, he emphasised that individuals have to enhance their cultural exchanges and understandings in order to work together and overcome the crisis. The Confucius Institutes around the world have become crucial



Professor Xu Jialu, Professor in linguistics at Beijing Normal University (sitting), was the keynote speaker in a public lecture series chaired by Professor Liming Wang, Director of the UCD Confucius Institute/ Irish Institute for Chinese Studies (standing)

platforms and bridges for such cultural dialogues and communications.

Professor Cao Hongxin, Director General of the Department of Science and Technology, State Administration of Traditional Chinese Medicine, presented a brief introduction to the current practice of TCM in China and the cooperation between Chinese Medicine and Western Medicine in the world. In 2014, over 550 million people in China received TCM treatments. With constant innovation, TCM has been widely accepted and enjoying international reputation for its remarkable achievements in the treatment of some ‘incurable diseases’. For example, the Austrian government has recently invested €100 million to develop TCM.

UCD researcher returns K supercomputer to top of Graph 500 global rankings

Software developed by Professor Toyotaro Suzumura, a researcher in the UCD School of Computer Science, returned the K supercomputer to the top spot in the Graph 500 global rankings for June 2015.

The purpose of the twice-yearly Graph 500 competition is to determine new benchmarks in order to judge the efficiency of supercomputers in processing complex 'Big Data' workloads that could then be used in graph and network analytics as well as 3D physics simulations.

Real-world applications of this process include areas such as logistics, emergency disaster response, energy distribution, cybersecurity, medical informatics, data enrichment and social networks.

Using the programme developed by Professor Suzumura and his team, the K computer took first place in the June 2014 rankings only to fall back to second in November of the same year.

Improvements were made in the intervening period that used a novel compression algorithm allowing for the faster exchange of messages between nodes on the K supercomputer which pushed the Kobe-based machine back to number one.

Professor Suzumura, a Visiting Professor in the UCD School of Computer Science, participated in the competition for the first time in November 2011 with a team comprising himself and Koji Ueno from the Tokyo Institute of Technology. Mr Ueno was then a master's student and is now completing his PhD.

Since then his team has expanded to include Professor Naoya Maruyama of the RIKEN Advanced Institute for Computational Science, Professor Katsuki Fujisawa of Kyushu University, and Professor Satoshi Matsuoka of Tokyo Institute of Technology.



Pictured at the Global Internship Conference at UCD were (l-r): Matt Byrnes, Global Internship Conference Manager; Tony Johnson, President of the Academic Internship Council; Jan O'Sullivan TD, Minister for Education and Skills; and UCD President, Professor Andrew Deeks

UCD first European host of Global Internship Conference

In June, UCD was the first European host of the Global Internship conference. This prestigious conference was opened by Minister for Education & Skills, Jan O'Sullivan TD. 425 delegates from over 30 countries, including representatives from many of UCD's partner institutions were welcomed to the conference by UCD President, Professor Andrew Deeks.

The Global Internship Conference (GIC) is at the forefront of the discussion about the role that internships play in international education. The annual conference brings together all of the parties that are involved in this growing field. From the educators and third party providers who run courses, to the governments who decide how to legislate in areas of employment and immigration, from

the companies and organisations who offer opportunities to the students who participate.

Co-chairing the conference were Brett Berquist, Director International, The University of Auckland and Kate Moore, Executive Director, Academic Internship Council. Delegates were invited on a tour of the UCD campus, took part in internship site visits and participated in pre-conference workshops.

During the conference delegates analysed and debated best practices relating to international and domestic internships for students. Through the many presentations that took place over the three-day conference, delegates explored current challenges such as visa requirements, academic credit, the engagement of company recruiters, the role of government, and the needs of students and employers.

UCD Professors Secure HRB Clinical Trial Network Funding

In May, the Health Research Board announced a €10m investment in four new clinical trial networks in the areas of stroke, perinatal health, primary care and critical care medicine. UCD School of Medicine secured two of the four awards with funding of a stroke clinical trials network led by Professor Peter Kelly and the creation of a national critical care clinical trials network led by Professor Alistair Nichol.

The HRB Irish Critical-Care Clinical Trials Group (IC-CTG) is a collaboration involving three quarters of the Irish intensive care capacity and is led by Professor Alistair Nichol, UCD Professor of Critical Care Medicine at St Vincent's University Hospital.

Thousands of critically ill patients pass through our intensive care units (ICU) each year. Sadly the nature of their conditions can often result in death, or mean they survive with a long term disability. The HRB Irish Critical-Care Clinical Trials Group will bring together doctors, nurses and researchers to test new treatments that can improve outcomes for these patients.

