University College Dublin

# Report of the President

September 2013 - August 2014

**Report of the President**
**University College Dublin**
**National University of Ireland, Dublin**

September 2013 - August 2014

# Contents

# Overview by the President

*UCD's transformed Belfield Campus.*



**Professor
Andrew J. Deeks
President**

It is only fitting that in reflecting on the achievements of UCD over the year I start by acknowledging Dr Hugh Brady, who presided over the first four months of this academic year and for the previous 10 years. Under his leadership, UCD moved into the realm of world-class universities. He successfully led UCD through the introduction of semesterisation and the reform of the curriculum (*UCD Horizons*). He ensured significant enhancement of the campus, backed by generous support from private donors, alumni and students. He oversaw huge increases in research grant income, and the development of multi-disciplinary research institutes addressing major global issues. These are all characteristics of a world-class university and place UCD in a good position to face the challenges that lie ahead.

On behalf of our community I thank Hugh for his vision, leadership and dedication to University College Dublin. I wish him every success in his future endeavours.

## Development of the New Strategic Plan

A key activity that has occupied much of the period since I took office on 1 January 2014 has been the consultation process around developing a new strategic plan to guide the University to 2020. This has involved a wide-ranging open discussion with the UCD community and with our key stakeholders. I am pleased to report that my visits to Schools, Institutes, support units and other engagements have been a very positive experience that demonstrated the commitment and enthusiasm of those who treasure this University and its role in society.

## University Management Team

Early in January, I set about providing greater clarity around the decision-making process across the University, by simplifying the University Management Team (UMT)

and appointing a number of sub-groups to cover the key areas of operation. I would like to pay tribute to the previous UMT members and the current members for the advice and support they have given me. I would also like to thank the Academic Council members and our Governing Authority, in particular Mr Dermot Gallagher who stepped down after serving five years as chairman. UCD owes Dermot a debt of gratitude for the leadership and support he has shown the University over this period. I also note the tremendous input from the UCD Finance, Remuneration and Asset Management Committee, chaired by Mr Ron Bolger.

## Education

As the Registrar and Deputy President, Professor Mark Rogers will report, UCD consolidated its position as the university of first choice in Ireland, with a further increase

in CAO first preferences. For the first time, over 9,000 students placed UCD as their first preference on their college application. This is an indication of the high regard in which our education offering is viewed in Ireland, and the professional way we engage and support prospective students in making their choices.

Similarly, on an international front, we have made progress attracting over 6,000 international students (24% of students) for the first time to our Irish campuses. Combined with some 5,000 students taking UCD programmes overseas, our global footprint is expanding, but more needs to be done in this area to increase our global profile and to ensure that our students take full advantage of studying in a diverse learning environment.

A key area of expansion is in graduate programmes and graduate students now account for some 30% of the students on our Irish campuses. I am pleased to see that international collaborations are becoming a growing feature of our graduate programmes. In addition, our membership of Universitas 21 is providing many valuable opportunities for staff and student mobility at all levels. As are other programmes such as Erasmus Mundus, which is supporting staff and student experience in India, Israel, Latin America and South Africa.

## Research and Innovation

In appointing Professor Orla Feely to the new position of Vice-President for Research, Innovation and Impact, my intention is to create an integrated approach all the way from our research activities, through innovation and commercialisation, and on to the articulation of the impact of these activities on the wider world. I also want to bring into the agenda the wider impact on society of our research activities in the social sciences, arts and humanities.

I would like to thank Professor Des Fitzgerald for his ten years of very successful leadership of UCD Research. In his role as Vice-President for Research he oversaw a huge increase in funding awards, publication rates and impact. I wish him well in his role as College Principal of UCD Health Sciences.

I would also like to acknowledge the significant contribution played by Professor Peter Clinch as Vice-President for Innovation, and thank him sincerely. As will be outlined later in the Report, UCD's progress in innovation has made great strides under Peter's leadership, as well as those before him, and now makes a significant contribution to Ireland's innovation ecosystem.

As Professor Feely will outline in her report, UCD researchers were awarded €114 million this year. This represents a five year high and is a tremendous performance considering there was no large Science Foundation Ireland Centres funding call awarded, as in the preceding

*Pictured (l-r) at the official opening of the UCD O'Brien Centre for Science, October 2013: UCD President, Dr Hugh Brady, Dr Denis O'Brien, donor; Minister for Education and Skills, Ruairi Quinn TD; and Dermot Gallagher, GA Chairman.*

year. Notably this included a 40% increase in competitive European Commission funding. Our funding focus will now be firmly fixed on Horizon 2020 and securing a major portion of Ireland's €1.25 billion funding target from the programme. This will not be easy but building on our funding success and targeting our efforts should help us succeed in securing our research programmes for the next period.

Our international research reputation is vital in developing new collaborations, opening up new funding opportunities and helping to attract the best international students. One such measure of success highlighted in the Report is the number one rankings for citations UCD achieved in Agricultural Science, and Food Science and Technology. This is a major achievement and recognises the world-class talent we have in these fields. I congratulate all concerned.

Many examples of our innovation success are also featured in the Report including award winning spin-outs such as OxyMem and the funding success achieved by Logentries, and others. During the past year our researchers reported a total of 59 inventions, numerous patent applications, licensing agreements and the formation of three new UCD spin-out companies. This success is facilitated by NovaUCD and the team of specialists who work with our leading researchers.

## Student Experience

Our students are the lifeblood of the University, and I have enjoyed engaging with them over the year through various groups, as well as the societies and clubs that are so fundamental to university life. I would like to take this opportunity to thank Dr Martin Butler, who retired earlier in the year. Martin held the role of Vice-President for Students since 2007, and played an important role in cultivating the holistic development of our students and championing the expansion of facilities, such as the new student centre, for them and the wider community.

In order to promote the central importance of a positive and holistic student experience, I formed the UMT Student Experience group, which will bring many of the issues affecting students directly to the UMT for decisions.



*UCD President, Professor Andrew Deeks, pictured at the UCD Bloomsday awards ceremony 2014, with honourees (l-r): Chief Justice, The Hon Ms Justice, Susan Denham; Former President of Ireland, Ms Mary McAleese; European Ombudsman, Ms Emily O'Reilly; Professor of Human Rights at LSE, Professor Conor Gearty; and Director General of FLAC, Justice, Ms Noeline Blackwell.*

## Colleges

Our Colleges and Schools, and associated Research Institutes, are the engine room of our teaching, research, innovation and outreach activities. I will leave it to the College Principals to outline the success of the past year in their Reports. Needless to say I am very grateful for their leadership and I thank Professor Brian Nolan, UCD College of Human Science, and Professor Gerry Byrne, UCD College of Engineering and Architecture, who stepped down as principals at the end of the year. I look forward to working with Professor Colin Scott, incoming principal, UCD College of Human Sciences, and Professor David FitzPatrick, incoming principal, UCD College of Engineering and Architecture.

## Finance

State funding to UCD continues to decline and negatively impact the sustainability of our operations. This year our core recurrent grant funding was reduced by 13% compared to the previous year. This reduction, combined with demographic trends predicting an increase in demand for higher education over for the next 10 years, puts the University in a very difficult situation. So far we have continued operations through the efforts of staff to make savings and generate non-Exchequer income, most notably by the recruitment of both undergraduate and graduate international students. The Minister for Education and Skills has established an expert group to consider the long-term funding of the higher education sector, but we need a solution now that gives us clarity and enables us to produce multi-annual budgets and plan for the future. I and my colleagues in the sector are redoubling our efforts to achieve a viable solution to this funding crisis.

## UCD Foundation

This past year was a milestone for UCD Foundation, in more ways than one. It marked the formal opening of two landmark new buildings on our



*Pictured (l-r) at the launch of the UCD Student Charter: Dr Barbara Dooley, Chair of Academic Council on Discipline (ACCD); Dr Owen Doyle, Chair of ACCD Student Charter sub-group; Micheál Gallagher, UCDSU President; and UCD President, Professor Andrew Deeks.*

now transformed Belfield campus: the UCD O'Brien Centre for Science, and the UCD Sutherland School of Law. The year also saw the most successful fundraising efforts in the Foundation's sixteen year history, with €12 million donated to the University by our generous community of alumni and supporters. This has contributed in a threefold increase in income in the last four years.

As a result, I am pleased to report that UCD was in a position to offer 295 scholarships to high performing and under-represented students through the *UCD Ad Astra Academy*, and the Aspire and Access scholarship programmes. In addition, 20 postdoctoral fellowships were funded through the Newman Fellowship Programme, which was established to support postdoctoral researchers in the early stages of their academic career.

Through the Foundation, the University was also able to appoint three sponsored professorial chairs in areas of strategic importance: Global Leadership; the Business of Biotechnology; and Petroleum Geosciences.

The impact of philanthropy inspires confidence in UCD's future as one of Europe's leading research-intensive universities. This is made possible through the support of 4,000 donors and three hard working Foundation Boards: UCD Foundation, Ireland; Friends of UCD, UK; and John Henry Newman Foundation, USA. I offer my sincere thanks to all involved.

Other significant development campaigns underway include the campaign for UCD School of Business, and the UCD Confucius Institute for Ireland.

Building on its international reputation, academic excellence and thought leadership, the vision for UCD School of Business is to further enhance its position as one of the top schools in Europe.

To support this plan, the School embarked on a special fundraising campaign entitled *Extending our Edges of Excellence*. To date, UCD Foundation has worked with the School to secure philanthropic funding towards some of its most urgent priorities - academic chairs in business analytics and aviation finance, and additional support for scholarships.

UCD is proud to be the home of the Confucius Institute for Ireland. Over the past eight years, the Institute has become an important platform for the study of Chinese language, culture and business, and it has gained a strong national reputation. The demand for its training and other services has grown significantly, especially on behalf of companies interested in doing business with China.

To accommodate the higher demand for its services, and the need for additional space, the UCD Confucius Institute has plans to move to a new, dedicated, state-of-the-art building, to be constructed beside the new Upper Lake at Belfield.

In June, I was delighted to welcome the Minster for Education, Ruairi Quinn TD, and a high-ranking government delegation from the People's Republic of China, led by His Excellency, Mr Liu Yunshan, to the official foundation stone laying ceremony. The event was an opportunity to showcase the Institute's work as a vital resource for business growth, and brief Irish and Chinese senior business leaders on the important initiatives underway, including UCD's strategic partnerships with Chinese educational institutions.

## Reconnecting with Alumni

The difference between a good and a great university is the support of its alumni and friends in enabling it to pursue excellence. In order to encourage engagement with alumni, we completed the largest ever survey of our graduates. More than 7,000 alumni participated in the survey and helped us shape our future programmes. We also launched *UCD Champions - Changing Futures,* a new campaign inviting graduates to deepen their involvement with their *alma mater*. As a result, 1,400 UCD Champions have contributed €521,000 to fund scholarships in the year ahead, firmly establishing the tradition of graduates supporting their university into the future.

I congratulate Aine Gibbons, Vice-President for Development, and her team for the success I have outlined above and for the exciting plans they are putting in place. Through their work and the support of UCD's alumni and friends I am confident that UCD will continue to offer a world-class education to a widening community of scholars.

## Staffing initiatives and HR policy developments

UCD's staff are fundamental to its success. Under the leadership of the Vice-President for Staff, Eamon Drea, many improvements to HR-related processes have occurred in the past twelve months. Devolution of post and other related approvals to Colleges has taken place, which will contribute to enhanced decision making. Separate from this, Recruitment Service Level Agreements have been put in place and staff management reports continue to be enhanced, making increased amounts of critical information available online. At a sectoral level, collaboration has taken place with colleagues resulting in the launch of an Irish Universities Jobs Portal.

The implementation of the Haddington Road Agreement continued and this has resulted in changes to a number of HR polices. The University has implemented increases in working hours, salary adjustments, changes to sick leave, incremental payments and annual leave policies. The flexibility and commitment of all staff have been greatly in evidence during this period, for which I am very grateful.

The University has also been working constructively to provide opportunities for development and advancement of our staff. A University Staff Recognition policy has been approved and activities in support of it will begin in the coming academic year. I am delighted that academic promotion rounds have been successfully completed and the policies surrounding these will also be reviewed in the coming year. A list of those promoted to Associate Professor and Professor can be found at the end of this Report.

I am pleased that the UMT has also agreed the next phase of development for postdoctoral research staff, which will further enhance the development experience for them. Following the successful pilot of the Staff Internal Mobility policy for certain levels of staff, it has now been extended to all staff.

Targeted development programmes have also been initiated and the response to these has been very encouraging. The Staff Learning and Development website has been revised as a one-stop-shop for the development needs of all staff.

## Campus Developments

In addition to the opening of the two world-class buildings I mentioned above, the Minister for Research and Innovation, Seán Sherlock TD, officially opened the research facility for Systems Biology Ireland, in December 2013. These state-of-the- art facilities enables the Institute to continue its work to design new therapeutic approaches to diseases, with a focus on cancer.

The development of more student residences is a welcome initiative that will see some 3,110 students living on campus by 2016. The connection with Dublin and its visitors will be enhanced through the proposed development at Newman House of an exhibition to celebrate Irish culture, heritage and literature.

Work is ongoing to develop the brief and identify funding sources for the redevelopment of the Newman Joyce precinct and phase three of the UCD O'Brien Centre for Science.

The campus environment has also benefited with the donation of three new outdoor artwork pieces created by Paddy Campbell, Rowan Gillespie and Catherine Greene. The campus now has one of the largest and most diverse collections of contemporary sculpture in Ireland, a great amenity for all who work and study here and for the local community.

The environment of the campus and health of our students and staff will be promoted through the ban on sale of tobacco from September 2014. A group chaired by Professor Joe Carthy is consulting stakeholders on how we can achieve a smoke-free campus in time.

As I enter my first full academic year at UCD, the dedication and commitment that the staff, alumni and supporters have to this great institution is evident to me. For UCD to prosper we must harness that energy and work together towards a shared vision of the future. I trust that our new strategic plan when complete will provide that focus to move us firmly into the vanguard of world-class universities. UCD must demonstrate its ability and claim its rightful place globally.

On a personal note I would like to thank all who so warmly welcomed me to the campus and, indeed, Ireland. UCD is my new home and I look forward to reporting on progress in my next report.

Professor Andrew J. Deeks
President

*31st August 2014*

*At the UCD Sports Awards 2013/14, UCD President, Professor Andrew Deeks presents the Dr Tony O'Neill Sportsperson of the Year award to International swimmer Shauna O'Brien, in recognition of her 50 metre butterfly short course and 100 metre butterfly long course Irish records.*

# UCD by Numbers

## UCD Student Statistics Ireland Campuses

| | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 |
|---|---|---|---|---|---|
| **Total:** | 24,225 | 24,625 | 24,914 | 25,509 | 26,354 |
| Undergraduate | 15,925 | 16,157 | 16,127 | 16,340 | 16,301 |
| Graduate Taught | 4,792 | 5,051 | 5,235 | 5,629 | 6,243 |
| Phd | 1,828 | 1,743 | 1,752 | 1,642 | 1,596 |
| Occasional | 1,405 | 1,461 | 1,587 | 1,686 | 2,018 |
| Masters Research | 275 | 213 | 214 | 212 | 196 |
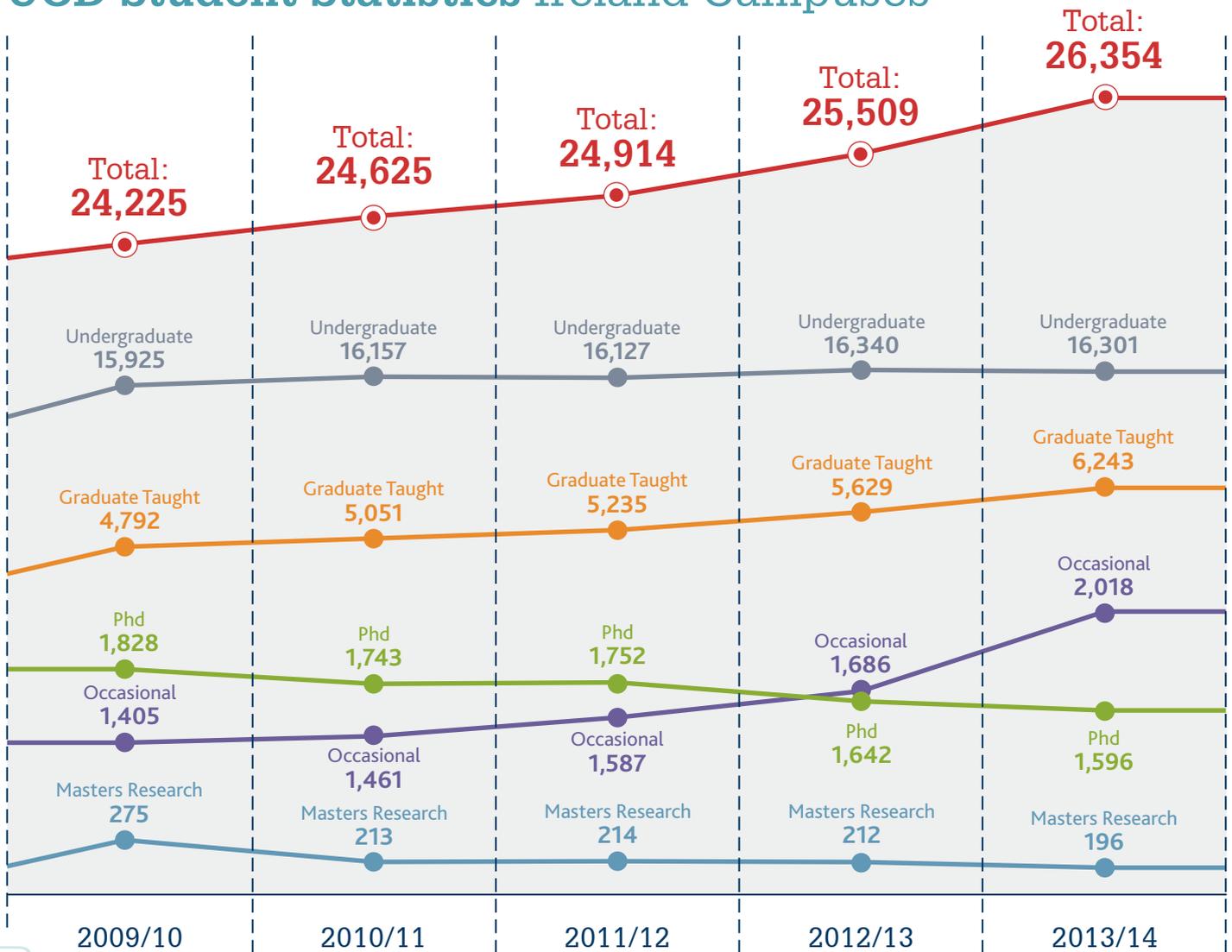
# UCD Student Statistics Overseas Operations

Total:
**3,095**

Singapore - **1,881**
Sri Lanka - **409**
Hong Kong - **446**
Spain - **310**
Fudan - **49**

Total:
**3,921**

Singapore - **2,296**
Sri Lanka - **691**
Hong Kong - **524**
Spain - **275**
Fudan - **135**

Total:
**4,951**

Singapore - **2,952**
Sri Lanka - **1,123**
Hong Kong - **525**
Spain - **220**
Fudan - **131**

Total:
**5,360**

Singapore - **3,394**
Sri Lanka - **1,247**
Hong Kong - **403**
Spain - **154**
Fudan - **138**
Beijing - **24**

Total:
**5,448**

Singapore - **3,263**
Sri Lanka - **1,441**
Hong Kong - **331**
Spain - **124**
Fudan - **32**
Beijing - **255**
Penang - **2**

| | | | | |
|---|---|---|---|---|
| 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 |

(y-axis: 2,000 / 2,500 / 3,000 / 3,500 / 4,000 / 4,500 / 5,000 / 5,500)

# UCD Undergraduate/ Graduate Breakdown

**100%** 26,354
in Ireland

**70%**
18,319

**30%**
8,035

2013/14
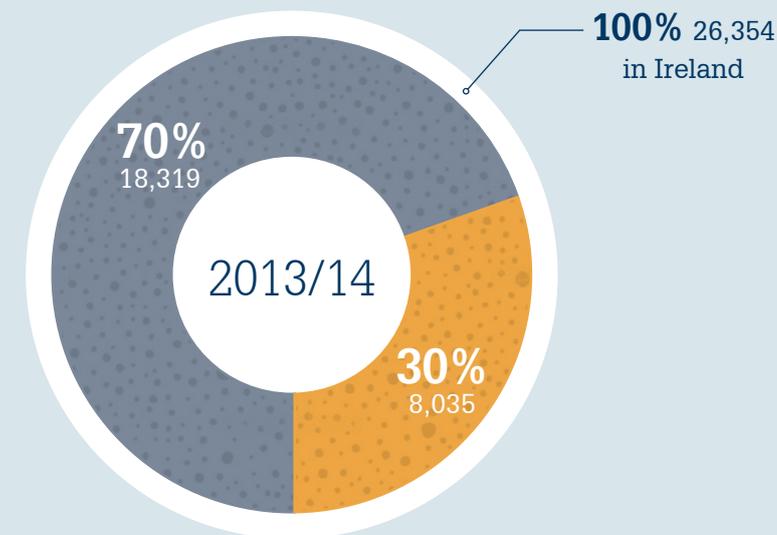
■ Undergraduate   ■ Graduate

# UCD Male/Female Students

**48%**
12,572

**52%**
13,782

2013/14

# UCD International Students
## in Ireland

**Total:**
**24,225**

Irish
**19,580**

Non-Irish
**4,645**

**2009/10**

**Total:**
**24,625**

Irish
**19,934**

Non-Irish
**4,691**

**2010/11**

**Total:**
**24,914**

Irish
**19,817**

Non-Irish
**5,097**

**2011/12**

**Total:**
**25,509**

Irish
**19,940**

Non-Irish
**5,569**

**2012/13**

**Total:**
**26,354**

Irish
**20,016**

Non-Irish
**6,338**

**2013/14**
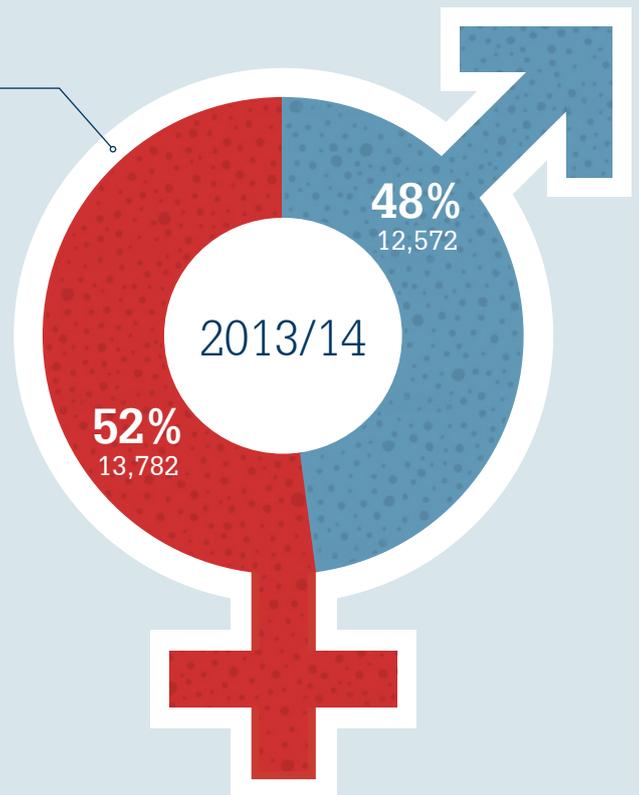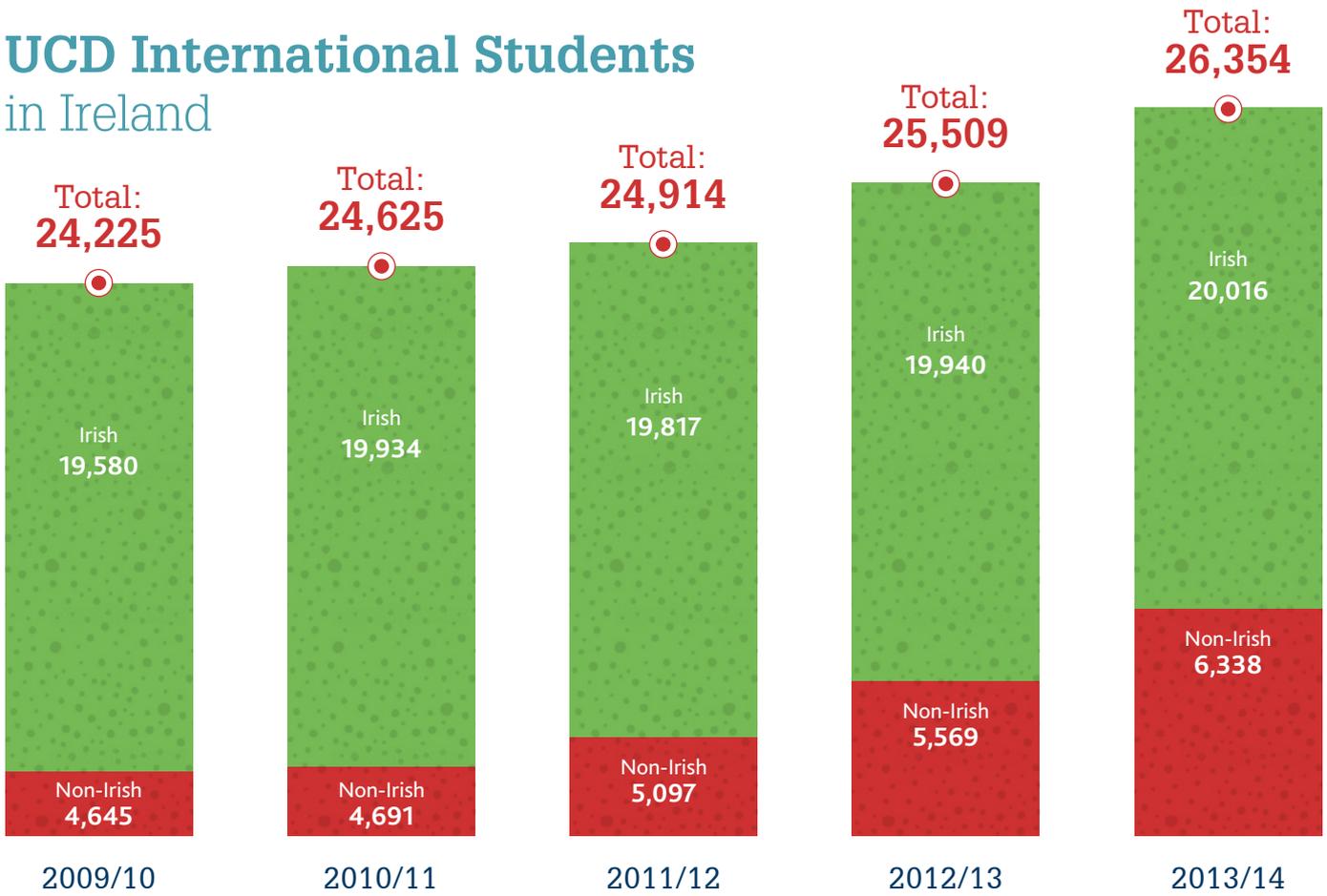
# UCD International Students by Region