Stroke is the second leading cause of death in the world, the leading cause of new disability, and a major cause of dementia and health costs.

The Stroke Clinical Trials Network will give Irish patients access to cutting edge new treatments with the potential to prevent strokes, or to improve emergency treatment and recovery after stroke.

"We recently saw the benefit to Irish patients of participating in clinical trials via Irish involvement in the ESCAPE trial. Irish patients were among the first in Europe to benefit from the treatment, which they otherwise would not have accessed" explained Professor Kelly, UCD School of Medicine.

The Network will initially involve eight Irish hospitals, six leading universities, and all seven Hospital Groups. It will have strong links with international researchers in the UK, Europe, and North America. In addition to the HRB, other Network partners are the Irish Heart Foundation, who will fund new Stroke Research Nurses, and seven industry partners, who will fund education and training activities.



BDIC students and their Beijing GAA Club coaches who made history as the first ever all-Chinese Gaelic Football team at the All China Games in Hong Kong in June

BDIC students make a new kind of Gaelic history

For many years Ireland's national games have been making huge strides across Asia, but on June 20th history was made, as Beijing Dublin International College (BDIC) - a joint college of UCD and Beijing University of Technology (BJUT) - fielded the first ever all-Chinese Gaelic Football team at the All China Games.

An initiative spearheaded by BDIC Vice-Principal for Teaching and Learning Dr Ailish O'Halloran, resulted in Gaelic Football being

introduced as part of the Physical Education module at BDIC, with the training being provided by Beijing GAA Club members Stephen Lillis and Colm Walsh, who, along with other club member volunteers, worked to give these students a uniquely Irish experience in China.

Almost 50 students took part in training on Saturdays since last September. A team of the most committed 12 young men were then selected to represent BDIC at the All China Games in the men's competition, becoming the first ever team of Chinese Nationals to do so. Not to be outdone by the men, one female student persisted with training and was a great addition to the Beijing GAA Ladies squad for the Games.

This GAA experience has given these Chinese students an opportunity to engage in an activity that is integrally Irish and as result become integrated into the extended Irish family abroad.



Ireland captain Lucy Mulhall leads the charge during their Cup semi-final win over South Africa at the Women's Sevens Dublin tournament, hosted by UCD in August. Photo © Colm O'Neill/www.lnpho.ie

UCD Hosts World Rugby Women's Sevens

UCD welcomed 12 international teams as it played host to the World Rugby Women's Sevens tournament for the first time, in a prelude to the University's hosting of the pool stages of the Women's Rugby World Cup in 2017.

The sevens tournament took place over the weekend of August 22nd and 23rd and was part of the World Rugby Women's Sevens Series qualifiers 2015. The qualifiers took place at the 3,000-capacity UCD Bowl, while Belfield was host to over 200 visiting players and their management teams. Participating nations included: China, Kenya, Netherlands, Colombia, Brazil, Japan, Samoa, Wales, South Africa, Hong Kong, Ireland, and Mexico.

Of the 12 international teams participating, two could qualify for this season's World Rugby Women's Sevens Series. Hosts Ireland came through Pool C against South Africa, Hong Kong and Mexico to meet Japan in the final, losing 12-13, but earning qualification.

Olympic qualification for UCD students

Years of hard work paid off for UCD Ad Astra scholars Paul O'Donovan and Claire Lambe as both qualified for the Rio Olympics during the double sculls finals at the World Rowing Championships in Aiguebelette, France, in early September. UCD physiotherapy student, Paul O'Donovan, rowing with his brother Gary, qualified with only .28 of a second to spare. They beat the Greek team to sixth place to ensure their place in Rio. UCD engineering graduate Claire Lambe, joined by her partner Sinead Jennings, needed to finish in the top 5 of their race. They finished in third place behind China and Poland.

Arthur Lanigan O'Keeffe became the first Irish pentathlete to win the gold medal at the European Modern Pentathlon Championships in Bath, England on August 22nd, conclusively booking his ticket to compete at the Olympic Games 2016. Arthur, who competed in the London 2012 Olympic Games has been part of the UCD Ad Astra Elite Athlete Academy and is studying for a degree in Sport and Exercise Management. He is currently taking some time out to pursue his training commitments, but will return to conclude his studies at UCD after the 2016 Olympics Games.

Mark English, a UCD medicine student, will take his place among Ireland's representation at the 2016 Rio Olympics after running a qualifying time of 1:45.49 at the Anniversary Games in London on July 25th. The Ad Astra scholar took fourth place in the final race of the 800 metres. English won the silver medal at the European Athletics Indoor Championships in Prague in March and holds the Irish senior indoor 800m record as well as the indoor and outdoor junior records in the same distance.

UCD HEAR Welcome Programme

A welcome programme for first years who are supported by the Higher Education Access Route (HEAR), organised by UCD Access and Lifelong Learning, was attended by 290 first years from all over Ireland and gave students an early opportunity to get started in college.

Working as a Peer Mentor on the programme was second year History and Politics student Shauna Shelley, a former pupil of Caritas College, Ballyfermot and a UCD Scholarship recipient. Gemma O Gorman, a more recent graduate of Caritas College, is starting her Geography and Archaeology degree. Ashling Woods is advancing to study History and Geography in UCD, having decided to pursue a FETAC course in the Liberties College, Dublin 8 on completion of her Leaving Certificate. She reflected on the programme:



UCD student Shauna Shelley (centre) was one of the Peer Mentors who welcomed 290 first years from all over Ireland, including Ashling Woods (left) and Gemma O’Gorman (right) to a UCD HEAR welcome programme before the start of semester one

“Going to third level education in UCD is more achievable through the HEAR scheme. The HEAR welcome programme is an extremely helpful week as it helps students have an easy

transition from secondary school life to college life. It gives you the skill and knowledge to be successful in every aspect of college life.”

UCD Rose promotes STEM

UCD postgraduate student, Aoife Murphy took part in the 2015 International Rose of Tralee Festival competition. The Cork Rose wowed the audience in The Dome as well as the 700,000 television viewers during her stage interview on RTE with presenter, Daithi O Se. Aoife reflected her passion for science communication as she demonstrated a colourful, foaming chemical reaction on stage known as ‘elephant toothpaste’ or the ‘iodine snake’.

“Representing Cork in the International Rose of Tralee Festival is an experience that I will never forget but the highlight for me was the reaction that I received from the public. I had so many tweets and messages from people within the STEM community congratulating me for promoting science in an entertaining way.”

Originally from Mallow, Aoife is a final year PhD student working in UCD Conway Institute for Biomolecular and Biomedical Research under the supervision of Professor Helen Roche, Associate Professor of Nutrigenomics in UCD School of Public Health, Physiotherapy & Sports Science.

Aoife’s research looks at the impact that fatty foods have on obesity and inflammation within the body. Professor Roche and many of her team travelled down to Tralee to support Aoife during the competition.

During her time in UCD, Aoife has been actively involved science and education outreach in conjunction with the UCD Access Centre. She first came to UCD in 2008 under the Higher Education Access Route and has since been involved as a peer mentor for new students under the scheme.

UCD Musical Society takes a bow at AIMS awards

The UCD Musical Society recently celebrated their first ever win at the Association of Irish Musical Societies (AIMS) awards. They received the AIMS award for Best Stage Management for their production of Bonnie & Clyde. This Irish premiere was staged in the Astra Hall in the UCD Student Centre from November 18th to 22nd 2014. The society expressed their appreciation to member Katie Lyons and her backstage team for their hard work which resulted in this achievement.

UCD Debating team reaches European final

A debating team from UCD reached the final of the European Universities Debating Championship (EUDC), the most important and most influential tournament in the discipline, which is considered the highlight of the debating season in Europe. This competition between universities and their affiliated debate societies takes place annually in the summer. This year, Vienna played host.

After three days and nine rounds of debating, two of the four teams representing UCD at the EUDC made it to the semi-finals of the competition: the Literary & Historical A team, Eoin MacLachlan and Clíodhna Ní Chéileachair, and Law Society A team, Paul O’Dwyer and Aodhán Peelo. The University of Oxford and the University of Cambridge each had one team in the semi-final.

The Law Society A team progressed to the final but were ultimately beaten by a team from St Andrews University, Scotland.

All teams were trained over the summer by UCD L&H alumnus Susan Connolly, who described the Law Society A team’s feat of reaching the final as a “phenomenal achievement”. “You have to remember there were 210 teams altogether competing in this



The UCD Law Society delegation (top l-r, Isabel Cooke, Kevin Roche, Aodhán Peelo, Paul O’Dwyer. Bottom l-r Fionnán Long, James Greene, Luke Murray) at the European Universities Debating Championship (EUDC). The Law Society A team of Paul O’Dwyer and Aodhán Peelo progressed to the final but were ultimately beaten by a team from St Andrews University, Scotland

championships and there would have been teams that would be historically dominant in the competition, such as the University of Oxford, the University of Cambridge, Glasgow University and the University of London,” she said.

The other two teams representing UCD at the championships were: L&H B, Carl Whelan and Niamh Harford; (LawSoc) B, Kevin Roche and Isabel Cooke.