**1,474**
North America

**1,770**
EU

**143**
Europe

**439**
Great Britain

**280**
Northern Ireland

**161**
South America

**264**
Africa

**1,713**
Asia

**94**
Oceania

(2013 / 2014)
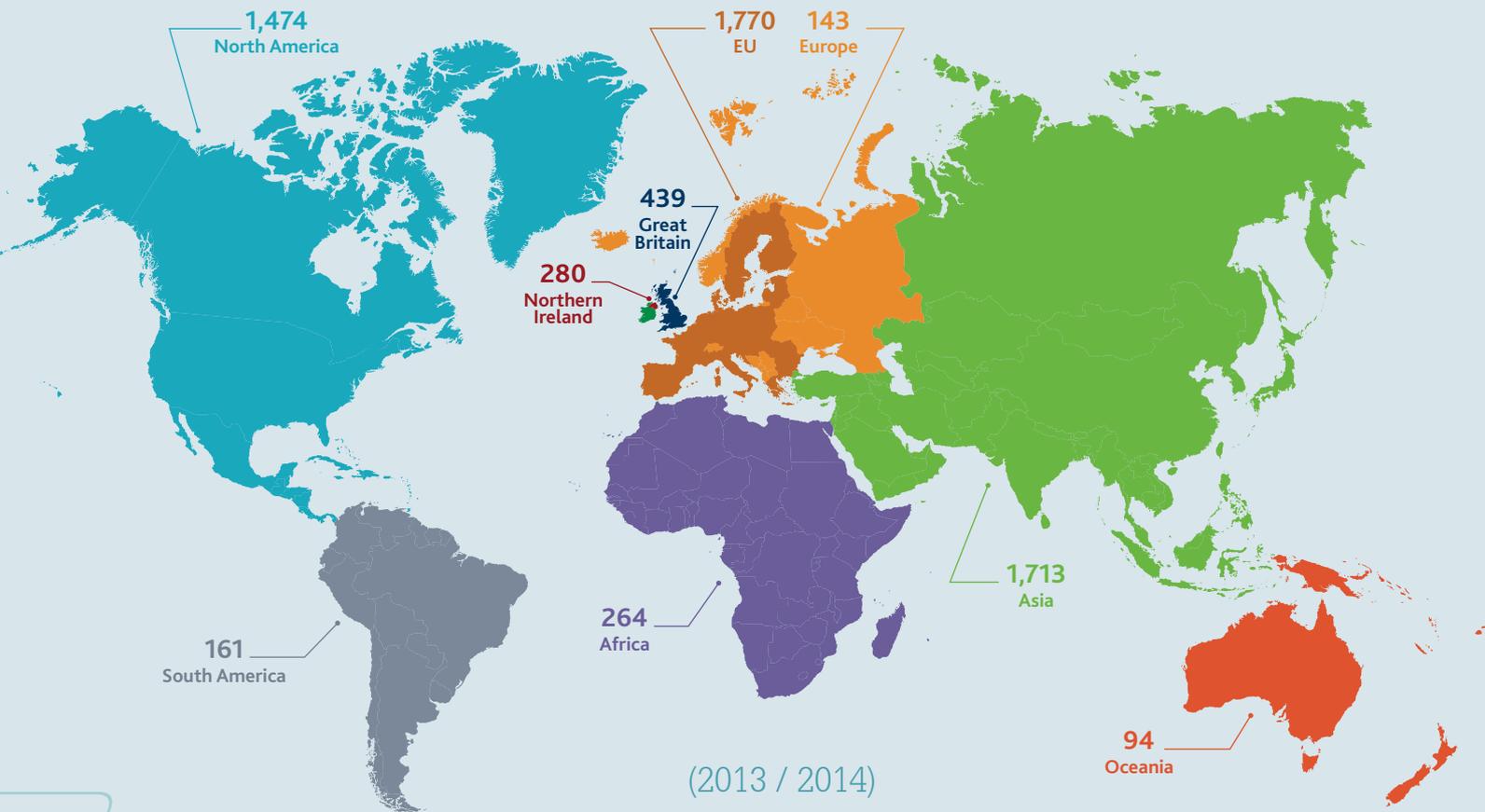
# UCD First Preferences CAO Applications

8,197

7,945

8,731

8,918

9,327

2010    2011    2012    2013    2014
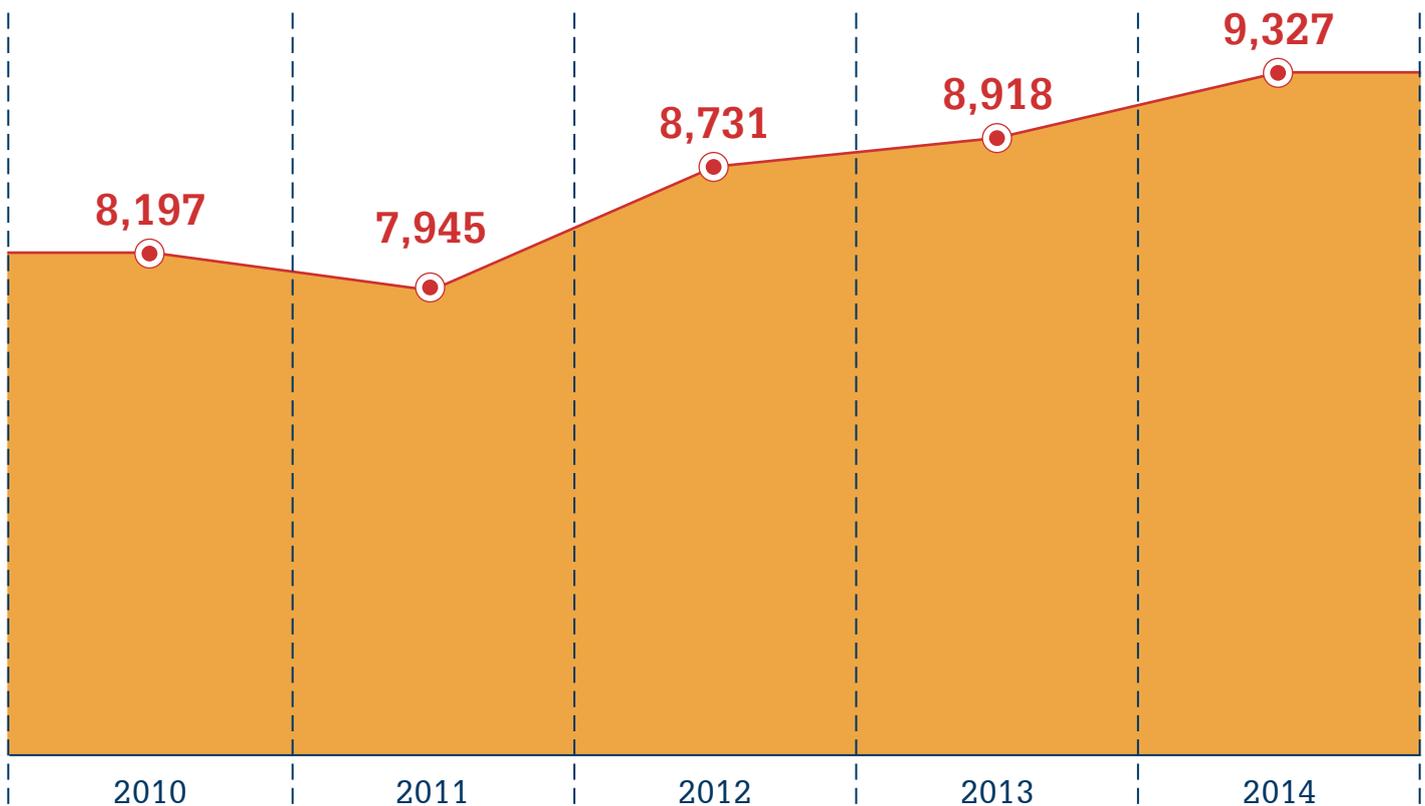
# TOP 20 Countries UCD Alumni

**1.** Republic of Ireland
117,892

**2.** Singapore
5,881

**3.** Great Britain
3,295

**4.** USA
2,750

**5.** Northern Ireland
2,202

**6.** Sri Lanka
2,202

**7.** Hong Kong
2,046

**8.** People's Republic of China
990

**9.** Spain
944

**10.** Canada
764

**11.** Malaysia
568

**12.** Australia
460

**13.** Germany
438

**14.** France
394

**15.** Italy
273

**16.** Belgium
222

**17.** India
211

**18.** The Netherlands
178

**19.** Switzerland
139

**20.** Vietnam
115

# Education

*Over 6,000 international students attend UCD's Irish campuses.*



**Professor
Mark Rogers
Registrar and
Deputy President**

## Introduction by the Registrar and Deputy President

Pioneering and innovative curricular structures mark UCD out as a leader in delivering a world-class student centred and research focused education. Combined with exacting teaching standards, robust educational leadership, and progressive technological developments, they provide the foundation and opportunity for further enhancement of the UCD education experience. I am pleased to report that the academic year 2013/14 saw significant advancements in fostering early and lasting student engagement, formative and summative evaluation of the student experience and a campus-wide engagement to identify aspects for improvement both inside and outside the classroom.

Working collectively, UCD consolidated its position as the university of choice in 2014, with an increase of 8.4% in CAO first preferences, breaking through the 9,000 first preference mark for the first time. Reflecting this continuing rise, there was an increase in first round CAO points on two-thirds of UCD degree courses.

In the sphere of graduate education we have made good progress in both the numbers of students taking taught and research programmes, and the innovative form of some of our new programmes. I would like to thank Professor Julie Berndsen, who recently stepped down as Dean of Graduate Studies, and Deputy Registrar, for her dedication, contribution and leadership in this area. Dr Barbara Dooley will take up this post from 1 September 2014.

In an innovative development to bring academic, research, administrative and support colleagues together, to consider the challenges that changing technology brings, IT Services, the Library and Registry collaborated to deliver the inaugural *Work Smarter Together* staff event in March 2014. The event was well received with 250 delegates attending to learn from one another as well as industry leaders, including keynote speaker, Lord David Puttnam (Digital Champion for Ireland).

Our Irish campuses are now home to over 6,000 international students with a further 5,000-plus studying overseas. These students make a valuable contribution to University life as well as spreading UCD alumni globally. Credit is due to the academic and support staff who develop the relationships and recruit these students. Outgoing student exchanges have also prospered giving our students a truly international view.

The report below details these and other developments over the period.

As we develop and rollout our new strategic plan I am confident that the foundations we have built will allow us to continue to deliver a world-class education experience for both Irish and increasing numbers of international students.

Professor Mark Rogers
Registrar and Deputy President

## Strengthening and Enhancing Academic Disciplines

### Academic Development

Informed by current international field research, UCD continues to invest in quality teaching and in supporting staff to develop teaching repertoires based on best practice in higher education. This ensures that UCD students learn in the most effective educational environments, allowing them to reach their full potential in terms of learning and skills development. Twenty nine UCD staff are currently involved in accredited programmes in University Teaching and Learning, and two additional Continuous Professional Development (CPD) modules in University Teaching and Learning have been developed and will be offered as stand-alone short modules in the coming year. Support for staff development in the areas of teaching, learning and assessment skills also incorporates teaching and learning expertise at a disciplinary level, encouraging staff to understand and implement not only general pedagogy but also the most appropriate and impactful educational approaches in particular academic disciplines.

UCD support for teaching and learning has focused on delivering educational and pedagogic advice, assistance and supports to Schools and Programmes, tailoring the service to the specific needs of individual groups of academics. The most sought after of these customised School development initiatives are the First Year Assessment Re-Design, and Facilitating Self-Assessment of Teaching and Learning for Quality Review programmes.

Working with UCD School personnel, UCD Teaching and Learning provide customised sessions to build up a diagnostic overview of Schools' activities. These can then be explored in further detail to determine local priorities and actions that Schools may wish to develop further.

### Teaching and Learning Fellowships

Following a highly competitive selection process, seven new Fellows in Teaching and Academic Development were appointed in April 2014, and represent a spread of disciplinary expertise. The chosen theme for the Fellowships (2014 - 2016) is exploring and developing research-teaching linkages in the delivery of high quality student learning.
The 2014 Fellows are:

- Dr Lorraine Brennan, UCD School of Agriculture and Food Science
- Dr Mike Casey, UCD School of Chemistry and Chemical Biology
- Dr Tara Cusack, UCD School of Public Health, Physiotherapy and Population Science
- Dr Eamonn Delahunt, UCD School of Public Health, Physiotherapy and Population Science
- Dr Suzanne Donnelly, UCD School of Medicine and Medical Science
- Dr Kathrine Howell, UCD School of Medicine and Medical Science
- Dr Maria Meehan, UCD School of Mathematical Sciences

### Inspired Learning

UCD continues to encourage and facilitate academic development through shared practice. We launched the *Inspired Learning* video series to showcase original approaches of UCD staff in achieving high quality student learning. Two videos, highlighting innovation and excellence in teaching, have been published to date with a further two scheduled for semester one 2014/15.

## Growing and Developing Graduate Education

The expansion of the taught graduate portfolio continues with a further 32 programmes added in 2013/14. Graduate taught enrolment saw a year on year increase of approximately 11% (see Figure 1), with the total number of graduate students increasing by 7.4%. Graduate students now account for over 30% of the entire student cohort on UCD's Irish campuses.

*Figure 1: Graduate numbers*



| | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 |
|---|---|---|---|---|---|
| Graduate % | 28.5% | 28.5% | 28.9% | 29.3% | 30.5% |
| Graduate Taught | 4,792 | 5,051 | 5,235 | 5,629 | 6,243 |
| Graduate Research | 2,103 | 1,956 | 1,966 | 1,854 | 1,792 |
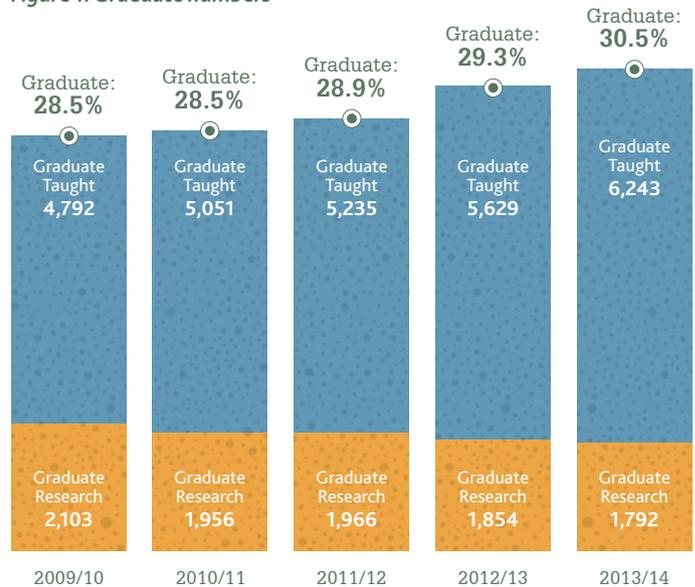
### Programme Development

UCD continues to be the leading provider of graduate education in Ireland, and maintaining this position requires innovation in delivery, programme design and content. This includes developing new online programmes such as the MSc in Digital Investigation and Forensic Computing. The academic year 2013/14 saw the introduction of five new online/blended courses, designed and delivered by academics across four Colleges and ten Schools.

The model of Master's in Computer Science (negotiated learning) has been replicated across the wider science portfolio. The approach allows enhanced flexibility and maximises the educational opportunities provided by a modularised curriculum.

International collaborations are becoming a growing feature of our academic programmes; amongst these is the MSc Global Change: Ecosystem Science and Policy. This is a joint international programme between UCD and JLU Giessen, Germany, and builds on the success of the Master of Humanitarian Action, which is another example of an inter-university, multi-disciplinary graduate programme.

### PhD Support

The enhancement of PhD studies continues and the development of thematic PhDs is central to this activity. As part of that development, Graduate Studies presented the UCD Framework for Thematic Doctoral Programme Development to the UK Council for Graduate Education conference, held in Dublin in July 2014.

The 16 transferable skills workshops offered each year to graduate research students are designed to complement the advanced analytical

and research skillset. The offering is aligned to the Irish Universities Association's PhD Graduate Skills Statement, and aims to broaden the career development needs of PhD students.

**Research Supervisor Development**
The University also provides training workshops for new and inexperienced research supervisors. These workshops present tools and guidelines for developing supervisory best practice and handling research supervisory challenges, ensuring UCD is providing excellent supervision to its students.

UCD has collaborated on securing competitive funding from Universitas 21 for a project to explore and adopt the latest practices in research supervisor support and development. This project was carried out with four Universitas 21 partners (University of Queensland, University of New South Wales, University of Melbourne and University of Auckland) in April 2014. The outcomes of the U21 collaborative project will be disseminated at a research supervision practices symposium, to be hosted by U21, in Shanghai Jiao Tong University, in March 2015.

To promote graduate education more widely, UCD is part of a joint initiative with other Irish universities, to attend recruitment fairs in Birmingham, Manchester and Cardiff, with the aim of marketing UCD Graduate Taught and Research programmes to UK students.

## Delivering and Measuring Quality

In 2013/14, an external quality review of the UCD Quality Office considered the wider quality assurance/enhancement infrastructure within UCD. It concluded that "the University's governance arrangements and processes for quality assurance are more than compliant with statutory and legislative requirements. Further, the arrangements and practices adopted and implemented by the University, under the auspices of the Academic Council Committee on Quality, are fit for purpose and take account of national and relevant European and international best practice."

The participation of senior international university staff in quality review groups helps benchmark UCD's educational and research provision against leading world institutions, and also serves to promote UCD's profile globally. Last year, 21 senior academic staff participated in UCD quality reviews, drawn from eight countries: Australia, USA, Canada, Malaysia, United Kingdom, France, Norway and Belgium.

As part of UCD's ongoing commitment to enhance the student experience, provide academically excellent programmes, and support teaching and learning, 10 units underwent external quality review: UCD Bursar's Office; UCD Research Institutes (Thematic Review); UCD Quality Office; UCD School of Agriculture and Food Science; UCD School of Electrical, Electronic and Communications Engineering; UCD School of English, Drama and Film; UCD School of Chemistry and Chemical Biology; UCD School of Biology and Environmental Science; UCD School of Politics and International Relations; and Penang Medical College, Malaysia (collaborative quality review). Penang Medical College is a wholly owned college of both UCD and the Royal College of Surgeons in Ireland (RCSI). The review of Penang Medical College was, therefore, a joint UCD/RCSI overseas quality review and was the first of its kind by two Irish higher education institutions.

With the aim of placing UCD in a position of advantage in terms of its ability to continue to effectively support the development of innovative collaborative and transnational partnerships with institutions around the world, UCD is developing a user-friendly integrated framework for the approval, monitoring and review of collaborative and transnational programmes.

## Total Number of UCD Graduate Students in Ireland



8,035

* = 100 People Approx
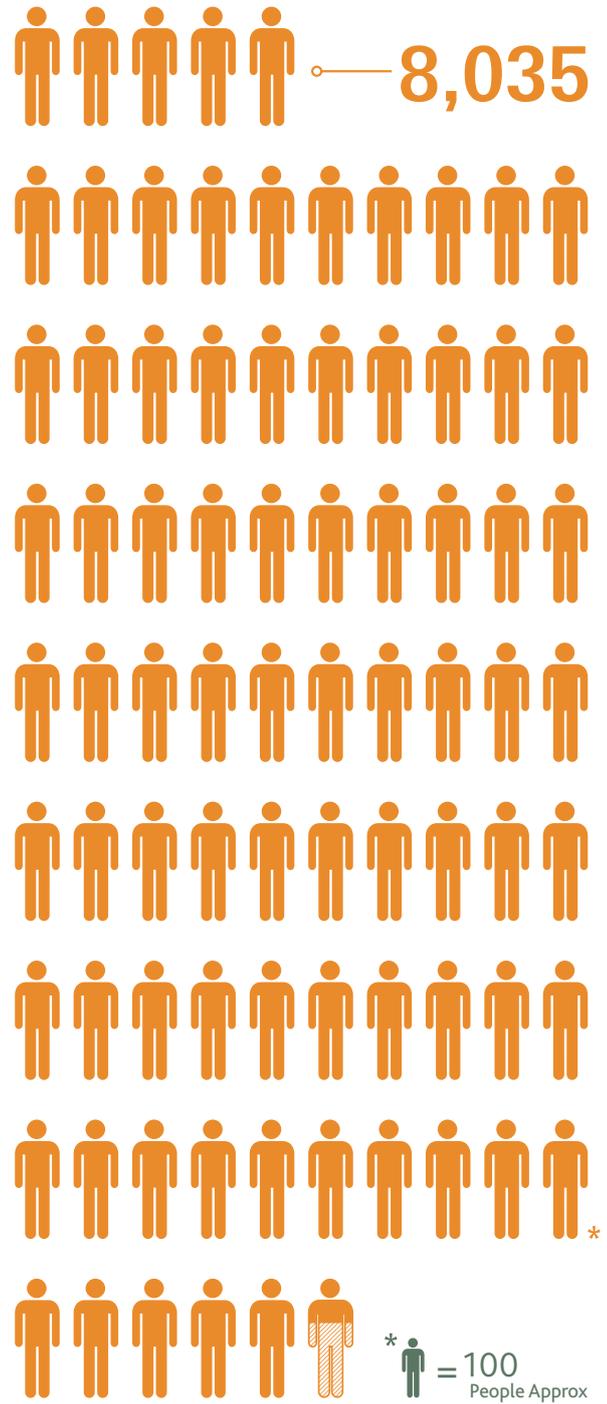
**Overall increase in Graduate student numbers =**

↑ 7.4%

in 2013/14 compared to 2012/13

In all UCD quality reviews, the student voice is critical and this is facilitated by review groups meeting students without UCD staff present. During the year a group of undergraduate and graduate students produced a student podcast to encourage students to make use of all opportunities to provide feedback about their learning experience at UCD.

As part of the implementation of the *Quality Assurance and Qualifications Act 2012*, a new quality assurance framework for Irish universities is currently under development by Qualifications and Quality Ireland, in consultation with relevant stakeholders. It is likely that significant changes in the internal quality review model will be required to ensure that it is appropriately aligned with the revised national framework.

## Student Learning, Engagement and Development

### UCD *Ad Astra Academy*
The UCD *Ad Astra Academy* is an initiative arising from UCD's strategic plan, which recognises and supports talented and motivated students by providing them with a range of tailored supports and opportunities. It is governed by the UCD *Ad Astra* and Scholarships Management Board.

2013/14 saw the third intake of students to the Academy, which, since its inception in 2011, has awarded scholarships annually to high achieving academic, performing arts and elite athlete scholars. This year 94 new scholarships were awarded: 61 Academic, 22 Elite Athletes, and 11 in the Performing Arts. Mentoring is a cornerstone of the scholarship programme, with approximately 40 academic staff mentoring scholars across the three strands.

*Ad Astra* scholars and alumni continue to make their mark, both during and after their time at UCD. Academic scholars have undertaken research placements in prestigious international universities, taken part in internships in major international organisations, and received a variety of academic awards. The performing arts scholars are winning acclaim through professional theatre, film and music performances, while elite athletes have competed at numerous high profile sporting events, including the London 2012 Olympics, and the British & Irish Lions Rugby Tour.

### Enhancing First Year
Students entering university, whether directly from school or after a more prolonged period, face significant challenges. A new staff online resource produced by UCD Teaching and Learning, *Enhancing First Year*, provides a valuable insight into best practice for creating a supportive and holistic learning environment for UCD students in transition.

### Technology Enhanced Student Learning
One of the biggest challenges facing Higher Education in recent years has been finding effective educational approaches that incorporate rapidly-changing educational technology. UCD considers it important to capitalise on the benefits of educational technology in order to improve student learning in a way that enhances and expands more traditional teaching methods and, to this end, the blended e-Learning project continued in 2013/14. The project aims to support staff to facilitate active learning using structured blended educational approaches, including elements of face-to-face teaching, online mediated discussions and both synchronous and asynchronous learning by students. Nine recently designed blended learning modules were reviewed and interim results were presented at the Irish National Forum for Enhancement of Teaching and Learning, and the Irish Learning Technology Association (ILTA) conference in May 2014. Further modules have been redesigned under phase two of this project and these will be implemented during the 2014/15 academic year.

UCD hosted two significant educational conferences in 2013/14, both focusing on the challenges of harnessing digital technology for the benefit of student learning. The Universitas 21 Education Innovation Conference brought together senior academics and university leaders



*Seven new Fellows in Teaching and Academic Development were appointed in April 2014. Pictured (l-r): Dr Niamh Moore, Fellows mentor; Dr Kathrine Howell, UCD School of Medicine and Medical Science; Dr Eamonn Delahunt, UCD School of Public Health, Physiotherapy and Population Science; Dr Maria Meehan, UCD School of Mathematical Sciences; Dr Lorraine Brennan, UCD School of Agriculture and Food Science; Dr Suzanne Donnelly, UCD School of Medicine and Medical Science; Dr Mike Casey, UCD School of Chemistry and Chemical Biology; Dr Tara Cusack, UCD School of Public Health, Physiotherapy and Population Science; and Ms Elizabeth Noonan, Director of Academic Development, UCD Teaching and Learning.*

The 94 new scholars who joined the UCD Ad Astra Academy, pictured (l-r) with: Professor Colin Boreham, Director Elite Athletes; Professor Mark Rogers, Academy Director and Deputy President; UCD President, Professor Andrew Deeks; Professor Liam Kennedy, Director, Academic Scholars; and Tony Carey, Director, Performing Arts Scholars.

from 22 research-intensive universities across the globe. Professor Bairbre Redmond, Dean of Undergraduate Students and Deputy Registrar, was appointed Chair and Academic Lead of the U21 Education Innovation Cluster, in June 2014, with responsibility for overseeing educational projects in the Universitas 21 network.

UCD was also host to the 15th Annual Conference on the Irish Learning Technology Association (EdTech2014). The conference addressed themes ranging from e-assessment and mobile learning to the flipped classroom in higher education. UCD staff from 12 Schools and five units took the opportunity to showcase their work in learning technology, with 28 of the 75 papers presented at the conference being UCD authored.

## Internationalising the Student Experience

The diversity and vibrancy of the UCD student body has been further enhanced as the number of international students exceeded 6,000 for the first time in 2013/14. This has taken the percentage of international students on our Irish campuses to 24%. International student recruitment also diversified further with the arrival of the first group of 96 Brazilian *Science Without Borders* students. In addition, UCD commenced student recruitment activity in East Asia, with the first recruitment missions to Japan, Korea and Taiwan.

The UCD Global Lounge continues to inspire student engagement among both domestic and international students. It hosted over 150 events in 2013/14. Membership of the UCD International Students Society reached 2,200, while the UCD African Students Society was founded and held its first events.

The UCD student exchange programme continued to diversify with an increase in the number of students travelling further afield for a placement. New exchange partners included the National University of Vietnam, Ho Chi Minh City, and the Indian Institute of Technology, Kharagpur.

In 2013/14, UCD Volunteers Oversees (UCDVO) engaged 125 volunteers in its annual volunteer and development education programme. Placements continued in India, Haiti, Nicaragua, Tanzania and Uganda, with students raising over €300,000 to fund development projects in the areas of healthcare, education, technology and infrastructural development. A number of new initiatives emerged in 2013/14, including the City and Guilds Professional Recognition Award for volunteer activity; a new project in Northeast India, in collaboration with the Department of Social Work in Assam Don Bosco University; and the extension of physiotherapy elective placements offered through the UCDVO programme. UCD continued its success in attracting Erasmus Mundus funding, participating in five successful Action 2 consortia in India, Israel, Latin America and South Africa. These will fund and support student and staff mobility between UCD and leading universities and academies in these regions.

### Universitas 21
UCD's membership of Universitas 21 (U21) continues to offer UCD students opportunities to spend time abroad at partner institutions on semester and year-long exchange arrangements. UCD students were also able to participate in important U21 student events in 2014, both at undergraduate and graduate level.

The annual U21 Undergraduate Summer School brings together students from U21 member universities, across all disciplines, to study and share ideas. The 2014 event, *Shaping the Future City*, was hosted by the University of New South Wales, Sydney, Australia, and five UCD undergraduate students won full travel scholarships to represent UCD at the summer school.

A second group of students travelled to Shanghai Jiao Tong University, in China, for the 10th U21 Undergraduate Research Conference on Food Safety. This annual conference aims to attract outstanding undergraduate students from a diverse range of disciplines to showcase their research.

## Widening Participation and Supporting Lifelong Learning

UCD continues to widen participation and to extend opportunities to learners who wish to participate in higher education. An inaugural EXPO took place in March 2014, to highlight the broad range of supports and initiatives across UCD, designed to encourage wider participation. The University targets specific groups of under-represented students with dedicated programmes designed to attract, retain and progress these cohorts, which currently represent 23% of all undergraduate new entrants. The target groups include school leavers from low socio-economic backgrounds, mature students and students with disabilities.

The University continues to develop a systemic approach to outreach, engagement and retention activities. Well established relationships with schools and community groups have broadened access to third level education for the target groups. Outreach activities with link schools engage potential students through taster sessions, summer residential camps and shadowing opportunities. The *UCD Future You* programme,

supported by Citi Foundation, links current UCD students with fifth and sixth year pupils to share information on study skills and university life. UCD also offers access courses for mature students to prepare them for progression to degree programmes while providing dedicated student advisers to make the transition to university as successful as possible for all under-represented groups.

In support of the part-time learning agenda, UCD has expanded a pilot programme, *Open Learning*, to open existing undergraduate modules to a broader constituency of learners. The *UCD Lifelong Learning* programme is also an expression of engagement with our wider community and attracts a large number of adult learners.

The implementation of the recommendations of the UCD Accessibility Audit is moving the University towards its objective of an accessible campus for all students, staff and visitors. Disability awareness, campus accessibility and universal design workshops for staff have been extended across UCD.

UCD brought the first ever European Access Network Policy Seminar to Ireland, which was held in the Department of Education and Skills conference centre in February 2014. This advocacy around widening participation is allied to an emerging research base which informs and shapes UCD's practice. UCD is also leading a sectorial approach to widening participation across the Dublin Region Higher Education Alliance for adult learners. The project fosters collaboration between 12 higher education institutions to clarify and articulate access, transfer and progression routes for mature students. The University was again successful in securing HEA Springboard funding, with two graduate courses in Innovation and Biopharmaceutical Production enrolling during the year.

UCD played an important role in the development of the *Campus Engage Charter for Civic and Community Engagement*, and was one of 20 HEI's that signed up to the charter in June 2014. This is the first time the presidents of both Ireland's universities and institutes of technology have come together to support such an initiative. *Campus Engage* is

| Entry Route | 2010/11 | 2011/12 | 2012/13 | 2013/14 |
|---|---|---|---|---|
| HEAR Scheme Students | 127 | 169 | 193 | 227 |
| Students with Disability (Including DARE) | 145 | 176 | 212 | 218 |
| Mature Students | 188 | 172 | 184 | 158 |
| Part-time Undergraduate Students | 63 | 12 | 6 | 3 |
| FETAC | 49 | 44 | 51 | 68 |
| **Total Under-represented** | | | | |
| Undergraduate Degree New Entrants | 572 | 573 | 646 | 674 |
| **Total Under-represented as % of all Undergraduate New Entrants** | **11.3%** | **11.8%** | **13%** | **13.6%** |
| Part-time Certificate & Diploma Students | 435 | 372 | 350 | 305 |
| Adult Education Students | 348 | 173 | 156 | 153 |
| Total Part-time | 783 | 545 | 506 | 458 |
| Total Part-time as % of all Undergraduate New Entrants | 15.5% | 11.2% | 10.2% | 9.3% |
| **Total Under-represented and Part-time as % of all Undergraduate New Entrants** | **26.8%** | **23.1%** | **23.1%** | **22.9%** |

*Based on total numbers of UCD students in Ireland

*Table 1: Under-Represented Undergraduate Degree New Entrants*

focusing on building on the charter to develop civic engagement as a core dimension of higher education. As a result of initiatives and supports, the participation level by targeted, under-represented cohorts has risen to 13.6% (see Table 1).

## Delivering Library, Information and Knowledge Management Services

UCD Library has delivered a diverse and expanding set of innovative services to its constituents in support of teaching and learning and research, while substantially developing its role as a keeper of Irish cultural heritage.

A series of user feedback activities in 2013/14 commenced in November, with the theme *The Library that Listens*. Users were asked for their opinion about recent refurbishments in the James Joyce Library, and what their preferences were for developing new learning spaces. The 1,100 responses provided a perspective on the future utilisation of library spaces, identifying a range of supported learning spaces that library users would like to see: more quiet study spaces, presentation and practice rooms, maker spaces with 3D printers, and access to video conferencing facilities. Outcomes of the survey have also guided and affirmed more immediate improvements: provision of student support services within library spaces; introduction of early opening hours at end of term; improvements in wireless services; and access to electrical power.



*Representing UCD Volunteers Overseas, winners at the 2013 Better Together awards, were (l-r): Professor Frank Monahan, UCDVO Chairperson, UCD School of Agriculture and Food Science; Dr Oonagh Breen, UCDVO board member, UCD School of Law; Ms Caroline O'Connor, UCDVO manager; Ms Zoe Liston, UCDVO programme assistant; and Sean O'Connell, volunteer, UCD Law graduate.*

Services at the Library's five sites in Belfield and Blackrock increased opening hours, with additional early morning hours during the final six weeks of term. The experience of using the Library improved, particularly at the James Joyce Library, where refurbishments to Level 1 introduced the Library Hub (a social learning area) and the Library Link (a learning space used by the Library, the Maths Support Centre, and the Academic Writing Centre to advance students' academic success). A new service desk has been installed, complemented by an expanded array of self-service options. These activities informed the Library's contributions to planning the overall refurbishment of the James Joyce Library and Newman buildings.

August 2014 saw the launch of *OneSearch*, a new system for discovering and searching across the Library collection. The new system offers a single search box, providing instant access to the breadth of scholarly content that is held by UCD Library.

The Library supports student learning through service points and a structured educational programme. The Library's educational offerings have diversified to address particular areas of need, including support for first year students and the transition to university study. The overall framework for delivery of learning supports is now cast in an innovative Learning Support Framework, designed to provide just-in-time support for self-directed learners, in-class instruction, and the embedding of library curricula in modules to further enhance graduate attributes.

The Research Services unit supports key University data and information management systems. These include the UCD Research Repository, a publications repository that, through integration with the Research Management and Profiles System, enables UCD researchers to meet funder open access requirements. The repository amplifies the impact of UCD research outcomes generally; downloads are approaching the one million mark with most activity originating in the US, UK, Ireland and China. The Research Services unit collaborates programmatically with the UCD Research Office on a range of shared activities, including development and integration of online systems and supports for funder compliance requirements. This reflects the broader theme within Academic Affairs of *Working Smarter Together* - which emphasises the benefits arising from coordination of activities across administrative boundaries.

Irish Cultural Heritage has been a key theme in the UCD Strategic Plan, and Library activity in this area also reflects the collaborative ethos of the Library in general. The Library has sponsored planning for disaster recovery across the major heritage repositories at UCD, and has contributed to efforts to find new ways of better managing UCD's heritage and research collections in general.

It has also been the recipient of outstanding new collections, notably the personal library of Irish poet Thomas Kinsella, and the superb collection of early Yeats imprints and manuscripts from UCD alumnus Joseph Hassett.

2014 saw the upgrade of InfoHub, a management reporting tool, to utilise the latest web responsive technology which works on tablets and smartphones. Ongoing enhancements have been made, particularly to curriculum management, grade-book and web access to student information. Throughout the University there has been a transformation as the working model has migrated from paper-based to online. Identity management has been implemented to administer the provision of services more effectively and this has facilitated UCD in collaborating on inter-institutional projects.

The delivery of IT infrastructure for new building developments enabled the hosting of two major European IT conferences in 2014: *TERENA* (Trans-European Research and Education Networking Association); and *Blackboard and EdTech 2014* of which a total of approximately 1,200 delegates attended. UCD was the first Irish university to connect campus buildings (UCD O'Brien Centre for Science and the UCD Sutherland School of Law) to the internet using 10GB connectivity, thereby providing greater speed of access for the user.

During this reporting period, UCD participated in the annual Educause Centre for Analysis and Research (ECAR) survey on student demand for technology, which provided a baseline for requirements. The survey results indicated that wireless and mobile services, the UCD app (with



*In February 2014, the UCD Community Musical, comprising students, staff and alumni, staged a performance of Jesus Christ: Superstar, in O'Reilly Hall.*

over 30,000 downloads) and anywhere/anytime services meet student demand and enrich the experience. It also indicated that 95% of UCD students own a laptop and 70% own a smart phone, with many owning more than one mobile device. The move to Google email has increased personal storage and enabled email for life for UCD graduates, and a range of brokered external services augments the IT offering for students.

With 67,000 unique devices (representing a 60% annual increase) connected to the wireless network in a given month during term time, the recent upgrade to UCD Wireless has ensured provision for increasing future demand.

Supporting UCD's research-intensive and inter-disciplinary strategy, IT Services hosted and leveraged the ICHEC service (Irish Centre for High End Computing) to provide effective long-term computer capacity. Complemented by training, consultancy and software services, the platforms for computation, storage and hosting delivered by IT Services provide long-term research infrastructure for UCD.

UCD's integrated systems and portal based IT services provide the flexibility for multi-institutional collaboration and have supported the *Innovation Alliance* and other strategic partnerships by providing user accounts, wireless services and research and learning platform-access to multiple institutions.

UCD is unique in Irish Higher Education in its provision of open access wireless service to its community, thereby encouraging an open and accessible campus environment, where student information, registration, and online module selection have been restructured to provide a seamless online experience.

## Delivering Excellence in the Student Experience

UCD continuously strives for best practice in the delivery of services to our students by placing them firmly at the centre of our endeavours. April 2014 saw the launch of the *UCD Student Charter* which sets out what UCD students can expect from the University. The UMT Student Experience Group was established to provide oversight and coordination of student support services, while the *UCD Student Complaints Policy* has been re-developed to provide students with accessible, consistent and efficient procedures for the resolution of legitimate student complaints.

UCD continues to provide many avenues of support to meet the varying needs of our student population. The Student Health Service has extended the Books on Prescription initiative, increased STI and urgent same-day clinics, while extra counselling facilities have been made available. Student Advisers provide support for our students throughout their time at UCD by managing local orientation and peer mentoring, and ensuring the awareness of a comprehensive one-to-one support system. The Chaplaincy provides an inclusive environment to support students with personal and academic issues.

During the year the *UCD Student Death Response Plan* was rewritten following a workshop and consultation process led by Professor Bairbre Redmond, Dean of Undergraduate Studies and Deputy Registrar. The title of the plan reflects the stark reality of a student death within our community.

Continuing our programme of improvements, 2013/14 saw a number of new initiatives aimed at enhancing our students' university experience, including: the deployment of UniShare, UCD's in-house CRM system which documents interaction between the student and the University and determines appropriate information sharing methods; the earning of the Europass Diploma Supplement label from the European Commission (UCD is the only Irish University to have earned the Diploma Supplement); a new fee-setting system; the implementation of a new collections process; and the move to facilitate mobile with online fingertip information and registration services. UCD also launched a redeveloped and enhanced online applications system for our academic programmes in October 2013.

To further develop student assessment, 2013/14 saw the commencement of a phased implementation of approved changes to compensation in the grading system, with the result that by 2015/16 no modules offered by UCD will be eligible for compensation.

UCD is to the fore in the reform of university selection and entry and actively contributes to the IUA Task Group on Reform of University Selection and Entry initiative, particularly the Matriculation review and reduction of entry routes.



*UCD staff attending the inaugural Work Smarter Together event, March 2014, had a chance to peruse 24 posters showcasing collaborative projects from UCD Registry, UCD IT Services and UCD Library.*

*The UCD Choral Scholars with their Artistic Director, Desmond Earley (centre, back), pictured during their tour of the eastern United States, March 2014.*

### Student Societies

The UCD Student Centre is at the core of the student experience and student representation on the Centre's management committee guarantees a student focus is maintained at all times. In semester two a footfall survey indicated over 11,000 people used the Centre on a single day. Since September 2013, there have been over 4,500 individual bookings within the Centre, reflecting the high occupancy rates during term, with the majority of these bookings by student clubs, societies and the Students' Union. As the home of performing arts on campus the Student Centre hosted over 300 artistic performances in the last year.

Student engagement is an integral part of the student experience. At its heart are over 70 societies and 56 sports clubs that play a vital role in broadening the UCD experience for students beyond the classroom. UCD societies recorded a combined total membership of over 41,000 students. These organisations provide a social outlet on campus and the opportunity for students to develop soft skills that are invaluable in their personal and professional development.

Guests of student societies this year included Joe Schmidt, Conor McGregor, Ryan Tubridy, Frank Kelly, Martin Freeman, Conor McPherson, Alastair Campbell and Eavan Boland. The Student Legal Service hosted their inaugural Student Legal Convention, featuring addresses by Tánaiste Joan Burton TD, Lord Mayor Oisin Quinn, and Data Protection Commissioner Billy Hawkes. Notably, the Commerce & Economics Society celebrated its centenary session.

### Student Clubs

Seventy nine students, representing 14 clubs were awarded sports scholarships in 2013/14. The scholars covered a wide range of disciplines from athletics and Gaelic football to rowing and swimming. In addition to receiving a bursary, UCD sports scholars received access to expert coaching and facilities. The scholarships are funded by the University, individual club fundraising efforts and a number of generous donors.

In rugby, UCD captain Shane Grannell lifted the Leinster Senior Cup as the team beat Terenure College 23-18 in November. The team also reached the Bateman Cup final and finished in third place in Division 1A of the All Ireland League. Eight players competed at the U20 Junior World Championships in New Zealand: Ross Byrne, Billy Dardis, Dylan Donnellan, Nicholas McCarthy, Sean McNulty, Ross Moloney, Garry Ringrose and Peadar Timmins.

UCD Ladies Hockey first team won the Chilean Cup (University Championships), the First Division of the Leinster Senior League, the Irish Senior Cup (beating Pembroke Wanderers 2-0 in the final) and the Irish Hockey League (beating Railway Union 2-1 in a penalty shoot-out). As a consequence of their Irish Hockey League success, the team will now represent Ireland at the European Club Hockey Championships in Holland, in April 2015.

UCD Soccer were proud to host the Centenary Collingwood Cup 2014, in February. Although victory eluded the club in the Collingwood, club captain Samir Belhout lifted the Colleges and Universities Premier League trophy for the fourth time in the competition's eight year history, with a 2-0 win over IT Carlow. The Women's Soccer team won the WSCAI Premier League title and the Futsal Cup. Five of the UCD team - Ciara Grant, Dora Gorman, Julianne Russell, Siobhan Killeen and Chloe Mustaki - were capped for the Senior International team. Chloe Mustaki also captained the U19 Women's Soccer team at the UEFA U19 European Championships.

UCD's athletes proved to be a force to be reckoned with in 2013/14. At the National Championships, Mark English won the 800 metres, Sarah Lavin won the 100m Hurdles, and Ciara Mageean won the 1500m event. Sarah Lavin and Mark English represented Ireland at the European Athletics Championships in Zurich in the summer, where Mark secured a bronze medal in the 800m event.

# Research and Innovation

*Winning image of the 2014 UCD Images of Research contest, entitled Daphnia Family, taken by Karl Gaff, UCD School of Biology and Environmental Science and the UCD Earth Institute. Ranging in size from about 0.25 - 1.50 mm, Daphnia, commonly known as water fleas, are transparent organisms found in fresh water ponds. These organisms were collected from the lake at UCD.*

**Professor Orla Feely Vice-President for Research, Innovation and Impact**

## Introduction by Vice-President for Research, Innovation and Impact

It is a great pleasure to present this review of our activities for the last year, following my appointment as UCD Vice-President for Research, Innovation and Impact in March 2014. This is a new role for the University, combining the previously separate portfolios of research and innovation, and adding an emphasis on impact.

I would like to pay tribute to my predecessors, and to the achievements of UCD in research and innovation under their leadership.

During the tenure of Professor Des Fitzgerald, as Vice-President for Research from 2004 to 2014, UCD's research income more than doubled, and our citation impact went from a level below world average to 56% above world average. Over a similar period, led by Professor Peter Clinch and his predecessors as Vice-Presidents for Innovation, UCD's start-up and commercialisation activities at NovaUCD increased dramatically. At the time of this report they support a total of 1,341 jobs (direct and indirect) and make an annual contribution of €47.7 million Gross Value Added (GVA) to the worldwide economy.

These and other UCD successes in research and innovation are derived fundamentally from a strong base of excellent scholarship across our broad range of disciplines. A number of UCD researchers have made a particular mark within their disciplines over the past year, and a sample of these is highlighted below.

From this base, we develop multi-disciplinary centres and collaborations of scale and significance that allow us to address global challenges. The past year has seen the launch of a number of important such collaborations within or involving UCD, and these too are outlined below.

In Europe, the Seventh Framework Programme ended with some very significant successes for UCD. We are seeking to capitalise on this momentum for Horizon 2020, the largest EU Research and Innovation programme to date, and to contribute to Ireland's ambitious €1.25 billion target from this programme. The early indications under Horizon 2020 are of further impressive wins for UCD researchers, but they also highlight the intense competition that can be expected Europe-wide to secure this funding.

Meanwhile, at home, UCD capitalised on previous successful programmes in Sensor Web (Clarity), Networks (Clique) and Connected Health (TRIL) to help secure Insight, the National Centre for Data Analytics, the largest single investment in a research programme in the State.

From all the many measures of achievement contained in the coming pages I will highlight two, both international metrics from August 2014, to convey UCD's global ambition in research and innovation.

First, in Agricultural Science and in Food Science and Technology research, UCD ranks number one in citations per paper among all institutions internationally with large-scale activity in the area.

Second, in innovation, we are among the top five universities in Europe based on the success of our graduates in establishing companies and securing venture capital funding.

UCD is delivering excellent research and innovation, recognised globally, and we are doing so in areas that have particular impact on the Irish economy and Irish society. The diversity and level of achievement outlined below is a testament to the outstanding contributions of UCD faculty, research staff, students and professional support staff in the face of circumstances that continue to pose severe challenges for higher education in Ireland.

The impact of UCD's success in research and innovation is evident in many of the highlights outlined below, which only go some way to describing the full extent of the influence of UCD staff in academia, industry and, importantly, informing public debate and future policy directions at home and abroad. A full list of research publications for the period of the Report is available on the UCD Research and Innovation website.

Guided by our forthcoming strategy, and enabled by the continuing creativity and dedication of our staff, UCD will continue to lead in research and innovation, to articulate the impact of these activities and to realise mutual benefit through working with our strategic network of partners and stakeholders.

Professor Orla Feely
UCD Vice-President for Research, Innovation and Impact

**Research Publications:** details of all research publications for the period of the Report are available online at: **www.ucd.ie/research/publications**

## Research Funding

Externally funded research contracts registered during the year amounted to €114 million (see Table 1). This is a very strong performance over a period that did not see, as the previous year had done, the outcome of a large Science Foundation Ireland (SFI) Centres funding call. Table 2 shows the largest research grants awarded to UCD over the year.

| | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 |
|---|---|---|---|---|---|---|---|---|---|
| Total value contracts signed incl. contributions to overheads (€ million) | € 83.1м | € 95.4м | € 115.9м | € 116.8м | € 49.5м | € 103.3м | € 75.7м | € 113.3м | € 114.1м |
| Total contributions to overheads (€ million) | € 11.8м | € 14.8м | € 17.3м | € 21.0м | € 6.7м | € 17.0м | € 9.5м | € 17.4м | € 16.5м |
| Total number of contracts awarded | 558 | 452 | 445 | 537 | 449 | 510 | 532 | 614 | 653 |
| Number of proposals submitted | 1,245 | 1,234 | 1,090 | 1,150 | 1,069 | 1,123 | 1,263 | 1,167 | 1,245 |

**2013/14 Contracts**

| Funding Source | Number of Contracts | Value (€ million) |
|---|---|---|
| Science Foundation Ireland (SFI) | 62 | € 29.3м |
| European Commission (EC) | 47 | € 21.4м |
| Enterprise Ireland (EI) | 113 | € 14.2м |
| Irish Research Council (IRC) | 125 | € 11.5м |
| Department of Agriculture, Food and the Marine | 31 | € 11.2м |
| Others | 275 | € 26.5м |
| Total | 653 | € 114.1м |

*Table 1: Research awards*

| Leader | Funding Source | Programme | Title | €Million |
|---|---|---|---|---|
| Professor Mark O'Malley | Irish Foundations | Research Project | UCD Energy Institute | €5.0м |
| Professor Barry Smyth | Science Foundation Ireland | Research Centres | Insight Central Operations | €4.6м |
| Professor Brian Caulfield | Enterprise Ireland | Technology Centre | Applied Research for Connected Health (ARCH) | €4.5м |
| Professor Pádraig Cunningham | Enterprise Ireland | Technology Centre | CeADAR - Technology Centre for Data Analytics - Initial Research Phase | €3.9м |
| Professor Martin Albrecht | European Commission | FP7 Ideas - ERC Consolidator Grant | Exploiting Synergistic Properties of Mesoionic Carbene Complexes: Teaching Rusty Metals Challenging Catalysis (synMICs) | €2.1м |
| Professor Stefan Oscarson | Science Foundation Ireland | Investigator Programme | Design, Synthesis, and Development of Carbohydrate - Based Vaccines, Therapeutics, Diagnostics, and Medical Devices | €1.9м |
| Professor Des Fitzgerald | European Commission | FP7 People - Marie Curie COFUND | UCD ENERGY21 International Training and Career Development Fellowship Programme (ENERGY21) | €1.8м |
| Professor Michael O'Neill | Science Foundation Ireland | Investigator Programme | Applications of Evolutionary Design (App'ED) | €1.8м |
| Professor Cecily Kelleher | Health Research Board | Research Centres | National Research Centre for Diet and Health Research | €1.5м |
| Dr Aoife Gowen | European Commission | FP7 Ideas - ERC Starting Independent Researcher Grant | Development of new chemical imaging techniques to understand the function of water in biocompatibility, biodegradation and biofouling (BioWater) | €1.5м |
| Professor Simon John More | Department of Agriculture, Food and the Marine | CVERA Portfolio of Research Projects | Centre for Veterinary Epidemiology and Risk Analysis: a portfolio of research projects | €1.3м |
| Professor Mark Crowe | European Commission | FP7 Cooperation - Food, Agriculture and Fisheries, and Biotechnology | Genotype and Environment contributing to the sustainability of dairy cow production systems through the optimal integration of genomic selection and novel management protocols based on the development (GplusE) | €1.3м |
| Professor Kenneth A Dawson | European Commission | FP7 Cooperation - Nanosciences, Nanotechnologies, Materials and new Production Technologies | FutureNanoNeeds | €1.2м |
| Dr Wenxin Wang | Science Foundation Ireland | Investigator Programme | In situ formed Skin Substitute in Combination with Gene Therapy for Wound Healing | €1.2м |
| Professor Michael Monaghan | Department of Agriculture, Food and the Marine | Tuberculosis Research Programm | Development of a vaccine for the control of tuberculosis in badgers | €1.0м |

*Table 2: Largest grants awarded to UCD in the period*

In addition to our success in SFI's new Research Centres programme with the funding of Insight, UCD also secured significant funding awards under the SFI Investigator Programme.

Seven research projects led by UCD, and one partnered with Teagasc, received close to €10 million in funding through the SFI Investigator Programme this year. The Programme supports excellent scientific research that has the potential to impact Ireland's economic and societal development, and UCD's success is recognition of our strong scientific base across a range of disciplines.

During 2013/14, UCD also added to its success in leading new Enterprise Ireland Technology Centres, with ARCH (Applied Research for Connected Health) joining CeADAR (Centre for Data Analytics Research) and Food Health Ireland to bring to three the number of Centres led by UCD. These industry-led research centres are an important addition, broadening UCD's portfolio of activities and building from strong fundamental research in each of these areas.

European funding is a particular priority for UCD, with the launch, in 2013, of the Horizon 2020 programme bringing a renewed national emphasis on this funding source. The percentage of UCD's research funding that comes from Europe has grown from less than 5% in 2003/04, to almost 20% in 2013/14, and we have put in place a strategy and structures to support UCD researchers in meeting our ambitious targets for Horizon 2020.

During 2013/14, Professor Martin Albrecht, UCD School of Chemistry and Chemical Biology, was awarded a prestigious European Research Council (ERC) Consolidator Grant. Professor Albrecht is one of a very small number of academics to have achieved three ERC awards under these highly competitive schemes. In addition, ERC Proof of Concept grants were awarded to Professor Debra Laefer, UCD School of Civil, Structural and Environmental Engineering, and Professor Frederic Dias, UCD School of Mathematical Sciences. This brings UCD's total number of ERC awards to 15.

UCD also continued its tradition of success in the European Marie Curie schemes. This year we successfully competed for a COFUND programme through ENERGY 21, ranking first in Europe in the evaluation process. This will see postdoctoral researchers co-funded by Europe, across a range of energy research activities. In addition, UCD was ranked in the top 10 most successful European institutions in the International Outgoing Fellowship Scheme throughout FP7.

As part of our engagement with Europe, Máire Geoghegan-Quinn, the European Union Commissioner for Research, Innovation and Science, visited UCD in June 2014 to learn more about the research being undertaken by our leading researchers. The Commissioner received a tour of the newly opened UCD O'Brien Centre for Science, and visited the new offices of the Insight Centre for Data Analytics.

In addition, the UCD Images of Research Exhibition went on public display at the European Commission Representation offices in Dublin. The exhibition was representative of a collection of more than 1,650 images which have been submitted to the competition since it began in 2006, and highlights some of the most innovative and imaginative images

that convey the depth and range of research taking place at UCD. The images were also exhibited in Brussels, as part of the European Union Innovation Convention 2014 Science in(novates) Art showcase event.

## UCD Seed Funding Scheme

The UCD Seed Funding Scheme is an important internal mechanism for the development of research in UCD. Approximately €0.5 million was disbursed through the scheme over the past year, which covered just under 20% of the value of the applications received. One hundred and fifty four individual awards were granted over five programme schemes. The details of value, volume of applications and awards by College are shown in Table 3.

## Publication Metrics

In 2013, there were 1,839 peer reviewed journal articles listed in the Web of Science, for UCD, as outlined in Table 4. On aggregate, UCD has produced the highest volume of academic publications in the country since 2008.

| Publication Years | No. of peer reviewed journal articles in Web of Science[1] |
|---|---|
| 2009 | 1,617 |
| 2010 | 1,802 |
| 2011 | 1,915 |
| 2012 | 1,759 |
| 2013 | 1,839 |

*Table 4: Number of academic publications*
[1] Source Web of Science; accessed 31 August 2014:- 13,125 records

| Programme | Volume of applications | Value of applications (€) | Volume of awards | Value of awards (€) |
|---|---|---|---|---|
| Career Development Award | 53 | €619,780 | 16 | €101,987 |
| Dissemination and Outputs - Conference Participation | 225 | €382,350 | 83 | €90,853 |
| Dissemination and Outputs - Publications | 46 | €110,826 | 10 | €10,484 |
| Horizon Scanning | 116 | €1,254,395 | 37 | €223,236 |
| Policy or Community Engagement | 38 | €393,818 | 8 | €73,124 |
| **Grand Total** | **478** | **€ 2,761,169** | **154** | **€ 499,684** |

| College | Volume of applications | Value of applications (€) | Volume of awards | Value of awards (€) |
|---|---|---|---|---|
| UCD College of Agriculture, Food Science and Veterinary Medicine | 51 | €291,118 | 20 | €58,889 |
| UCD College of Arts and Celtic Studies | 75 | €367,516 | 23 | €83,609 |
| UCD College of Business and Law | 19 | €103,947 | 9 | €24,271 |
| UCD College of Engineering and Architecture | 55 | €271,471 | 18 | €45,544 |
| UCD College of Health Sciences | 60 | €513,298 | 14 | €74,046 |
| UCD College of Human Sciences | 62 | €417,194 | 22 | €66,514 |
| UCD College of Science | 140 | €659,430 | 45 | €125,393 |
| Research Institutes & Other Entities | 15 | €136,505 | 3 | €21,418 |
| **Grand Total** | **477** | **€2,760,479** | **154** | **€499,684** |

*Table 3: UCD Seed Funding Scheme*
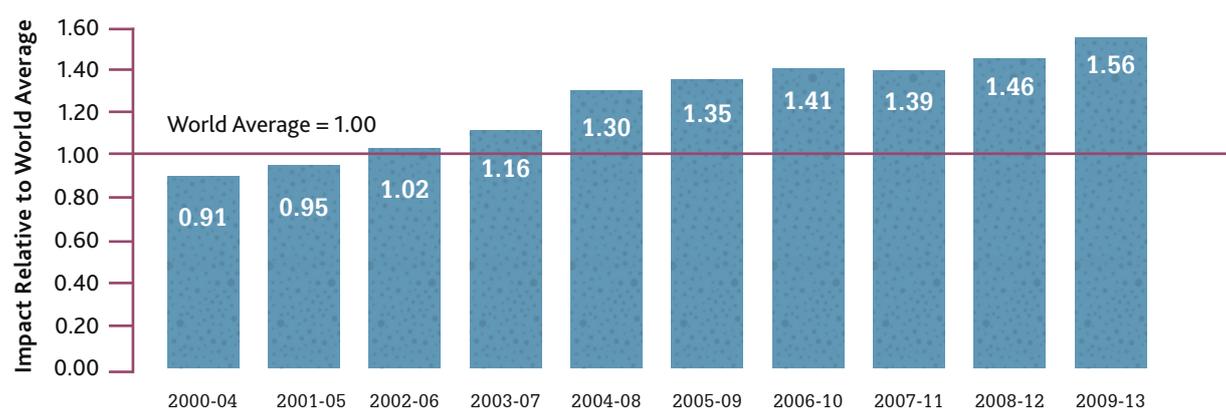


*Figure 1: UCD's publication impact over 10 year period*

Source: Thomson Reuters *InCites*

Citation rates, which capture the frequency with which an institution's papers are cited, are a key indicator of academic impact. UCD has come from having a publication impact below the world average in 2004, to 56% above the world average in 2013, as highlighted in Figure 1. This is a level consistent with other leading research-intensive universities worldwide.

Citation impact can also be tracked at the level of disciplines or of individual researchers, and UCD had a number of strong results this year in both categories.

Professor Desmond Higgins, UCD School of Medicine and Medical Science, and Professor Colm O'Donnell, UCD School of Biosystems Engineering, were featured in a compilation of highly cited researchers in the sciences and social sciences published by Thomson Reuters.

The listings of highly cited researchers feature authors whose published work in their specialty areas has consistently been judged by peers to be of particular significance and utility. Highly cited papers are defined as those that rank in the top 1% by citations for their field and year indexed in the *Web of Science*.

Professor Desmond Higgins has been working in the areas of bioinformatics and molecular evolution since 1985, predominantly on methods and software for DNA and protein sequence alignment. He is the most highly cited researcher in Ireland. Professor Colm O'Donnell leads a food engineering research group which focuses on food process analytical technology and novel food processing technologies.

Examining citations by discipline, UCD this year ranked first in the world for citations per paper in Agricultural Science, and in Food Science and Technology over the five year window 2009-2013, among all institutions publishing at scale (more than 500 and 400 papers respectively in these areas) over the period. It is significant that this very strong performance is delivered in areas of central importance to the Irish economy.

In 2013, 66% of UCD's academic staff were research active. This is an increase of more than 2% from 2012. Active research staff are defined as Professors, Associate Professors, Senior Lecturers and Lecturers who fulfil two of the following criteria: have an active grant; supervise a PhD or research Masters student; or have published in the last two to three years (discipline dependent). It is recognised that this measure may not appropriately respond to different patterns of research activity between disciplines, and it is currently under review.

## UCD Research Strategic Priority Areas - Key Highlights

In UCD, we seek to deliver excellent research in areas in which the University and country can lead globally, working closely with a range of strategic partners.

To do this, we have identified six strategic priority areas:
1. Agri-Food
2. Culture, Economy, Society
3. Energy
4. Environment
5. Health
6. Information, Computation, Communication

## 1. Agri-Food

Agriculture and food is critically important to the Irish economy, being the largest indigenous industry. The sector employs 150,000 people and contributes €24 billion to the Irish economy, a contribution that is expected to almost double to €40 billion by 2030.

UCD continues to work with the agri-food sector through industry partnership to ensure sustainability and global competitiveness. This relationship is creating safe, novel foods that promote human health. The University also continues to work with State agencies to imagine the *Farm of the Future*, one that protects the environment while optimising food production.

Through our expertise in veterinary medicine, UCD is also helping the community to fight disease in livestock and to promote animal welfare.

### Agri-Food Highlights

In September 2013, Professor Dolores O'Riordan was appointed as the second Director of the UCD Institute of Food and Health, following the retirement of Professor Mike Gibney. His tenure as Director saw the Institute firmly established on the UCD campus, with a strong and growing international reputation and successful engagement with industry. As Deputy Director, Professor O'Riordan played a significant role in this early development.

During the year UCD announced the construction of a new dairy research and education facility at UCD Lyons Research Farm to support research



*Inishmore Stone Gate, by Dr Elizabeth Shotton, UCD School of Architecture, was a finalist in the 2014 UCD Images of Research contest.*

programmes in dairy production including genetics, nutrition and herd health management. The facility, with a capacity for 200 cows, is part of a €2 million plus investment supported by industry partners Dairymaster, Devenish Nutrition, Glanbia, Munster Cattle Breeding Group, Progressive Genetics and the Irish Holstein Friesian Breeders Association.

UCD School of Agriculture and Food Science hosted a major international conference, *Driving Innovation in the Irish Agri-food System*, to launch a new report authored by Professor Alan Renwick, UCD School of Agriculture and Food Science, and sponsored by Bank of Ireland. According to the report, *Innovation in the Irish Agri-food Sector*, Ireland has the fifth most innovative agri-food sector in the European Union, behind Denmark, Finland, Germany and The Netherlands.

The UCD Centre for Veterinary Epidemiology and Risk Analysis, within UCD School of Veterinary Medicine, hosted 225 delegates from 25 countries in Dublin Castle for the Annual Conference of the Society for Veterinary Epidemiology and Preventive Medicine.

## 2. Culture, Economy, Society

UCD is renowned for its work in Arts, Humanities and Social Sciences. Many of UCD's leading scholars have shaped modern Ireland and our place in the world, and through their research and scholarship they have made sense of our history and culture.

### Culture, Economy, Society Highlights
A landmark new music publication, *The Encyclopaedia of Music in Ireland (EMIR),* edited by Professor Harry White, UCD School of Music, and Professor Barra Boydell, NUI Maynooth, was launched in October 2013 by President Michael D. Higgins. This publication is the first comprehensive attempt to chart Irish musical life across recorded history. It also documents Ireland's musical relations with the world at large, notably in Britain, continental Europe and North America, and it seeks to identify the agencies through which music has become an enduring expression of Irish political, social, religious and cultural life.

In December 2013, Dinny McGinley TD, Minister of State at the Department of Arts, Heritage and the Gaeltacht, officially launched Dúchas.ie, a new Irish folklore repository. Dúchas.ie features some 64,000 pages of hand-written folklore and local history recorded in 1937-38 by Irish schoolchildren in counties Dublin, Mayo, Donegal and Waterford.

This original material, digitised for Dúchas.ie in a project funded by the Department of Arts, Heritage and the Gaeltacht, is part of the Schools' Manuscript Collection, held by the National Folklore Collection at UCD. It comprises in excess of 500,000 pages of material recorded by some 50,000 school children in over 5,000 schools in 26 participating counties.

The National Folklore Collection at UCD is one of the largest folklore collections in the world. The Collection comprises approximately two million manuscript pages, 500,000 index cards, 12,000 hours of sound recordings, 80,000 photographs and 1,000 hours of video material.

## 3. Energy

The energy strategy at UCD aims to capitalise on the combination of unique national factors and UCD's strengths to develop an internationally recognised base for energy research and development in Ireland. The strategy centres around our key strengths in the electricity grid, expanding this by building academic capacity and promoting greater integration with aspects of UCD's ICT programme that are critical to the development of the Smart Grid. In addition, expertise in geoenergy will capitalise on opportunities presented by the discoveries of fossil fuel resources off Ireland's shores.

### Energy Highlights
During the year UCD announced the establishment of a new Energy Institute, which attracted donor funding of €5 million and substantial additional funding from industry. The new institute will concentrate on energy systems integration, which provides the basis for enhanced energy performance and reduced cost, and minimises environmental impact, all of which have become global challenges.

UCD Energy Institute is led by Professor Mark O'Malley, UCD School of Electrical, Electronic and Communications Engineering. The strategy for the Institute was developed under the guidance of the UCD Energy Advisory Board, led by David O'Reilly, a UCD graduate and former CEO of Chevron.

The Institute will host over 200 world-class energy researchers, working in partnership with industry and the energy policy community, and it builds on prior research investments by Science Foundation Ireland, Enterprise Ireland, Irish Research Council, the EU and industry.



*Pictured at TEDxUCD 2014, Pádraig Daly, a PhD student in the UCD Electricity Research Centre, delivering his talk entitled Education: Lighting the Spark.*

*Professor Desmond Higgins, UCD School of Medicine and Medical Science, the most highly cited researcher in Ireland, featured in a compilation of highly cited researchers in the sciences and social sciences, published by Thomson Reuters.*
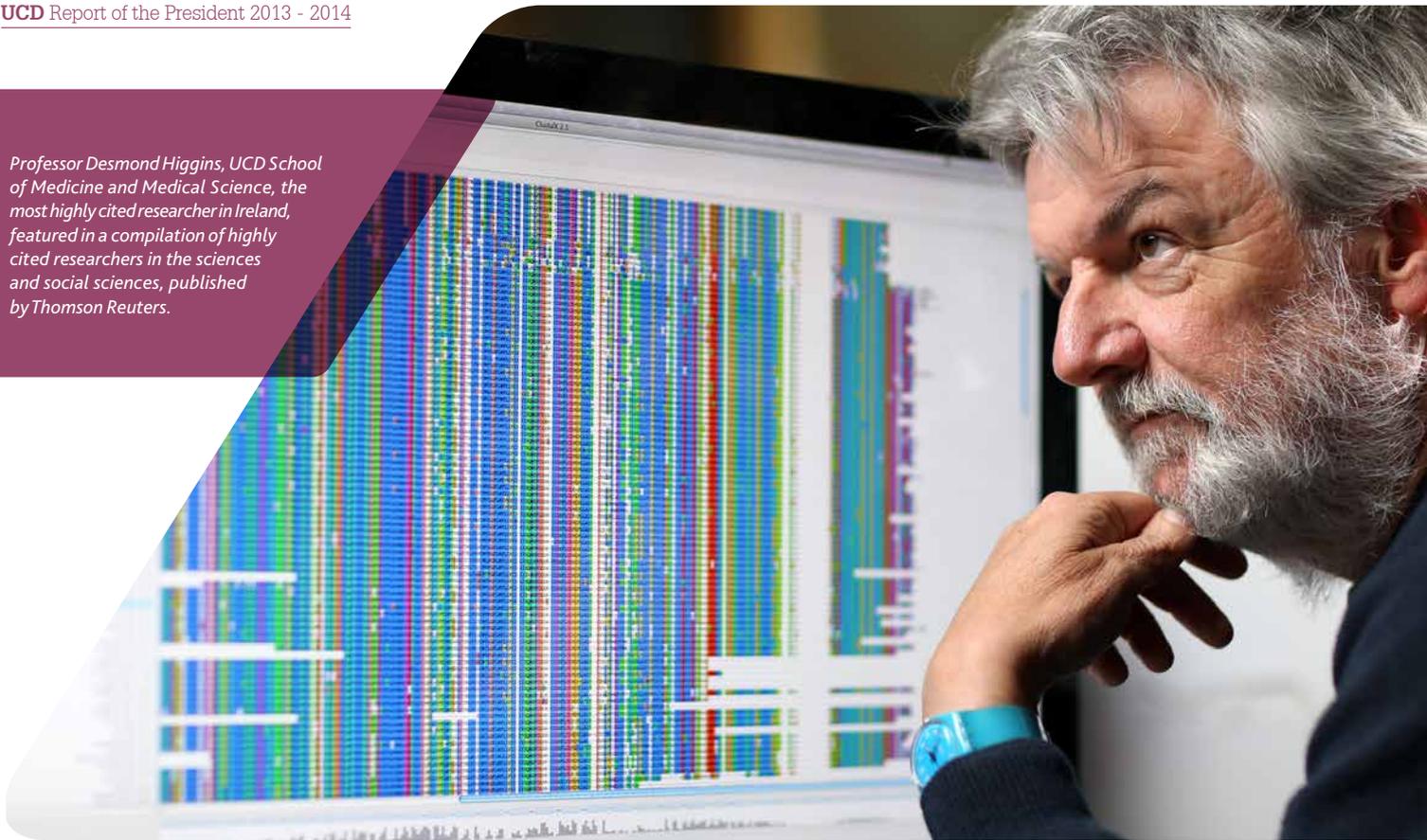
## 4. Environment

Understanding the complex interactions of earth, its atmosphere and life systems requires a large-scale inter-disciplinary effort, and this is the focus of UCD's Earth Institute. Our approach centres around understanding the solid earth, the oceans, the atmosphere and life itself and, in particular, the balance and interactions between them. The Institute's researchers focus on natural hazards and risk; sustainable cities, ecology and resources; and the translation of our research to aid greater understanding among policy makers and the public.

### Environment Highlights

Professor Ravindranathan Thampi, Dr Owen Byrne and Dr Praveen Surolia, UCD School of Bioprocess Engineering, won the 10th Sustainable Energy Awards 2013 for Research. Their project involved a technical solar innovation with the first solar cell products harvesting indoor light to power wireless sensors for temperature, light and occupancy, used as part of a smart grid control system within buildings.

Having successfully led the initial development phase of UCD's Earth Institute, Professor Chris Bean, UCD School of Geological Sciences, stepped down as Director at the end of his term and Professor Gregory O'Hare, UCD School of Computer Science and Informatics, was appointed to the role.

The UCD Earth Institute hosted *Earth Gathering: Ireland 2013* in November, which attracted a large audience to discuss the complex challenges to earth and environment sustainability. The keynote address was given by Dr Kerri-Ann Jones, US Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, who is also co-chair of the US-Ireland R&D Partnership, an initiative that supports tripartite collaboration between researchers in the Republic of Ireland, Northern Ireland and the US.

## 5. Health

Connected health and personalised medicine have the potential to be transformative for our healthcare systems. The strategy for health research at UCD centres on these two areas as platforms which have the potential for world-leading impact across a range of disease areas.

In 2013, the Government established six new hospital networks, each with an academic partner, as a central element of restructuring the Health Service nationally. The largest of these is the UCD-affiliated Ireland East Hospital Group (IEHG), initially comprising eleven hospitals, including the Mater Misericordiae University Hospital and St Vincent's University Hospital, which serve a population of 1.2 million. UCD will have a key role in the mission of the network, in delivering improved patient care through research and education, in the contribution of healthcare to enterprise and economic development, and in establishing hospital groups as independent trusts.

### Health Highlights

During the year the UCD Conway Institute, Ireland's flagship biomedical institute, celebrated a decade of research excellence. To date, over 700 PhD graduates and 350 postdoctoral researchers have been educated and trained to exacting international standards at the Institute. These highly skilled individuals have taken up employment in the pharmaceutical, medical device and ICT industries as well as in public agencies and academia in Ireland and internationally.

The Irish Cancer Society has brought together Ireland's leading breast cancer researchers in a new five year collaboration that aims for better treatments for breast cancer in Ireland. BREAST-PREDICT, which will see an investment by the Society of €7.5 million, is the country's first Collaborative Cancer Research Centre which involves most of Ireland's leading breast cancer researchers and a number of leading academic

*The Mars Cinema, Kilrush, 2014, by Dr Harvey O'Brien, UCD School of English, Drama and Film, was a finalist in the 2014 UCD Images of Research contest.*

institutions. Professor William Gallagher, UCD School of Biomolecular and Biomedical Science, is the Director of the Centre.

## 6. Information, Computation, Communication

Through its research, education and innovation programmes, UCD plays a major role in growing Ireland's ICT sector and generating global impact. The technology sector in Ireland directly employs over 105,000 people, with 75% employed in multinational companies and the remainder in the indigenous digital technology sector. The sector is responsible for 40% of Ireland's exports.

Data Science is the unifying theme of ICT research in UCD. This brings together three ICT programmes of research excellence and impact that support the University's broader research agenda: Data Analytics, Internet of Things, and Smart Systems. Data Analytics enables insights and hidden trends to be identified in the vast sea of digital data generated every day. The Internet of Things will enable the step change in communications and electronics technology needed for a global network of sensors and actuators. Smart Systems uses the breadth of ICT research to address major societal and economic challenges.

*Pictured (l-r) at the launch of the NovaUCD 10th anniversary report: Kevin Cooney, Xilinx; Professor Peter Clinch, UCD Vice-President for Innovation; Minister for Jobs, Enterprise and Innovation, Richard Bruton TD; and John O'Dea, Enterprise Ireland.*

**Information, Computation, Communication Highlights**

UCD has enjoyed considerable success in Data Analytics, playing the leading role in the SFI Insight Centre for Data Analytics, the Enterprise Ireland Technology Centre CeADAR, and, with the appointment of Professor Mike O'Neill as the ICON Professor of Business Analytics, the UCD Centre for Business Analytics.

The Insight Centre for Data Analytics was formally launched at the end of 2013, and is located in the UCD O'Brien Centre for Science. Since the launch, a huge effort has gone into ramping-up this €88 million joint initiative between UCD, NUI Galway, UCC and DCU, and there are now over 300 people in the Insight Centre community, including more than 250 researchers. There are currently over 80 projects in Insight's portfolio and more than 180 peer reviewed papers have been published in the first year of the Centre's operation.

The Insight Centre is not only focused on Data Analytics. Building on expertise developed through the Clarity CSET, UCD leads the personal sensing research theme in the Insight Centre, which is a significant part of the emerging area of the Internet of Things. UCD School of Electronic, Electrical and Communications Engineering is successfully developing an Internet of Things research programme that is complementary to this.

## Innovation

UCD is fully committed to its key role in Ireland's innovation and knowledge exchange ecosystem as an enabler of economic growth and as a contributor to economic and social development. We support this objective through our innovative and entrepreneurial students and graduates, the development of partnerships with businesses, Government agencies and social and cultural enterprises, the commercialisation of research outputs, the generation of new ventures and the creation of jobs.

## Entrepreneurial Students and Graduates

Amid all the impact we derive through our research and innovation, the greatest impact of the University comes through our students and graduates and the extraordinary contributions that they make and will make over the course of their careers.

Evidence of the impact of our entrepreneurial graduates came during the year, with UCD ranked fifth among European universities on the basis of the success of graduates in founding companies and securing venture capital. UCD is the only Irish university in the European top 10. The US-based research firm for private equity and venture capital data, Pitchbook, compiled the list and calculated that between January 2009 and August 2014, 31 UCD graduate entrepreneurs from its database established 26 companies, raising $112 million in funding.

**UCD Student Innovation Fund**

Six early-stage start-ups, which are being established by UCD students, were awarded a combined total of €15,500 through the new UCD Student Innovation Fund, established by the UCD Student Centre in association with the UCD Students' Union.

The aim of the fund is to encourage UCD undergraduate and postgraduate student inventors and entrepreneurs by giving them the opportunity to secure initial funding to assist them in further developing their start-up ideas. At a Dragons' Den-style event, over 30 business ideas were pitched to a panel of judges, with six receiving funding. In addition to financial support, the student entrepreneurs will also be able to avail of ongoing support and advice from the UCD Students' Union and UCD Student Centre, and, where appropriate, participate on programmes such as the UCD Commercialisation Bootcamp held at NovaUCD.

**Thinking Big**

In November 2013, *Thinking Big* focused on addressing some of the greatest global challenges facing Ireland and the wider world in the 21st century. The forum organised by a group of UCD undergraduate students was held to encourage people to think differently about how they can help to shape a better future, through a series of talks, panel discussions and workshops.

Speakers and topics included: Dr Tom Arnold, Chair, Constitutional Convention, on climate justice; Professor Frank Convery, President, European Association of Environmental and Resource Economists, on water scarcity; Dr Brendan Halligan, Chairman, Institute of International and European Affairs, on a zero carbon society by 2050; and Gerard Reid, co-founder and partner of Alexa Capital, on Ireland's energy options.

**2014 BT Young Scientist Business Bootcamp**

The aim of the BT Business Bootcamp, delivered annually in partnership with UCD, is to bridge the gap between education and business for students who demonstrate entrepreneurial flair and business acumen. Now in its fifth year, the four day innovation and skills camp, held at NovaUCD, involved 29 second level students from across Ireland, who demonstrated an ability to understand how and why a simple idea can be developed into a commercially viable enterprise. The participating students were selected in January, from over 1,200 secondary school students who competed in the 2014 BT Young Scientist and Technology Exhibition.

## Partnering with Industry

UCD has a strong track record of working with industry and has already supported over 250 such partnerships. Our innovation ecosystem includes large-scale industry collaborative programmes, such as Science Foundation Ireland-funded CSETs, Centres and Strategic Research Clusters, and three Enterprise Ireland-funded and industry-led technology centres. In addition, the University supports innovation-led companies at NexusUCD, the Industry Partnership Centre and early-stage companies at NovaUCD, the University's hub for new ventures and entrepreneurs.

**New Enterprise Gateway**

During the year the UCD Enterprise Gateway was officially launched. This acts as the key interface between local, national and global business and the University. The Gateway aims to further streamline access for business to our world-class expertise, students, facilities, services and research outputs, while enhancing the level of engagement and collaborations with business.

## Commercialisation of Research Outputs

NovaUCD provides purpose-built, state-of-the-art incubation facilities for knowledge-intensive companies alongside a comprehensive business support programme. During the year several international delegations, from countries including Abu Dhabi, China, Ethiopia, France, Greece, Saudi Arabia and USA, visited NovaUCD to learn more about UCD success in commercialisation and entrepreneurial activities.

Through UCD's technology transfer team based at NovaUCD, researchers are assisted with the identification and protection of intellectual property (IP) arising from our research programmes. Assistance is also provided for the commercialisation of IP through licensing to companies and through the formation of UCD spin-out companies. The Enterprise Development and Innovation Education training team at NovaUCD also supports UCD researchers in the commercialisation of IP outputs, through a series of training programmes including the Sprint, Commercialisation Bootcamp and VentureLaunch Accelerator Programmes.

During the year UCD researchers reported a total of 59 inventions. Twenty five priority patent, eight PCT (Patent Cooperation Treaty) and eleven national/regional patent applications were filed by UCD, across areas of life sciences, engineering and information communications technology. Twenty four licence agreements were also concluded with a range of indigenous and international companies, and three new UCD spin-out companies were incorporated.

**UCD Commercialisation Programmes**
During the year 41 researchers completed two UCD Commercialisation Bootcamps, delivered at NovaUCD. Participants on the Bootcamps represented a total of 25 potential commercial projects emerging from research taking place at UCD and at the National College of Art and Design (NCAD), a recognised college of UCD. The overall aim of the UCD Commercialisation Bootcamp is to strengthen the pipeline of commercial opportunities arising from UCD and NCAD research programmes.

Kinesis Health Technologies Ltd, a new UCD health technology spin-out company, was the overall winner of the inaugural UCD VentureLaunch Accelerator Programme, which supports the creation and launch of sustainable and profitable new ventures based on intellectual property emerging from UCD and NCAD research programmes. The company has developed and launched its first product, Kinesis QTUG™, which aims to reduce incidences of falls in older adults. The co-founders of Kinesis Health Technologies Ltd are Seamus Small and Dr Barry Greene, UCD School of Public Health, Physiotherapy and Population Science, and Bill Bollengier. Kinesis has emerged from internationally peer reviewed

research carried out over the last six years in the TRIL (Technology Research for Independent Living) Centre at UCD.

An early-stage business idea being developed by Laura Tobin, a UCD PhD engineering student, which focuses on LEDs as an alternative light source for solar simulators, has been declared the overall winner of the inaugural UCD CleanWeb Sprint Award. The UCD CleanWeb Sprint is a new one day initiative designed and delivered by UCD Research and Innovation staff, in collaboration with UCD Earth Institute. It aims to encourage the development of commercial outputs arising from UCD CleanWeb research by engaging with researchers at an earlier stage in the commercialisation process.

**Economic Impact of NovaUCD**
In October 2013, the Minister for Jobs, Enterprise and Innovation, Richard Bruton TD, launched a new report to highlight the economic impact of NovaUCD in Ireland and internationally, for the period 2003-2013. The report highlighted that start-up and commercialisation activities at NovaUCD, currently support a total of 1,341 jobs (direct and indirect) worldwide, of which 1,056 are based in Ireland. In addition, the activities at NovaUCD support an annual contribution of €47.7 million Gross Value Added (GVA) to the worldwide economy, of which €36.6 million is contributed to the Irish economy.

In the last 10 years, NovaUCD has supported 126 companies, while 30 new UCD spin-out companies have been incorporated. In 2013, the combined annual turnover of the companies supported at NovaUCD amounted to €71.2 million.

**2014 Irish Times InterTradeIreland Innovation Awards**
OxyMem Ltd, a UCD spin-out company, won the overall Innovation of the Year award at the 2014 *Irish Times* InterTradeIreland Innovation Awards. The company, which has developed a breakthrough technology for wastewater aeration, was co-founded in 2013 by Professor Eoin Casey and Dr Eoin Syron as a spin-out from UCD School of Chemical and Bioprocess Engineering. Their 'Bubbleless' waste water aeration system for waste water treatment is typically four times more energy efficient than best-in-class solutions currently available.



*Dr Trevor Parsons and Dr Viliam Holub, co-founders of Logentries, a UCD spin-out company, who were presented with the NovaUCD 2013 Innovation Award. This was in recognition of the global success and impact which Logentries has achieved to date in making log management and analytics accessible to virtually anyone.*

At the same awards, APC Ltd won the Bioscience category award. Co-founded by Professor Brian Glennon and Dr Mark Barrett in 2011, it is also a spin-out from UCD School of Chemical and Bioprocess Engineering. The company provides streamlined chemical engineering solutions and technologies to pharmaceutical and biotech companies.

**Fundraising Success**

During the year several UCD spin-out companies were successful in raising funding.

Logentries, a cloud-based service provider for collecting and analysing huge quantities of machine-generated log data, received $10 million in financing. This funding represents the largest single investment round in a UCD spin-out company to date. Logentries was co-founded in 2010 by Dr Trevor Parsons and Dr Viliam Holub as a spin-out company from the Performance Engineering Laboratory, UCD School of Computer Science and Informatics, after a decade of joint research with IBM. In recognition of the global success and impact which Logentries has achieved to date, the co-founders were presented with the NovaUCD 2013 Innovation Award.

Cylon Controls received €7 million in funding from the ESB Novusmodus Fund, the ESB's cleantech and resource efficiency fund. Cylon Controls is one of the largest independent building control providers in Europe, with offices in Asia, the Middle East and the US. The company's services have been proven to decrease clients' energy costs by up to 25%. Cylon Controls was established in 1985, by Seán Giblin, to commercialise engineering research carried out by him at UCD. Since then, Cylon Controls has developed and maintained a strong partnership with the University, especially through UCD School of Electrical, Electronic and Communications Engineering and NovaUCD.

HeyStaks, the collaborative search analytics company, secured €800,000 in funding led by the Ulster Bank Diageo Venture Fund, managed by Investec Ventures, with additional funding being provided by Enterprise Ireland and the AIB Seed Capital Fund. HeyStaks was co-founded by Professor Barry Smyth, Dr Peter Briggs and Dr Maurice Coyle as a spin-out from the Science Foundation Ireland-funded CLARITY Centre for Sensor Web Technologies.

## UCD Innovation Academy

The Innovation Academy is a joint initiative between University College Dublin, Trinity College Dublin and Queen's University Belfast, which aims to develop a new kind of PhD graduate with a thorough understanding of how innovation can convert knowledge into products, services and policies for economic, social and cultural benefit.

As part of UCD's commitment to supporting Ireland's innovation culture and widening participation, the UCD Innovation Academy secured €1.2 million in funding from the HEA to deliver the Springboard programme. Over 300 students participated on courses in Dublin, Kilkenny, Limerick, Galway, Portlaoise and Clonmel, and achieved a 91% graduation rate with 74% obtaining employment or establishing self-employment after participation on the programme.

UCD and the GAA launched a new joint initiative, the Community Entrepreneurship Programme, aimed at promoting sustainable communities throughout Ireland. A total of 101 participants took part in this initiative during the year. This collaboration is building on the combined strengths of the two parties: community participation on the part of the GAA; and action based entrepreneurial education as developed by the UCD Innovation Academy, on the part of UCD.

The UCD Innovation Academy held a 30-hour, 3D printer hackathon, which involved 200 participants in 40 multi-disciplinary teams who were challenged to build from scratch a 3D printer, and then design and print out a model of their choice. The teams included researchers, postgraduate and undergraduate students from UCD, along with representatives from TCD, NCAD, IADT, DIT and DCU.

Over 30 students selected the first elective module piloted by the Academy on the undergraduate curriculum. Over 20 second level teachers and third level lecturers also participated on the Professional Certificate/Diploma for Entrepreneurial Educators, which the Academy piloted this year.

The UCD Innovation Academy also worked with 40 industry hosts, such as GlaxoSmithKline, The European Commission, and Dublin City Council, which hosted student projects within their organisations to enable students to experience applying their creativity to find and solve real world problems.



*At the official opening of the new research facility for Systems Biology Ireland, at UCD in December 2014, were (l to r): Professor Walter Kolch, Director, Systems Biology Ireland; Minister of State for Research and Innovation, Sean Sherlock TD; UCD President, Dr Hugh Brady; Professor Boris Kholodenko, Associate Director, Systems Biology Ireland.*

# UCD'S Major Research Programmes, Centres and Institutes

## UCD Major and Multidisciplinary Research Institutes

| | |
|---|---|
| UCD Complex and Adaptive Systems Laboratory | www.ucd.ie/casl/ |
| UCD Conway Institute | www.ucd.ie/conway/ |
| UCD Earth Institute | www.ucd.ie/earth/ |
| UCD Energy Institute | www.ucd.ie/energy21/energyinstitute/ |
| UCD Geary Institute for Public Policy | www.ucd.ie/geary/ |
| UCD Humanities Institute | www.ucd.ie/humanities/ |
| UCD Institute of Food and Health | www.ucd.ie/foodandhealth/ |

## Enterprise Ireland Technology Centres

| | |
|---|---|
| Food for Health Ireland (FHI) | www.fhi.ie/ |
| Centre for Applied Data Analytics Research (CeADAR) | www.ucd.ie/ceadar/ |
| Applied Research for Connected Health (ARCH) | www.arch.ie/ |

## UCD-led SFI Centres

| | |
|---|---|
| INSIGHT Centre for Data Analytics | www.insight-centre.org/ |
| Irish Centre for Research in Applied Geosciences (iCRAG) | www.icrag-centre.org/ |
| Systems Biology Ireland (SBI) | www.ucd.ie/sbi/ |

## UCD-led SFI Strategic Research Clusters (SRCs)

| | |
|---|---|
| Financial Mathematics Computation (FMC²) | www.fmc-cluster.org/ |
| Sustainable Electrical Energy Systems (SEES) | www.erc.ucd.ie/projects/sees-cluster/ |

## Major Inter-Institutional Collaborative Programmes

| | |
|---|---|
| Molecular Medicine Ireland (MMI) | www.molecularmedicineireland.ie/ |
| National Institute for Bioprocessing Research and Training (NIBRT) | www.nibrt.ie/ |
| National Digital Research Centre (NDRC) | www.ndrc.ie/ |

## UCD Research Centres and Thematic Institutes

| | |
|---|---|
| Centre for BioNano Interactions (CBNI) | www.ucd.ie/cbni/ |
| Electricity Research Centre | www.erc.ucd.ie/ |
| Irish Institute for Chinese Studies (UCD Confucius Institute) | www.ucd.ie/china/ |
| Irish Social Science Data Archive (ISSDA) | http://issda.ucd.ie/webview/ |
| National Virus Reference Laboratory | http://nvrl.ucd.ie/ |
| SMARTlab | www.ucd.ie/smartlab/ |
| UCD Centre for Cybersecurity and Cybercrime Investigation | www.ucd.ie/cci/ |
| UCD Charles Institute of Dermatology | www.ucd.ie/charles/ |
| UCD Clinical Research Centre (CRC) | www.ucd.ie/medicine/ourresearch/researchenvironment/ucdclinicalresearchcentre/ |
| UCD Clinton Institute for American Studies | www.ucdclinton.ie/ |
| UCD Institute for British Irish Studies | www.ucd.ie/ibis/ |
| UCD Institute for Sport and Health | www.ucd.ie/instituteforsportandhealth/ |
| UCD James Joyce Research Centre | www.ucd.ie/joyceresearchcentre/ |
| UCD John Hume Institute for Global Irish Studies | www.ucd.ie/johnhume/ |
| UCD Micheál Ó'Cléirigh Institute | www.ucd.ie/mocleirigh/ |
| UCD Nanomedicine Centre | www.ucd.ie/nanomedicine/ |
| UCD RTI Applied Research Centre | www.linkedin.com/groups/UCD-RTI-Applied-Research-Centre-4411022/about/ |
| UCD Social Science Research Centre (SSRC) | www.ucd.ie/ssrc/ |

# UCD College of Agriculture, Food Science and Veterinary Medicine

*UCD School of Veterinary Medicine's Class of 2015 formally received their clinical dress, on 6 March 2014, at the White Coat Ceremony held in UCD Ad Astra Hall, marking the start of their progression into clinical education.*

UCD College of Agriculture, Food Science and Veterinary Medicine has had a successful year with a number of notable achievements to record.

**Professor
Michael Monaghan
College Principal**

..................................

**UCD College of
Agriculture, Food
Science and Veterinary
Medicine consists of
two schools:**

**UCD School of Agriculture
and Food Science**
*Head of School/Dean*
Professor Alexander Evans

**UCD School of
Veterinary Medicine**
*Head of School/Dean*
Professor Grace Mulcahy

*As of September 2013*

## Research Ranking

I am delighted to report that UCD ranks number one in the world for research impact in Agricultural Science, and Food Science and Technology, based on the latest Essential Science Indicators data from the influential Thomson Reuters *InCites* platform. This ranking covers the most recent five year citation data for large scale institutions (all institutions internationally which have published over 500 papers during the period 2009-2013). In addition, a UCD benchmarking exercise demonstrated that UCD School of Veterinary Medicine also has a high research impact in Veterinary Science, as compared with other leading veterinary schools. On a further positive note, research income with a value in excess of €15 million was recorded by the College, from funders including the EU, Science Foundation Ireland, the Department of Agriculture, Food and Marine, Teagasc, and industry-for-research programmes across a wide range of disciplines, ensuring that our reputation in these fields will continue to grow.

## Internationalisation

Both Schools in the College have increased their international reach with students now enrolled from the USA, China, Canada, Singapore, Malaysia, Mauritius and the Seychelles. UCD School of Agriculture and Food Science registered its first 28 students in partnership with South China Agricultural University (SCAU). These students, who will undertake the first two years of the programme in China and the final two years in Ireland, will be awarded degrees by both UCD and SCAU on the successful completion of their studies.

A site visit from the American Veterinary Medical Association Council on Education was hosted in January 2014. This was the first re-accreditation visit since the School was first accredited in 2007, and the report is expected in the next academic year. This is an important international indicator of the quality of our veterinary programme.

## Programmes

A number of new veterinary specialists-in-training have registered for the Doctorate in Veterinary Medical Specialisation (DVMS). This professional doctorate model is now being used as a template for advanced clinical training by a number of veterinary schools worldwide.

Further international benchmarking of our educational offerings will become increasingly important as the College engages with the University's global agenda.

The first cohort of graduates with a Bachelor of Agricultural Science degree in Dairy Business graduated in September 2013. The UCD Dairy Business programme, which incorporates a semester based in the world's leading dairy research centre, Teagasc Moorepark, launched in 2009 and is designed to equip future leaders in the dairy industry with the necessary scientific, technical and business skills to cope with enterprise expansion.

We also celebrated the 100th anniversary of the establishment of Forestry education in UCD, during the Annual Sean McBride Forestry Lecture, held in November 2013.

## Industry Engagement

In addition to the increasing international profile of the primary degree programmes in the College, a range of continuing education programmes for graduates are also attracting both national and international interest. These include postgraduate certificates and masters degrees for veterinary, agriculture and food science graduates.

The UCD Veterinary Hospital provides referral services to the community for a wide range of species, with the aim of providing clinical education and experience to students of Veterinary Nursing and Veterinary Medicine, and to clinical specialists in training. It also enables clinical and translational research. Services are provided on a commercial basis, with the revenue subsidising the cost of education. This year saw an

*Pictured (l-r) at the launch of the* Innovation in the Irish Agrifood Sector *report: Professor Michael Monaghan, Principal, UCD College of Agriculture, Food Science and Veterinary Medicine; Professor Alex Evans, Dean, UCD School of Agriculture and Food Science; Professor Orla Feely, Vice-President for Innovation; Minister for Agriculture, Food and the Marine, Simon Coveney TD; Professor Alan Renwick, UCD School of Agriculture and Food Science; and Sean Farrell, Agricultural Science Association President.*

increase in the caseload and income of the hospital, with small animal surgery and hydrotherapy services performing particularly strongly. Clinical education is also provided in partnership with external agencies, including Dogs Trust and private veterinary practices.

Conferences hosted by the College included those in the areas of veterinary epidemiology, veterinary parasitology, and a major agricultural policy conference, *Innovation in the Irish Agri-food System,* as well as the annual UCD Veterinary Hospital conference. The latter two events were designed specifically to foster national engagement and address issues of current concern to their respective constituencies. A new report developed by UCD Professor of Agriculture and Food Economics, Professor Alan Renwick, ranking Ireland's global performance with regard to innovation in the agri-food chain, was launched and discussed by leading national

and international stakeholders, including the Minister of Agriculture, Food and Marine, Simon Coveney TD.

UCD has begun construction on a new Dairy Research and Education Facility, at Lyons Research Farm, to support research programmes in dairy production including genetics, nutrition and herd health management. With a capacity for 200 cows, the facility is part of a €2 million plus investment supported by Dairymaster, Devenish Nutrition, Glanbia, Munster Cattle Breeding Group, Progressive Genetics and the Irish Holstein Friesian Breeders Association. The new facility will come on stream just as the dairy industry in Ireland begins a major expansion following the abolition of milk quotas. This facility will enable research which complements that being conducted at other research centres in Ireland.

*Pictured (l-r) at the launch of the UCD Lyons Dairy Research and Education Facility, 10 March 2014: Dr Finbar Mulligan, UCD; Charles Gallagher, Irish Holstein Friesian Association; Dr Karina Pierce, UCD; Pat Ryan, Glanbia; Dr Edmund Harty, Dairymaster; Professor Orla Feely, UCD; Professor Michael Monaghan, UCD; Pat Mulvehill, Munster Cattle Breeding Group; Brendan Scanlon, Progressive Genetics; Morgan Sheehy, Devenish Nutrition; and Denis Herlihy, Glanbia.*

The research outputs from the new facility will be made available through publications, a dedicated website and open days, and the facility will serve as an international showcase for the best in Irish dairy technology. Construction commenced in May and I anticipate that it will finish in early 2015, to enable the planned herd expansion to coincide with the abolition of milk quotas in April 2015.

All of the progress made in the past year has resulted from the creative instincts and hard work of the academic and professional support staff in the College, and establishes a very strong base for our future development.

Professor Michael Monaghan
Principal

## UCD Students in Ireland

**Undergraduate** Students (FTE)  **1,819**
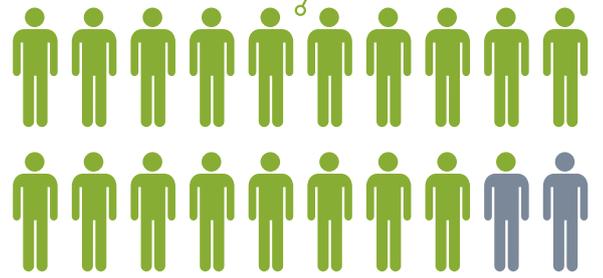
**Graduate** Students (FTE)  464 *
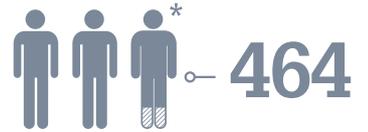
**Total** Students  **2,283**

* 🧍 = 100 People Approx

### Research Income

**€16,300,000**

*The first class of students enrolled on a 2+2 programme between UCD School of Agriculture and Food Science, and South China Agricultural University, with Dr Mary Forrest, Dr Owen Doyle and Damien Dempsey, who all travelled to China for delivery of the first modules.*

# UCD College of Arts and Celtic Studies

UCD Fulbright recipients (l-r): Eoin McEvoy, UCD School of Irish, Celtic Studies, Irish Folklore and Linguistics; Shane ó Ruairc, Coláiste Eoin, Booterstown, Co. Dublin; Ms Treasa De Loughry, UCD School of English, Drama and Film; Ms Niamh Murray, UCD School of Agriculture and Food Science; Ms Éilis Nic Aodhagáin, UCD School of Irish, Celtic Studies, Irish Folklore and Linguistics; Dr Selena Daly, UCD School of History and Archives; and Dr Enda Murphy, UCD School of Geography, Planning and Environmental Policy. The 8th recipient, not pictured, was Dr Cal Muckley, UCD School of Business.

In 2013/14, UCD College of Arts and Celtic Studies had a very successful year with numerous achievements and developments across all our activities, including research, innovation and impact, education and the student experience, and engagement with national and international partners.

**Professor
Maeve Conrick
College Principal**

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Deputy Principal:
Professor Tadhg O'Keeffe

Director of Graduate
School: Dr Alexander
Wilkinson

Vice-Principal for
Teaching and Learning:
Mr Feargal Murphy

Vice-Principal for
Research and Innovation:
Dr Lynda Mulvin

## Highlights

Among the highlights was the launch, in December 2013, of an exciting initiative, the Laureate for Irish Fiction, in partnership with the Arts Council, New York University (NYU) and with the *Irish Times* as media partner. This initiative was led at UCD by James Ryan, Director of the MA and MFA in Creative Writing programme in UCD School of English, Drama and Film, and will be used to promote Irish literature nationally and internationally, and to encourage the public to engage with high quality Irish fiction.

This year also saw the election of Professor Mary Daly, UCD School of History and Archives, and former College Principal, as President of the Royal Irish Academy (RIA), Ireland's academy for the sciences, humanities and social sciences. Election as President of the RIA is a singular honour and the College was pleased to join in congratulating our colleague Professor Daly on this outstanding achievement.

2014 was also a very exciting year for UCD School of Music, as it celebrated the centenary of Music at UCD: in February 1914, the University established a Chair of Music and a Professorship of Irish Music. Several conferences, concerts, a *Festschrift* and the Larchet Memorial Lecture were dedicated to this milestone.

Across our Schools, plans are well advanced to showcase UCD's contribution to the Decade of Commemorations. Dr Conor Mulvagh has been appointed to UCD School of History and Archives, to coordinate a programme of events and activities marking the many significant Irish and international centenaries that will occur over the coming decade.

The College is a hub of cultural activity, which enjoys numerous links with national and international bodies and organisations in promoting the arts in all its forms, from drama to film and music. This year we welcomed

performance artist Dominic Thorpe as the first Humanities Artist in Residence, in partnership with Cultúr Lab. Dominic will collaborate with members of the College, in particular with UCD School of Art History and Cultural Policy, on an artistic portrayal of the research activities of the College.

## Education and Engagement

Three of the subject areas of the College were placed in the World Top 100 in the QS Subject rankings: English Language and Literature, History, and Modern Languages.

The College provided leadership in the *Open Learning* pilot, with the UCD School of Archaeology making modules available to a cohort of adult learners for credit or audit. The pilot has now been extended to include modules from other Schools in the College, as well as other subject areas across the University.

The College performed spectacularly well in the Fulbright Awards, securing four of the record eight awards to UCD. The recipients were: Dr Selena Daly, postdoctoral

fellow, UCD School of History and Archives; Ms Treasa De Loughrey, PhD candidate, UCD School of English, Drama and Film; Mr Eoin McEvoy, Irish-language tutor, UCD School of Irish, Irish Folklore and Linguistics; and Ms Éilis Nic Aodhagáin, MA candidate and tutor, UCD School of Irish, Irish Folklore and Linguistics.

To commemorate one of Ireland's best-loved writers, Maeve Binchy, and her love of travel, UCD School of English, Drama and Film has inaugurated the Maeve Binchy Travel Award. The annual award funds a UCD student to pursue a novel travel opportunity that will enhance their creative writing talent. The inaugural award was presented to UCD creative writing MFA student, Henrietta McKervey, in May 2014, to mark the anniversary of Maeve Binchy's birthday.

## Research, Innovation and Impact

*The Encyclopaedia of Music in Ireland* (EMIR), the single largest research project on music ever undertaken in Ireland, was launched by President Michael D. Higgins,

*Minister of State at the Department of Arts, Heritage and the Gaeltacht, Dinny McGinley TD, at the official launch of Dúchas.ie. Dúchas.ie is a new Irish folklore repository and features some 64,000 pages of hand-written folklore and local history, recorded in 1937/38 by Irish schoolchildren. This is part of the Schools' Manuscript Collection, held by the National Folklore Collection at UCD.*



**UCD College of Art and Celtic Studies consists of eight schools:**

**UCD School of Archaeology**
*Head of School*
Professor Tadhg O'Keeffe

**UCD School of Art History and Cultural Policy**
*Head of School*
Dr Lynda Mulvin

**UCD School of Classics**
*Head of School*
Professor Theresa Urbainczyk

**UCD School of English, Drama and Film**
*Head of School*
Professor Anne Fogarty

**UCD School of History and Archives**
*Head of School*
Dr John McCafferty

**UCD School of Irish, Celtic Studies, Irish Folklore and Linguistics**
*Head of School*
Professor Máire Ní Annracháin

**UCD School of Languages and Literatures**
*Head of School*
Dr Michael Brophy

**UCD School of Music**
*Head of School*
Professor Julian Horton

*Dean of Arts*
Dr Joe Brady

*As of September 2013*

*Pictured (l-r) at the launch of the* Encyclopaedia of Music in Ireland: *President Michael D. Higgins, and the General Editors: Professor Barra Boydell, Department of Music, NUI Maynooth; and Professor Harry White, UCD School of Music.*

on 4 October 2013. The General Editors of EMIR were Professor Harry White, UCD School of Music, and Professor Emeritus Barra Boydell, NUI Maynooth. EMIR is published by UCD Press. President Higgins praised the work as "a wonderful achievement that will allow us to reach a true understanding of the musical journey of the nation, and of its continual evaluation and progression". The Harrison Medal was subsequently awarded to the co-editors by the Society of Musicology in Ireland, in recognition of their outstanding contribution to the discipline of musicology.

Overall, the publication record of the College exemplifies excellence in research and scholarship. Among the many significant publications were: *Architecture since 1400,* Professor Kathleen James Chakraborty (University of Minnesota Press, 2013); *Early Medieval Ireland, AD 400-1100 the Evidence from Archaeological Excavations,* Professor Aidan O'Sullivan et al. (Royal Irish Academy, 2014); *Technology Enhanced Language Learning: Connecting Theory and Practice,* Dr Goodith White et al. (Oxford University Press, 2013).



*Pictured (l-r) at the presentation of the Maeve Binchy Travel Award (back l-r): Niall MacMonagle, teacher and critic, and member of award selection committee; Professor Margaret Kelleher, Chair of Anglo-Irish Literature and Drama, UCD, and Chair of award selection committee; Ms Aine Gibbons, UCD Vice-President for Development; James Ryan, lecturer, UCD School of English, Drama and Film. Henrietta McKervey, recipient of the Maeve Binchy Travel Award, is seated with Gordon Snell, scriptwriter and author, and husband of the late Maeve Binchy.*

*UCD Emeritus Professor, Mary E. Daly, recently elected the 55th president and first woman president of the Royal Irish Academy.*

## UCD Students in Ireland

**Undergraduate** Students (FTE) — **2,659**

**Graduate** Students (FTE) — **609**
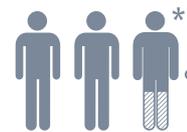
**Total** Students — **3,268**

* = 100 People Approx

## Research Income

**€4,400,000**

Members of the College attracted significant research funding with colleagues across the College in receipt of Irish Research Council Postgraduate and Postdoctoral Fellowships. An example of some of the most notable awards received include: the Department of Arts, Heritage and the Gaeltacht contribution towards the National Folklore Collection Digitisation Project, carried out by Professor Rionach Uí Ogáin, National Folklore Collection/UCD School of Irish, Celtic Studies, Irish Folklore and Linguistics; a Wellcome Trust Senior Investigator Award to Dr Catherine Cox, and The Andrew W Mellon Foundation Scholarly Communications and Information Technology Program to Dr Alexander Wilkinson, both in UCD School of History and Archives; an EC FP7 Marie Curie Intra-European Fellowship for Career Development Award to Professor Theresa Urbainczyk, and an Association Oceanides Foreign Foundation award to Dr Philip de Souza, both in UCD School of Classics. I wish to acknowledge the support and collaboration from a wide range of national and international partners and agencies in supporting the innovative research and educational activities of the College.

I congratulate all the members of the College, staff and students, whose collective efforts have ensured an excellent performance during 2013/14, and I look forward to progressing our objectives and those of the University in the years ahead.

*Maeve Conrick*

Professor Maeve Conrick
Principal

*Announcing the creation of the new McCann FitzGerald Chair of International Law and Business, which enabled the first Master's Degree in International Law and Business of its kind: (front, l-r) students Robyn Daly, Maurice Walsh and Rachel Duffy; with (back, l-r) John Cronin, Chairman McCann Fitzgerald, Professor Andrea Prothero, UCD School of Business, and Professor Colin Scott, Dean, UCD School of Law.*

The year 2013/14 was a very dynamic one for the College with much work done to lay the foundations for the continuing development of its two Schools.



**Professor Ciarán
Ó hÓgartaigh
College Principal**

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**UCD College of
Business and Law
consists of two schools:**

**UCD School of Business**
*Head of School/Dean*
Professor Ciarán
Ó hÓgartaigh

**UCD School of Law**
*Head of School/Dean*
Professor Colin Scott

*As of September 2013*

## College Developments

One of the stand-out features of the year was the opening of the new UCD Sutherland School of Law building, and the renaming of the School. What was most striking was how immediately staff and students took to the new building and made its space their own. The sense of community being generated is noticeable, as manifest in its increasing use as a venue for conference and outreach events.

We enjoyed strong growth in both the number and quality of our students, as well as their international reach. UCD Michael Smurfit Graduate Business School, for example, welcomed a record number of students in 2013/14, over 40% of these international. Demand for our undergraduate programmes also grew significantly in both UCD Lochlann Quinn School of Business and UCD Sutherland School of Law. As measured by CAO first preferences, both Schools saw their highest application numbers for many years.

The College is committed to the concept of lifelong, continuous learning and both Schools have dedicated

functions for this purpose. UCD Smurfit Executive Development continued to make steady progress during the year with the highest number of executives on record at 1,600, either participating in the growing portfolio of open enrolment programmes or in an impressive portfolio of client customised programmes. In UCD Sutherland School of Law, CPD certification plays an important role in the School's knowledge transfer activity which continued its growth throughout the year.

Our success in attracting graduate students and overseas students, as well as students in continuous education, enables us to generate significant levels of non-Exchequer revenues which are re-invested in our most important resources, our students and our staff.

We continue to recruit new faculty and the Business School's *Extending our Edges of Excellence* development programme supported the creation of a Chair in Business Analytics, funded by ICON, along with a doubling of the externally-funded scholarships offered to our students with the support of NTR and other donations such as class gifts. Funding for a Chair in Aviation Finance has also been secured. Similar success at UCD Sutherland

School of Law saw the appointment of a Chair in International Law and Business, funded by McCann FitzGerald. This appointment will support the further development of research and teaching programmes in the interface between business and law.

These appointments enable us to offer new and inter-disciplinary programmes, as well as increasing our research capabilities, both of which are central to our strategy as a university in addressing substantive global problems. They also reinforce our commitment to quality expressed in the faculty we hire, the quality of our students and the breadth and depth of our research. This also finds its expression in our accreditations and in our rankings.

## Accreditation

UCD Business remains the only business school in Ireland with triple accreditation from AACSB (Association to Advance Collegiate Schools of Business), EQUIS (European Quality Improvement System) and AMBA (Association of MBAs) and, as a further commitment to our students, UCD Smurfit School has signed the UN-backed Principles for Responsible Management Education (PRME). PRME embodies a voluntary set of principles to which business schools can adhere in the interest of providing future leaders with the necessary insights and skills to reflect

upon, critically analyse, and provide leadership with regard to corporate responsibility. The School's commitment to PRME reflects the focus in the School on corporate responsibility and sustainability as important aspects of re-envisioning business, consistent with our School strategy.

UCD Business maintained its position in the top 100 in the world for its programmes, as ranked by the prestigious *Financial Times and Economist* rankings and in the QS rankings. UCD Sutherland School has been ranked among the 100 leading law schools in the QS World University Rankings, the only international ranking of law schools.

## Community Engagement

During the year staff and students were in demand as expert commentators, as recipients of awards and in other roles. Professor Ian O'Donnell was elected to membership of the prestigious Academia Europaea, membership of which is by invitation only, and Professor Imelda Maher was elected as the Humanities and Social Sciences Secretary of the Royal Irish Academy.

President Michael D. Higgins launched his ethics initiative for students in UCD Lochlann Quinn School and, through the leadership of Professor Andy Prothero, our students were actively involved in promoting this important initiative.

*Peter Sutherland SC, speaking at the opening of UCD Sutherland School of Law.*

A team of faculty provided rapporteur services at the Department of Finance's Medium-Term Economic Strategy Conference, which served as an important input into the development of the Department's strategy.

## Research

The College's Schools have a solid history of important and diverse research outputs and intellectual contributions. These include publishing in leading international journals, research monographs, editorial and reviewer duties at leading academic journals, conference organisation, case study writing, PhD supervision and external examination and international research linkages. Our output continued to increase this year and we are increasingly reaching the very best academic outlets and the top international journals.

Of particular note this year was the choice of a paper by Professor John Geary as one of 25 in a special collection of outstanding contributions and path breaking research, which have appeared in *Work Employment and Society* (WES) over the last 25 years of publication.

## Governance

Professor Joe McMahon was appointed as the new Dean at UCD Sutherland School, in succession to Professor Colin Scott who is assuming the principal's role at UCD College of Human Sciences.

Mr Niall Fitzgerald, former CEO of Unilever and an alumnus of UCD Lochlann Quinn School, is the new Chairman of UCD Michael Smurfit Graduate Business School Advisory Board, in succession to Mr Paul Haran, who served the School with distinction for many years.



*Celebrating the 50th anniversary of UCD Michael Smurfit Graduate Business School MBA programme: Joseph O'Loughlin, from the first class intake in 1964, with his daughter, Ciara, who completed her MBA in 2013.*

*Pictured (l-r) at the launch of Dr Michael Smurfit's autobiography,* A Life Worth Living, *at UCD Michael Smurfit Graduate Business School: Dr Denis O'Brien, Dr Michael Smurfit and Dr Dermot Desmond.*

I believe both these appointments will bring new dimensions and new perspectives. Ireland is emerging from challenging times as a country. We have lots to learn and, therefore, a lot to teach from our recent experience; lessons about resilience in business and about individual and institutional values which sustain the future. We plan to reflect these lessons in our research and teaching, and in our sense of connection to the world, and I look forward to reporting on this in future reports.

Finally, I would like to thank all my colleagues, both academic and non-academic, for their work, effort and commitment in the last year. It is they, together with our students, who make the College possible. I would, in particular, acknowledge the work of Professor Colin Scott as Dean of UCD Sutherland School of Law, and wish him well as he progresses to new challenges. He will remain a good friend of the College.

Professor Ciarán Ó hÓgartaigh
Principal

## Research Income

**€4,400,000**

* 👤 = 100 People Approx

## UCD Students in Ireland

**Undergraduate** Students (FTE) — **2,215**

**Graduate** Students (FTE) * — **1,942**

**Total** Students — **4,157**

## Overseas Operations

**Undergraduate** Students (FTE) — **4,336**
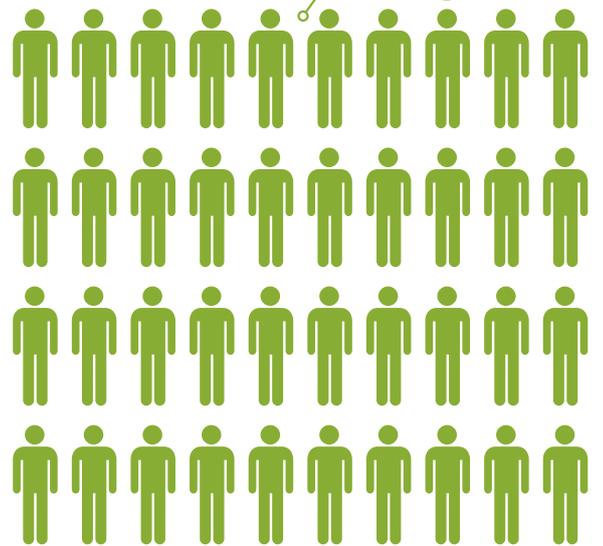
**Graduate** Students (FTE) * — **357**

**Total** Students — **4,693**

45

# UCD College of Engineering and Architecture
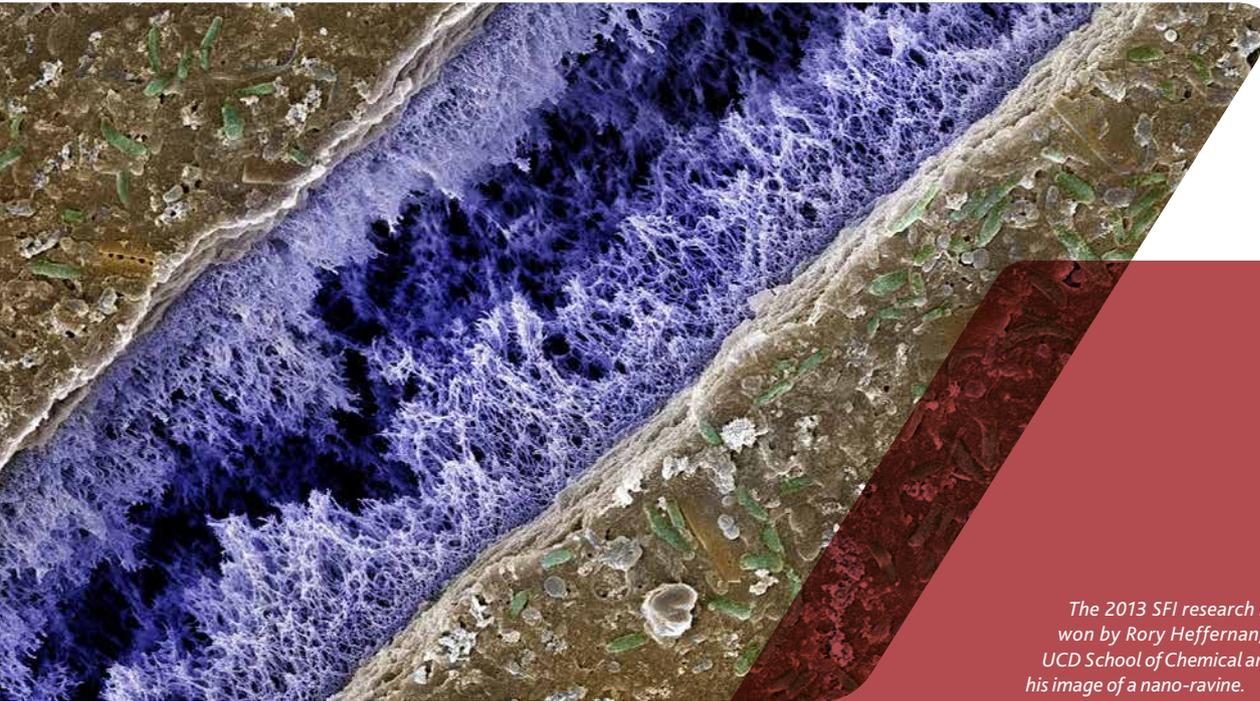
*The 2013 SFI research image competition prize was won by Rory Heffernan, a PhD Research student, in UCD School of Chemical and Bioprocess Engineering, for his image of a nano-ravine.*

**Professor
Gerald Byrne
College Principal/
Dean of Engineering**

Vice-Principal and
Associate Dean of
Engineering Taught
Programmes: Professor
Michael Bruen

Dean of Architecture:
Professor Hugh Campbell

Associate Dean of
Architecture: Mr Dan
Sudhershan

I am pleased to report that the performance of UCD College of Engineering and Architecture has been excellent over the past year. In excess of €21m in new research grants was registered by the College for the period. European Commission funding has also increased and represents 23% of the new grants registered during the year, over a range of programmes including European Research Council (ERC) awards. The College currently hosts three ERC award holders including, most recently, Dr Aoife Gowen, UCD School of Biosystems Engineering, a Starting Grant awardee for her project *BioWater: Development of new chemical imaging techniques to understand the function of water in biocompatibility, biodegradation and biofouling.* The UCD ENERGY 21 Fellowship Programme was also launched during the year. This offers fellowship awards funded by the European Commission Marie Sklodowska-Curie COFUND Action programme, hosted by UCD Energy Institute, with the aim of strengthening European energy research and growing partnerships between academia and industry.

## Awards and Honours

A number of prestigious research awards and honours were received by College staff in the past year. The list is too long for comprehensive inclusion in this report; therefore I have only included a small selection below.

The cross-modal award in the EU Champions of Transport Research competition was presented to Professor Eugene O'Brien, UCD School of Civil, Structural and Environmental Engineering, for the impact of his work over the course of several EU funded projects relating to bridge traffic loading, which has resulted in more sustainable infrastructures. Professor Colm O'Donnell, UCD School of Biosystems Engineering, has been listed among the most influential names in science in Thomson Reuters compilation of Highly Cited Researchers.

Staff in UCD School of Chemical and Bioprocess Engineering won several awards in the innovation arena. APC Ltd, co-founded by Professor Brian Glennon and Dr Mark Barrett, won two Irish Laboratory Awards. OxyMem Ltd, a spin-out co-founded by Professor Eoin Casey and Dr Eoin Syron, also won an Irish Laboratory Award, together with the first Water Innovation SME Award in Europe, for Membrane Technologies. Professor Ravi Thampi, Dr Owen Byrne and Dr Praveen Surolia won the 2013 Sustainable Energy Ireland Award for Research. This winning project involved a technical solar innovation which will harvest indoor light to power wireless sensors for temperature, light and occupancy and can be used as part of a smart grid control system within buildings. In addition, Rory Heffernan, a PhD Research student in Professor Eoin Casey's research group, won the SFI Research

*At the 2014 Irish Times InterTradeIreland Innovation Awards, OxyMem, a UCD spin-out company, was presented with the Innovation of the Year Award. Pictured (l-r): Thomas Hunter McGowan, InterTradeIreland; Professor Eoin Casey, UCD School of Chemical and Bioprocess Engineering and co-founder, OxyMem; Wayne Byrne, CEO, OxyMem; An Taoiseach Enda Kenny TD; and Liam Kavanagh, Irish Times.*

Image Competition 2013, for his image of a nano-ravine. He captured his image in collaboration with Dr Ian Reid.

Dr Denis Dowling, who holds a joint appointment between UCD School of Chemical and Bioprocess Engineering, and UCD School of Mechanical and Materials Engineering, was presented with the Institute of Materials Finishing Gold Medal Award, the highest accolade given by the Institute. This was only the 15th time in the Institute's 88 year history that this medal has been awarded, of which Dr Dowling is the first Irish recipient.

Dr Eoin O' Cearbhaill, UCD School of Mechanical and Materials Engineering, accepted the Innovative Product of the Year Award at the Institution of Chemical Engineers

(IChemE) ceremony, in the UK, for work he and his team in the US did in developing an adhesive microneedle patch that mechanically interlocks with tissue. Mr Patrick Joy, a Mechanical Engineering graduate (1974), of Louth-based manufacturer Suretank, won the 2013 Ernst & Young's Entrepreneur of the Year Award.

O'Donnell and Tuomey Architects (John Tuomey, Professor of Architectural Design, and Sheila O'Donnell, Studio Lecturer in UCD School of Architecture) have been included in the shortlist for the 2014 Royal Institute of British Architects (RIBA) Stirling Prize for the Best New Building, for their entry, Saw Swee Hock Student Centre, London School of Economics. This prize is architecture's highest accolade awarded by the RIBA.



*Dr Denis Dowling who holds a joint appointment between UCD School of Chemical and Bioprocess Engineering, and UCD School of Mechanical and Materials Engineering, being presented with the Institute of Materials Finishing (IMF) Gold Medal, by its President Dr Paul Lansdell. The Gold Medal is the highest accolade awarded by the Institute.*

Vice-Principal for Research and Innovation and Graduate School Director: Professor Tony Fagan

Vice-Principal for Teaching and Learning: Professor Colm O'Donnell

Vice-Principal for Internationalisation: Dr Mark Richardson

**UCD College of Engineering and Architecture consists of six schools:**

**UCD School of Architecture**
*Head of School/Dean*
Professor Hugh Campbell

**UCD School of Biosystems Engineering**
*Head of School*
Professor Francis Butler

**UCD School of Chemical and Bioprocess Engineering**
*Head of School*
Professor Don MacElroy

**UCD School of Civil, Structural and Environmental Engineering**
*Head of School*
Dr Mark Richardson

**UCD School of Electrical, Electronic and Communications Engineering**
*Head of School*
Professor Tom Brazil

**UCD School of Mechanical and Materials Engineering**
*Head of School*
Professor Michael Gilchrist

*As of September 2013*

*O'Donnell and Tuomey Architects (John Tuomey, UCD Professor of Architectural Design, and Sheila O'Donnell, Studio Lecturer, UCD School of Architecture) were shortlisted for the 2014 Royal Institute of British Architects (RIBA) Stirling Prize, for the Best New Building.*

## Programmes

The 3+2 BSc (Architecture) and MArch structure was recently introduced and strong application numbers have been received for the MArch programme from both EU and Non-EU applicants. First preferences and student numbers continued to grow in both Architecture and Engineering, and Engineering welcomed a record number of first year students into the omnibus programme in September 2013. An inaugural Architecture Summer School took place in Richview and the city centre during July 2014, which was well attended by both Irish and international students.

In addition to teaching and research, internationalisation remains a key priority area for the College. Memoranda of Understanding were signed in the past year with: the Department of Precision Engineering and Optoelectronics, Tianjin University; IIT Kharaghpur; George Mason University; and the Department of Architecture, Shanghai Jiao Tong. In addition, an exchange agreement was signed with Hong Kong University of Science and Technology.

The developmental trajectory of UCD College of Engineering and Architecture has been exceedingly strong since it was formed three years ago. The College is playing a critical national leadership role in the professions of architecture and engineering in Ireland. As I completed my term as College Principal and Dean of Engineering, in August 2014, I thank all the staff of the College for their excellent contribution to the College's achievements. I wish my successor, Professor David FitzPatrick, every success in his new role.

*Gerry Byrne*

Professor Gerry Byrne
Principal



*Laura Tobin, UCD PhD engineering student, winner of the inaugural UCD CleanWeb Sprint award. Her early-stage business idea focuses on LEDs as an alternative light source for solar simulators, and is developed from her research in collaboration with Professor Ravindranathan Thampi, UCD School of Chemical and Bioprocess Engineering, under the supervision of Professor John T. Sheridan, UCD School of Electrical, Electronic and Communications Engineering.*

## Message from Incoming College Principal

I shortly take on the role of Dean of Engineering and College Principal for UCD College of Engineering and Architecture, and I am looking forward to building on the growth and development that has been achieved over the past three years, since the inception of the College.

I would like to take this opportunity to thank Professor Gerry Byrne for his leadership and the dedication he has shown the College during his term as principal. It is also opportune to congratulate Gerry on receiving an honorary professorship from Tianjin University, China, in recognition of his outstanding international leadership in the field of advanced manufacturing engineering research and in recognition of his contribution to the development of manufacturing engineering research in China.

The College's ongoing success will be driven by our ability to continue to attract excellent students into the undergraduate and graduate programmes, expand College facilities and resources, capitalise on increased opportunities for research funding, foster engagement with industry, and further International collaboration and linkages in education and research.

In developing the international presence of the College over the coming year, we will take the next steps towards achieving US accreditation for Architecture (MArch), achieve additional success in International research programme funding, and deepen our links with key centres of excellence across the engineering and architecture disciplines.

I look forward to working with all members of the College and the wider University to progress the College further.

Professor David FitzPatrick
Incoming Principal

*Pictured (l-r) at the Engineering Graduates Association (EGA) panel discussion on Engineering Manufacturing and Job Creation in Ireland, October 2013: EGA President, PJ Rudden; Professor Gerry Byrne, Principal, UCD College of Engineering and Architecture; An Taoiseach Enda Kenny TD; and UCD President, Dr Hugh Brady.*

## UCD Students in Ireland

**Undergraduate** Students (FTE) — **1,007**
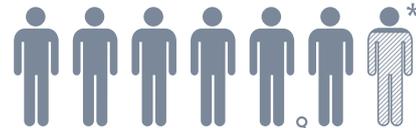
**Graduate** Students (FTE) — **622**

**Total** Students — **1,629**

## Overseas Operations

**Undergraduate** Students (FTE) — **117**

**Graduate** Students (FTE) — **15**

**Total** Students — **132**

* = 100 People Approx

## Research Income

**€21,500,000**

# UCD College of Health Sciences

*At the UCD Medicine conferring in O'Reilly Hall, June 2014, 200 undergraduate and graduate-entry students were awarded degrees in Medicine, and 54 postgraduate students were awarded a range of graduate research degrees.*



**Professor
Desmond Fitzgerald
College Principal**

UCD College of Health Sciences with its three Schools (UCD School of Medicine and Medical Sciences, UCD School of Nursing, Midwifery and Health Systems and UCD School of Public Health, Physiotherapy, and Population Science) contribute to the wellbeing and healthcare of the Irish population through research, education and training.

## Research, Innovation and Impact

Our research programme spans the spectrum of healthcare, from basic biomedical science, translational medicine, health systems, ICT for health, performance science and public health. It aims to develop a greater understanding of the mechanisms of disease and to translate these findings into clinical practice. There is a major focus on wellbeing and on improving public health. The College's state-of-the-art research facilities include the Centre for Research in Infectious Diseases, the UCD Clinical Research Centre, the Charles Institute for Dermatology Research and Training, Systems Biology Ireland (SBI), and the UCD Conway Institute of Biomolecular and Biomedical Research.

Over the past year UCD established Systems Medicine and Data Analytics in Healthcare as its central research theme. This includes Connected Health, a unique programme that explores the application of technology in integrating healthcare across hospitals, primary care and patients. The programme works closely with many stakeholders, including industry through the Applied Research for Connected Health (ARCH), a technology centre funded by Enterprise Ireland. In addition, UCD leads the European Network for the Joint Evaluation of Connected Health Technologies (ENJECT) across 12 countries. Other Schools are also engaged in this theme. Dr Eileen Furlong and Dr Patricia Fox (UCD School of Medicine and Medical Science) are the UCD Principal Investigators on an Enterprise Ireland programme entitled *eSMART: e-Symptom Management using A SyMS* (Advanced Symptom Management System), which is developing remote technology in caring for patients with cancer.

UCD Researchers at Our Lady's Children's Hospital, Crumlin, and Temple Street Children's University Hospital developed three new genetic tests that were launched on European Rare Disease Day, 28 February 2014. Dr Sean Ennis, Director of UCD's Academic Centre on Rare Diseases, was also invited to address the Joint Oireachtas Committee on Health at a meeting held to mark the day.

## Education and Student Experience

The College's educational and training programmes prepare students to deliver excellent patient care, and to

be the agents of change in the health system. Our affiliated national teaching hospitals and general practice provide excellent clinical experience to students and trainees.

In addition, we have an extensive international programme, which includes: the Penang Medical College in Malaysia, in partnership with the Royal College of Surgeons in Ireland; a joint MSc programme in translational research with Shenzhen University in China; and Study Abroad and Summer Schools. These attract nursing students from across the world. We continue to develop our programmes so as to lead change in healthcare education.

In September 2013, UCD School of Medicine and Medical Science hosted the Universitas 21 Health Sciences Group annual conference of healthcare educators from across the globe in a workshop on patient safety and social media in medical education.

In March 2014, Jean Giddens, Dean and Professor at the School of Nursing, Virginia Commonwealth University, led a three day workshop for faculty on Concept Based Curriculum. This focuses on developing healthcare professionals for the 21st century and underpins

new graduate-entry programmes in medicine and physiotherapy, with the first cohort completing their MSc Physiotherapy in 2013.

The College has also developed unique postgraduate training programmes, including a multi-disciplinary programme in systems biology/medicine, for which SBI was awarded the Irish Education Laboratory Prize 2013. SBI also established The Art of the Start entrepreneur seminar series, to inspire and promote innovation amongst young researchers.

## Engagement and Partnership

UCD College of Health Sciences works closely with the healthcare community and industry to deliver safe and effective patient care and to improve patient experience. UCD School of Public Health, Physiotherapy and Population Science staff led two such initiatives, establishing the UCD Childhood and Human Development Research Centre, directed by Professor Richard Tremblay, and the National Health Research Board Centre for Health and Diet Research (CHDR), led by Professor Cecily Kelleher and Professor Ivan Perry (UCC). 2013/14 saw

**UCD College of Health Sciences consists of three schools:**

**UCD School of Medicine and Medical Science**
*Head of School/Dean*
Professor Patrick Murray

**UCD School of Nursing, Midwifery and Health Systems**
*Head of School/Dean*
Dr Martin McNamara

**UCD School of Public Health, Physiotherapy and Population Science**
*Head of School/Dean of Public Health*
Professor Cecily Kelleher

*Dean of Physiotherapy*
Professor Brian Caulfield

*As of September 2013*

*Professor Carel le Roux (l) received the Science Foundation Ireland's President of Ireland Young Researcher Award (PIYRA), in March 2014. He is pictured with President Michael D. Higgins and Professor Mark Ferguson, Director General, Science Foundation Ireland.*

Mark English, UCD second year medical student and Ad Astra Elite Athlete, with his Bronze medal for the 800m at the European Track and Field Championships in Zurich, in August.

the introduction of a highly successful, rapid HIV-screening programme, based at Dublin's Mater Misericordiae University Hospital and directed by Dr Paddy Mallon (UCD School of Medicine and Medical Science). College researchers are also engaged in major European partnerships, including two that are implementing systems approaches in biology and medicine across Europe, namely Infrastructure for Systems Biology Europe (ISBE), and Coordinating Systems Action Medicine (CASyM).

Engagement with patients and patient groups is important for us. In January, cancer survivors, patient advocates, clinicians and scientists involved in cancer research gathered for the first UCD Dublin East Cancer Open House. This unique event provided a window to the myriad of stakeholders embroiled in the battle against cancer and the opportunity to personalise the contributions each one is making.

## Community

Our students, staff and faculty are the lifeblood of the College, and the success of the College is their success. Professor Carel Le Roux was the recipient of the President of Ireland Young Investigator Award, presented by President Michael D. Higgins, in March, in recognition of his research into obesity and related diseases. Dr Colm J. Ryan, UCD School

of Medicine and Medical Science, was awarded a Sir Henry Wellcome Postdoctoral Fellowship, the first recipient of this prestigious award in Ireland. In January 2014, Professor Martin Steinhoff was appointed to the Professorial Chair of Dermatology, and as Director of UCD Charles Institute of Dermatology. Several of our faculty received awards, including Dr Martin McNamara, Dean of Nursing, who was awarded an honorary Doctor of Science degree from the University of Connecticut. Professor Philip Larkin was among ten UCD scholars to obtain a Fulbright Scholar Award. I can't name everyone (I would like to), but let me emphasise that the few highlighted here are the vanguard of a highly talented community.

UCD and others also recognised some of the College's outstanding alumni during the year. For his exceptional research contribution on the genetic causes of diabetes and endocrine obesity, Professor Sir Stephen O'Rahilly (UCD Medicine 1981) was awarded the UCD Ulysses Medal, while distinguished UCD alumnus Dato Dr Leslie Lam (UCD Medicine 1967) was conferred with an honorary NUI Doctor of Medicine degree, in recognition of achievements in clinical cardiology. In March, Dr Garret A. FitzGerald (UCD Medicine 1974) was honoured with the inaugural St Patrick's Day Science Medal by Science Foundation Ireland, presented by An Taoiseach Enda Kenny TD, in Washington DC.
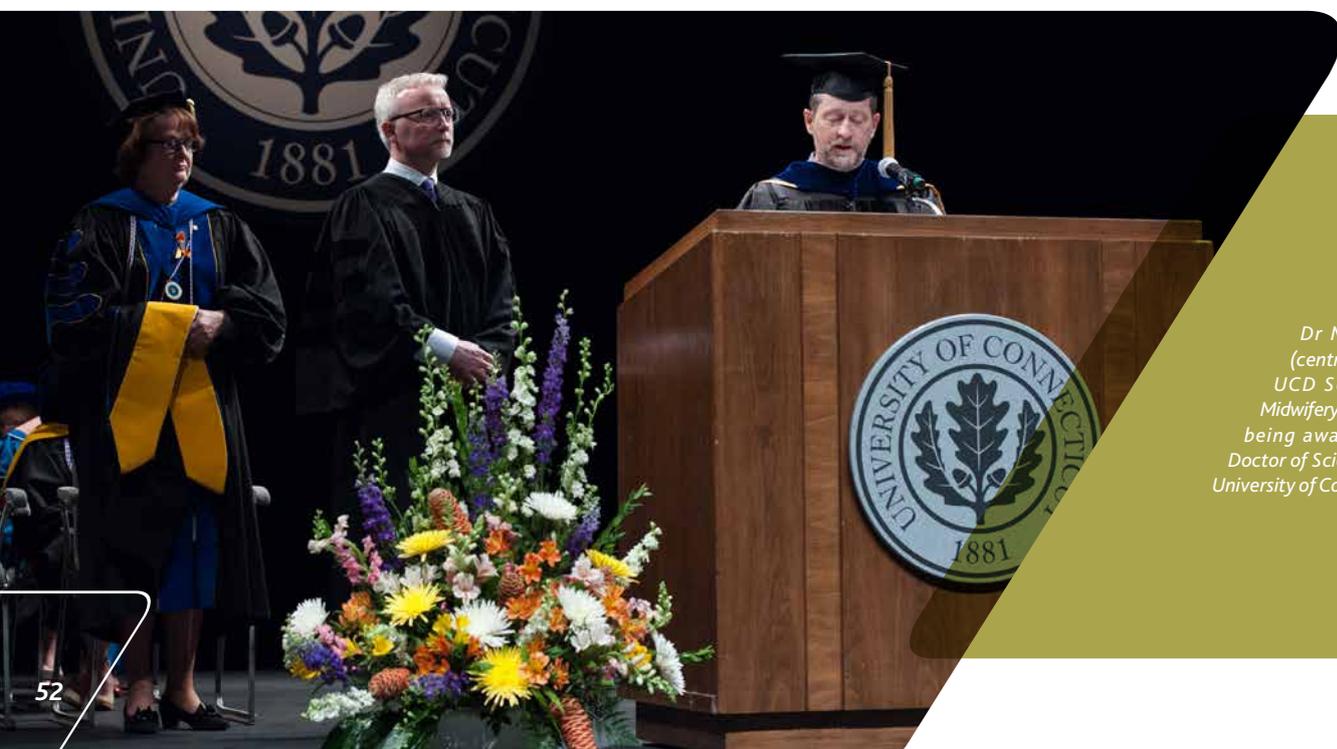


Dr Martin McNamara (centre), Dean of Nursing, UCD School of Nursing, Midwifery and Health Systems, being awarded an honorary Doctor of Science (DSc) from the University of Connecticut, USA.

## College Developments

A major development was the formation of the Ireland East Hospital Group (IEHG), a partnership of 11 hospitals and UCD that serves 1.2m people, with a budget of €700 million. The partnership includes our main teaching hospitals, the Mater Misericordiae University Hospital, St Vincent's University Hospital and the National Maternity Hospital. UCD is also a partner in the newly formed National Paediatrics Hospital Group. The IEHG group will facilitate the development of Ireland's largest academic health sciences network, where research and education are at the core of transforming healthcare in Ireland.

This year also saw the launch of the Systems Biology Ireland facility, by Minister for Research and Innovation, Seán Sherlock TD.

I would like to thank our staff and students who together contribute in a major way to the healthcare and wellbeing of the people of Ireland and beyond. I would also thank our partners in the hospitals and the community who share our ambition and provide huge support for our students. I look forward to working with all of you in continuing to build a world-class health sciences programme at UCD.

Professor Des Fitzgerald,
Principal

*Pictured (l-r) celebrating 4th July, while attending UCD Nursing Summer School: Kailee Schmitt (University of Nebraska) and Ryan Profetto, Campbell O'Connor and Rubby Koomson (all University of Connecticut).*



## UCD Students in Ireland

**Undergraduate** Students (FTE) — **2,937**

**Graduate** Students (FTE) — **1,137**

**Total** Students — **4,074**

* 👤 = 100 People Approx

## Research Income

**€22,500,000**

# UCD College of Human Sciences

*The first group of students in Ireland to complete their course through Irish Sign Language, and receive a UCD Certificate in Equality Studies, pictured at their awards ceremony in April. The course was delivered by UCD School of Social Justice, in partnership with the Irish Deaf Society.*

**Professor
Brian Nolan
College Principal**

Director of Graduate
School: Dr Conor Galvin

Vice-Principal for
Teaching and Learning:
Dr Barbara Dooley

Vice-Principal for
Research and Innovation:
Professor Alun Jones

Vice-Principal for
Internationalisation:
Dr Jos Elkink

It has been a privilege for me to serve as Principal of UCD College of Human Sciences, since 2011, and work with the highly engaged and committed staff of the College in that capacity. The College covers a very broad span in terms of disciplines and areas of research and teaching, united in a shared vision of the importance of the social sciences to the wellbeing of current and future generations. In completing my period as Principal, I congratulate all my colleagues on the advances made over that time and, most recently in 2013/14, in enhancing student learning and experience, increasing research output and impact, and deepening internationalisation and societal engagement.

## Teaching and Learning

The undergraduate programmes that are central to the College's activities (the BA delivered jointly with UCD College of Arts and Celtic Studies, and the Bachelor of Social Sciences) continue to attract a very large and diverse student body. The range of areas one can study in combination in these programmes, spanning the human sciences and encompassing other disciplines and areas through the *Horizons* structures, offers each student the opportunity to pursue his or her own particular intellectual interests and aspirations. The enhancement of teaching and learning, led by Dr Barbara Dooley as Vice-Principal for Teaching and Learning, has continued to focus on supporting the transition into university and progression through the undergraduate programmes, with peer mentoring proving particularly helpful, and on supporting staff in the ongoing development of the courses they teach and their teaching practices. At graduate level a variety of new taught programmes has been introduced and existing programmes built up,

with Dr Conor Galvin taking on the role of Director of Graduate Studies in 2013/14. Graduate research students form an integral part of the College's research activity and the structured programmes they follow ensure that they get the most out of their substantial investment of time and effort in their studies.

## Culture, Economy and Society

The College's research activities are directed in particular towards the University's key thematic research area of Culture, Economy and Society, and Professor Alun Jones, College Vice-Principal for Research and Innovation, has ensured that academic staff are appropriately supported in their research, including competing for the funding required. The sustained flow of highly cited books and papers in peer reviewed journals bears testament to the depth of scholarship of College staff.

Success in competing for research funding from the principal domestic funding agency, the Irish Research

Council, included: Professor Peter Clinch, UCD School of Geography, Planning and Environmental Policy, for the Irish Social Survey; Professor Kathleen Lynch, UCD School of Social Justice, for a project entitled Equality of Opportunity in Practice: Studies of Working, Caring and Learning; Dr Amanda Fitzgerald, UCD School of Psychology, for a study on adolescent mental health; Dr Chrystal Fulton, UCD School of Information and Library Studies, for a study on gambling; and Dr Enda Murphy, UCD School of Geography, Planning and Environmental Policy, on noise mapping. There were also many successful applications under the Council's New Foundations scheme and postdoctoral fellowships and postgraduate scholarships. Awards from other funding bodies were made to: Dr Suzanne Guerin, UCD School of Psychology, from the Atlantic Philanthropies for research on residential and respite care for people with intellectual disabilities; Dr Kalpana Shankar, UCD School of Information and Library Studies, from the Alfred P. Sloan Foundation for a project on the sustainability of data archives; and Dr Finbarr Brereton, UCD School of Geography, Planning and Environmental Policy, from the Environmental Protection Agency for a project on integrated modelling.

The research of College staff makes a major contribution to furthering the advancement of knowledge as captured in the scholarly literature, and also has direct relevance to and impact on societal understanding and policy debate. Staff are regularly called on to contribute to policy, including, in 2013/14: Dr Eilis Hennessy, UCD School of Psychology, who chaired the Expert Advisory Group which produced *Right from the Start*, a key input to the first Early Years Strategy; Dr Sara Cantillon, UCD School of Social Justice, who has been appointed to the Expert Group on Funding Third Level Education, due to report in December 2015; and Dr Conor McCabe, UCD School of Social Justice, who has been appointed to the Expert Advisory Group to the Joint Oireachtas Committee of Inquiry into the Banking Crisis.

## Internationalisation

The College has been deeply engaged with internationalisation, which plays a significant role in the University's strategic plan to 2014, and in consideration of its new strategic plan. The Vice-Principal for Internationalisation for the College, Dr Jos Elkink, has led the development and



*Former US General, John Abizaid, was the special guest at the initial UCD School of Politics and International Relations seminar series 2013/14, held in the UCD Global Lounge.*

**UCD College of Human Sciences consists of ten schools:**

**UCD School of Applied Social Science**
*Head of School*
Professor Bryan Fanning

**UCD School of Economics**
*Head of School*
Professor Paul Devereux

**UCD School of Education**
*Head of School*
Professor Ciaran Sugrue

**UCD School of Geography, Planning and Environmental Policy**
*Head of School*
Professor Mark Scott

**UCD School of Information and Library Studies**
*Head of School*
Dr Lee Komito

**UCD School of Philosophy**
*Head of School*
Professor Rowland Stout

**UCD School of Politics and International Relations**
*Head of School*
Professor Ben Tonra

**UCD School of Psychology**
*Head of School*
Professor Alan Carr

**UCD School of Social Justice**
*Head of School*
Professor Kathleen Lynch

**UCD School of Sociology**
*Head of School*
Professor Sinisa Malesevic

**Dean of Arts**
Dr Joe Brady

**Dean of Social Science**
Professor Suzanne Quinn

*As of September 2013*

*Dr Julie Winkler, President, Association of American Geographers (AAG), presented the AAG 2014 Lifetime Achievement Honours to UCD Emeritus Professor of Geography, Anne Buttimer, at the 2014 AAG Annual Meeting in Florida, April 2014.*

implementation of the College's internationalisation strategy. A central element is the building and strengthening of links with a range of international universities, in terms of research collaboration and staff and student exchanges, as well as intensified recruitment of international students, working with UCD International and with other Colleges.

## Highlights

Important events during the year included the Dublin European Institute conference on *European Democracy in Crisis*, organised by Dr James Cross and Dr Aidan Regan, UCD School of Politics and International Relations, at which President Michael D. Higgins spoke and participated throughout; the Third UCD Garret FitzGerald School on the theme *Reforming the Republic's Democratic Institutions*, with a keynote talk by Professor Philip Pettit, Princeton, who also gave a series of stimulating workshops in UCD; and the 2014 Institute for British Irish Studies Annual Conference on *Constitutions and Culture Wars: Northern Ireland, the Irish State*

*and the North-South Dimension*, at which Tánaiste Eamon Gilmore, TD gave the opening address.

I warmly congratulate College academics Dr Iseult Honohan, UCD School of Politics and International Relations, and Professor Morgan Kelly, UCD School of Economics, on their election to membership of the Royal Irish Academy, Dr Enda Murphy, UCD School of Geography, Planning and Environmental Policy, on his Irish Fulbright-EPA Scholar award, and Emeritus Professor of Geography, Anne Buttimer, on receiving the Association of American Geographers 2014 Lifetime Achievement Honour.

In concluding, it is a pleasure to wish Professor Colin Scott, the incoming Principal of the College, and the entire staff every success in the future.

Professor Brian Nolan
Principal



*Pictured (l-r) at the European Democracy in Crisis symposium, at which the Dublin European Institute (DEI) was re-launched: Dr Aidan Regan, lecturer, UCD School of Politics and International Relations, and DEI co-director; UCD President, Professor Andrew Deeks; President Michael D. Higgins; and Dr James Cross, lecturer, UCD School of Politics and International Relations, and DEI co-director.*

## Message from Incoming College Principal

It is an honour to have been appointed Principal, UCD College of Human Sciences. I wish particularly to thank Professor Brian Nolan, outgoing Principal, for his deft stewardship of the College during a challenging period. The College has internationally recognised strengths across a wide range of social sciences. These include a very strong track record in supporting learning at undergraduate and graduate levels, and through structured doctoral programmes. Our research base is a central component of our capacity to lead in learning and thinking about societies, both at the level of fundamental knowledge, and also the application of knowledge to address key public policy problems.

I want to see the College support its Schools endeavours to understand how we may better know what are society's fundamental challenges, for example through theoretical development and the harnessing of innovative methodologies. Examples of such challenges may be found in the problems facing our environment, the potential for using 'Big Data' in the provision of social services and human health, the effects of technological change on privacy and security, and the wider issues of behaviour, knowledge and learning in contemporary society. The College will support the Schools in joining up the ways they generate and communicate knowledge through supporting further enhancement of inter-disciplinary engagement, international partnerships and innovative ways of engaging with students, as well as other users of our knowledge, so that they may have greater capacity both to reflect and to act on the challenges they see.

To achieve its full potential in education, research and engagement, the College requires significant enhancement to its physical facilities through a project to develop the Newman Joyce Precinct. This ongoing transformation requires strong support within and outside the University to further enhance the College's position as a key locus for research, learning and knowledge in the social sciences.

Professor Colin Scott
Incoming Principal

*Dr Eilis Hennessy (left), senior lecturer, UCD School of Psychology, pictured with Minister for Children, Frances Fitzgerald TD, at the launch of Right from the Start, the report of the Expert Advisory Group on the Early Years Strategy, chaired by Dr Hennessy.*

## UCD Students in Ireland

**Undergraduate** Students (FTE) — **2,549**

**Graduate** Students (FTE) — **1,395**

**Total** Students — **3,944**

## Overseas Operations

**Graduate / Total** Students (FTE) — **20**

* = 100 People Approx

## Research Income

**€4,500,000**

# UCD College of Science

*The state-of-the-art UCD O'Brien Centre for Science opened officially in October 2013.*

2013/14 was a busy but exciting year for me and my colleagues. Key developments included substantial improvements to our facilities and enhanced stakeholder engagement. UCD Science developed and delivered a considerable number of successful initiatives and projects, which include but are not limited to the ones described below.



**Professor
Joe Carthy
College
Principal/Dean**

Director of Graduate
School: Dr Mary
Kelly-Quinn

Vice-Principal for
Teaching and Learning:
Dr Kathy O'Boyle

Vice-Principal for
Research and Innovation:
Dr Cormac Murphy

## Launch of UCD O'Brien Centre for Science

In October 2013, our state-of-the-art UCD O'Brien Centre for Science was officially opened. Since then it has provided UCD with cutting-edge research and teaching space, putting us on a par with other leading global universities. The new building offers a combination of modern teaching laboratories, active learning environments, lecture and seminar rooms, and accommodation for inter-disciplinary research units (e.g. Insight, UCD Earth Institute, UCD Complex Systems Analysis Laboratory (CASL)). I wish to acknowledge the efforts of our Science Operations Manager, Ms Elaine Murphy, in facilitating all of these activities.

Throughout 2013/14, the George Moore Auditorium and the Centre's atrium spaces proved to be ideal venues for engaging with internal and external audiences. *Mission Higgs*, a high profile CERN travelling exhibition, secured for UCD through the efforts of Professor Ronan McNulty in UCD Physics, and the *Earth Gathering: Ireland 2013*, hosted by UCD Earth Institute, were among the first key events to take place in the new Centre. They

attracted diverse visitor segments, ranging from Irish school children to international professionals and the Irish science diaspora. I am confident that engagements like these will increase science collaborations and grow UCD's reputation. I am delighted to say that we are finally in a position to showcase our innovative research and expertise to academia and industry in an inspiring setting through conferences, seminars and workshops - something we were not able to do for quite some time.

Based on UCD Science having established itself as a cohesive entity, paired with the availability of our new facilities, we actively connected with alumni and former members of staff, and we were delighted to welcome over 700 guests to our *Science 50* event, in June, which celebrated 50 years of science teaching and research at the Belfield campus. At this event, which was developed and managed by Dr Ulrike Kolch, our guests enjoyed science demonstrations delivered in partnership with our Schools, a fireside chat remembering the past, posters and displays about UCD Science, then and now, and much more. We received very positive feedback.

## Education and Student Engagement

Our new, state-of-the-art facilities finally allow us to provide education and student experiences that match our efforts to design and deliver cutting-edge pedagogy, which include initiatives like PAL (Peer Assisted learning), led by Dr Kathy O'Boyle, or the Flipped Classroom, led by Dr Mike Casey. In laboratory practicals we were able to move from large group teaching (60-70 students) to small group teaching (less than 28 students). In the future, our students will benefit from the latest technology and collaborative teamwork paired with the support of academic mentors, trained tutors and technical staff. This new structure challenges students to come prepared and to work out for themselves how to complete the practical challenge. I was happy to learn from my academic colleagues that our students responded well to this new way of learning.

The UCD undergraduate Science degree is one of the University's flagship common entry courses and the most popular in the country. Restructuring and the introduction of an evidence-based recruitment strategy, led by Professor Peter Duffy and Dr Orla Donoghue, has seen first preferences rise from 187 in 2007, to 776 in 2014, with CAO points now at a record high of 515. The Computer Science, and Actuarial and Financial Studies degrees also continue to attract high quality students and have maintained their lead positions.

On the international student recruitment front, led by Professor Jeremy Simpson, UCD Science was very proactive. We experienced a strong performance of our Study Abroad and Freshman Programme in the Americas, due to the efforts of Dr Tadhg Ó'Cróinín and Ms Annette Forde. Building on Professor Simpson's previous efforts, UCD Science consolidated its recruitment profile in India. Through last year's recruitment cycle, UCD established itself as the number one destination for Indian students coming to study in Ireland; UCD Science almost doubled its intake of Indian students compared to last year.

## Research Success

UCD Science research performance in 2013/14 led to the successful conversion of a high percentage of funding proposals, resulting in funding of more than €30 million being awarded. An analysis of research publications

Associate Dean of Science: Professor Peter Duffy

Associate Dean for International Study: Professor Jeremy Simpson

Associate Dean for International Study (North America): Dr Tadhg Ó'Cróinín

Associate Dean for Widening Participation: Dr Francesca Paradisi

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**UCD College of Science consists of seven schools:**

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**UCD School of Biology and Environmental Science**
*Head of School*
Dr Thomas Gallagher

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**UCD School of Biomolecular and Biomedical Science**
*Head of School*
Dr Keith Murphy

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**UCD School of Chemistry and Chemical Biology**
*Head of School*
Professor Patrick Guiry

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**UCD School of Computer Science and Informatics**
*Head of School*
Mr John Dunnion

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**UCD School of Geological Sciences**
*Head of School*
Professor Stephen Daly

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**UCD School of Mathematical Sciences**
*Head of School*
Dr Patrick Murphy

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**UCD School of Physics**
*Head of School*
Professor Pádraig Dunne

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*As of September 2013*



*Pictured (l-r) at the official opening of the UCD O'Brien Centre for Science: Professor Brian Cox, Professor of Particle Physics, University of Manchester, who delivered the inaugural lecture, and broadcaster Pat Kenny, who acted as MC.*

Dr Denis O'Brien, donor, speaking at the official opening of phase 2 of the UCD O'Brien Centre for Science. The new Centre, which cost almost €150 million, now boasts in excess of 38,000m² of new and refurbished accommodation and is home to over 2,000 undergraduate students, more than 500 graduate students, and many more researchers across a range of scientific disciplines.

captured in Thomson Reuters *InCites* shows a further increase in the percentage of UCD Science publications with international co-authors, underlining the international calibre of our research. Research publications published during 2013/14 continued to include high profile peer reviewed journals, such as *Science, Cell* and *Nature*. For example, Professor Ken Dawson's highly cited articles in Nature Nanotechnology have propelled UCD to number two in the world for normalised citation impact in the Nano Science and Nano Technology subject area, when looking at the past five years of publication output and institutions with at least 100 papers. In addition to new academic knowledge through peer reviewed papers, many of our UCD Science researchers benefited society by contributing to expert reports supporting informed decision making.

UCD Science is very active in developing and maintaining good relationships with industry and sector agencies. I am therefore pleased to report that, due to Dr Mary Kelly-Quinn's efforts, our existing interaction with Inland Fisheries Ireland was enhanced by signing a Memorandum of Understanding, which will extend mutual cooperation. In addition to

cultivating external relationships, the College enthusiastically engages with academics in other UCD disciplines. Over the past year, Professor Martin Albrecht, Vice-Principal for Research and Innovation, and Ms Susan Hediganco organised several initiatives to identify networks of potentially complementary expertise. The purpose is to harness the array of knowledge available within our own university to develop national and European funding proposals that are difficult to match by universities with narrower expertise ranges.

## Industry Partnership

How UCD Science knowledge is applied to benefit business can best be demonstrated by the example of Synference. Founded in 2013, by Fergal Reid and Conrad Lee, two recent UCD Computer Science and Informatics graduates as a NovaUCD graduate company, Synference applied machine learning to A/B testing and optimisation, enabling client companies to tailor their online experience to each of their visitors. Only a few months later, in 2014, Optimizely, the world's leading optimisation platform, acquired this young UCD start-up to gain access to its technology and research talent.

*Pictured (l-r) at the* Mission Science: Global Issues Facing Science and Society *symposium, held in October 2013: Professor Mark Rogers, UCD Deputy President; Professor James Heckman, Nobel Laureate and Henry Schultz Distinguished Service Professor of Economics, University of Chicago; Professor Muffy Calder, Chief Scientific Adviser for Scotland and Professor of Formal Methods, Computing Science, University of Glasgow; Professor Philip O'Connell, Director of UCD Geary Institute; Professor Margaret Murnane, Department of Physics and Electrical and Computer Engineering, University of Colorado; Professor Peter Leadlay, Herchel Smith Professor of Biochemistry, University of Cambridge; and Professor Joe Carthy, Principal, UCD College of Science.*

As good education, research and discovery is stimulated by an environment that thrives on creativity and a balanced staff profile, I was very happy to continue to lend my support to developments such as Artists in Residence, the crossover between art and science, with Sofie Loscher, Cindy Cummings, and David Stalling as choosen artists in 2013/14. Other College initiatives, such as affording academics equal career opportunities, were represented at College Executive level by Dr Sheila McBreen.

In conclusion, I want to acknowledge the dedication and hard work of everyone, both faculty and staff, who has contributed to the ongoing success and enhanced reputation of UCD College of Science.

Professor Joe Carthy
Principal

*Display of historical science artefacts in the UCD O'Brien Centre for Science, developed as part of UCD Science 50 celebrations.*



## UCD Students in Ireland

**Undergraduate** Students (FTE)  **2,618**

**Graduate** Students (FTE)  **1,509**

**Total** Students  **4,127**

## Overseas Operations

**Undergraduate / Total** Students (FTE)  **233**
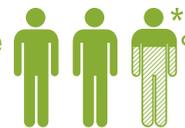
\* = 100 People Approx

## Research Income

**€32,600,000**

# Finance and Capital Development

*The new upper lake, primarily designed as a stormwater attenuation feature, incorporates ecological benefits for the local wildlife with the use of native shrubs, aquatic plants and trees to help attract wildlife and enhance campus bio-diversity.*



**Gerry O'Brien**
**Bursar**

While the University faced significant financial challenges during the year, arising from further cuts in State funding, it nevertheless managed to achieve a balanced budget outcome and to generate a small surplus of €0.2 million for the financial year ending 30 September 2014, on its HEA core funded activities.

## Reduction in State Funding

The single biggest financial challenge facing the University in the current difficult economic environment is the sustainability of operations. Since 2007/08, the University has suffered reduced State funding in each successive year and these cuts continued into the current year. However, UCD managed to meet its strategic academic objectives and to maintain financial sustainability. UCD is also meeting the challenges posed by demographic trends that indicate a significantly increased demand for higher education over the next 10 years.

UCD's core recurrent grant funding from the State was 13% less than the 2013 equivalent. This reduction included: the impact of an overall 1% funding reduction for the sector in 2014, as announced in the 2012 Budget; the full year impact of pay reductions under the Haddington Road Agreement; and the substitution of funds relating to the increase in Student Contribution from €2,500 in 2013/14 to €2,750 in 2014/15. The University has continued to increase its intake of international and graduate students, and to enhance commercial activity, in order to mitigate the impact of Exchequer funding reductions and to sustain existing academic and support services.

## New Income Initiatives

The Bursar's Office is assisting Colleges in implementing new income generation initiatives and value-for-money reviews as part of a collaborative model. These establish financial plans for individual Colleges and Schools, taking into account their relative strengths and the challenges they face. Within this model, Schools are being actively encouraged to generate additional student fee income to enable the University to achieve its financial targets. This close collaboration with the academic community will continue, in order to develop the future direction of Schools and Colleges on a sustainable basis.

The need to implement surplus generating and cost-saving initiatives is a challenge for the whole University, and this is being addressed through the ongoing work of the University's Finance, Remuneration and Asset Management Committee. The lack of timely information in relation to State funding, however, continues to adversely affect the ability of the University to prepare multi-annual plans. The HEA introduced modifications to the Exchequer funding model during the year, which included a performance-based element where a maximum of 5% of recurrent grant funding awarded is conditional on satisfactory performance against the institution's objectives.

The HEA funding model used for the 2014 recurrent grant allocation was modified so that it would commence the phasing in of funding of certain distance/off-campus programmes that had previously been excluded. The HEA is continuing its review of other elements of the funding model in 2014, in order to incentivise and reward behaviour consistent with meeting national objectives. These changes will begin to impact on funding in 2015, and UCD is well positioned to maximise any new funding opportunities.

The Minister for Education and Skills, established an expert group to consider the issues relating to the long-term sustainable funding of higher education in Ireland. This group is expected to provide an interim report by the end of 2014, and to report in full no later than 31 December 2015.

## New Systems Development

The introduction of new systems during the year continued to improve financial reporting and budget forecasting. The introduction of the Core staff planning module has improved the accuracy and efficiency of pay forecasting. In addition, all financial reports have been migrated to the new Infohub system, which enables authorised users to access financial reports independently.

New technology was also introduced to enable some of our larger suppliers to view their own accounts online and to make real-time enquiries on the status of their orders, invoices and pending payments. A new system was also introduced with selected suppliers to process the electronic receipting of supplier invoices, making workflows more efficient and improving the throughput of supplier invoices. Feedback from these suppliers has been positive, which in turn has led to a reduced level of queries.

## Increase in Non-State Funding

UCD continued its investment in international student recruitment and is actively seeking to establish itself in SE Asia, and to develop further the existing partnerships in China. This income represents a valuable source of non-Exchequer funding.

*UCD Student Centre provides extensive facilities, including a 50 metre Olympic specification pool, fitness and dance studios, film and drama facilities, and the Fitzgerald Debating Chamber.*

## UCD Estate Services

A management restructuring early in the year established UCD Estate Services, which combines the functions of the former Buildings and Services Unit with the Commercial, Residential and Hospitality Services Unit. Director of Estates, Mr Aidan Grannell, is responsible for the new unit and the overall management and support of the strategic direction of the University's estate. UCD Estate Services will build on the synergies and strengths of the combined management teams with the objective of achieving a sustainable, healthy and living campus.

## Capital Developments Launched

UCD witnessed the culmination of several major construction projects in the last twelve months, marking a major milestone in the evolution of the Belfield Campus. The strategic partnership of the University with

Income from commercial activities continued to make a valuable contribution to the University's finances; this included a new on campus banking concession agreement and a number of new contracts around the provision of catering services. Income from other ancillary activities continued to increase, and 2013/14 again saw significant earnings generated in summer residential business at UCD.

In partnership with UCD suppliers, significant savings in non-payroll expenditure were accomplished through strategic procurement processes. The appointment of the National Chief Procurement Officer will, in the future, result in UCD availing of greater levels of aggregation and collaboration within the university sector and with the wider public sector.

*Phase two of the UCD O'Brien Centre for Science opened officially in October 2013.*

philanthropy, government* and industry parties has supported the transformation of the facilities now available to our students and staff.

The Minister for Education and Skills, Ruairí Quinn TD, officially opened phase two of the UCD O'Brien Centre for Science in October 2013. The Centre now provides in excess of 38,000m² of new and refurbished accommodation, representing an investment of €150 million. In addition to the day-to-day teaching and research activity, the Centre has been busy hosting a wide range of activities from scientific conferences, conferring receptions and exhibitions to music recitals, innovation workshops and open days. The completion of the second phase includes the provision of facilities for the new National Centre for Data Analytics (Insight), UCD Earth Institute and computation research, and an array of teaching laboratory and outreach activities. A brief for the final phase of the Science Masterplan is being developed to support our ambition to deliver an engine room for Irish science education and research, a focal point for innovation, industry engagement and to act as a driver for Ireland's economic regeneration.

The official launch of the new UCD Sutherland School of Law Building took place in November 2013, within a new landscaped lakeside setting at the academic core of the campus. The new building acts as a national resource of the highest international standard, designed to underpin innovation in legal education, research and practice.

In December 2013, the Minister for Research and Innovation, Seán Sherlock TD, officially opened the research facility for Systems Biology Ireland on campus. The new facility will support the development of new therapeutic approaches to cancer, and inflammatory and degenerative diseases.

* Government funding includes projects funded under the EU Structural Funds Programme 2007-2013

## New Projects in Development

Following a series of briefing workshops and site visits, the design of the new UCD Confucius Institute for Ireland was finalised. It is anticipated that the construction will commence on site in 2015. Mr Liu Yunshan, a senior member of the Central Politburo Standing Committee of the CPC, visited UCD to attend the foundation stone ceremony in June 2014. The foundation stone was unveiled by Mr Liu Yunshan, Minister for Education and Skills, Ruairi Quinn TD, and Madam Xu Lin, the Director General of Hanban, China.

A project commenced in partnership with industry, on UCD Lyons Research Farm, to upgrade the dairy parlour, wintering facilities and other research infrastructure. The new unit will facilitate the increase of our dairy production research programmes, in support of dairy industry expansion following abolition of milk quotas in 2015.

The proposed development of a new landmark exhibition in Newman House, on St Stephen's Green, will celebrate Irish culture, heritage and literature. The project will involve the restoration of the protected building where James Joyce studied, Gerard Manley Hopkins lectured and where UCD was first founded. Subject to final funding approval, this project may advance to construction in late 2015.

It is proposed that the redevelopment of the UCD Newman Joyce Precinct at Belfield will deliver student-centric academic facilities in addition to cultural heritage and public engagement spaces for the arts, humanities and social sciences. Works continued over the summer as part of the ongoing Newman Fenestration Improvement Project, and also on the upgrade of selected classrooms. This development responds to the need for a flexible provision of teaching space capable of supporting an increasing number of mid-range class sizes. Other classroom improvement works were completed in the UCD Engineering and Material Science Centre, while works continue the Memorial Hall at the Blackrock Campus.

## Residences

On campus residential accommodation acts as a focal point for the student academic and social experience. The UCD Belgrove Student Residence village was first constructed in 1989, and forms part of the 2,756 student bed residence portfolio. Phased refurbishment of these buildings commenced in 2011, and will be completed by early 2015. UCD is currently preparing for the construction of a new 354 bedroom residence village to be located adjacent to the existing Belgrove Residence. The scope of these works involves a series of enhanced accessibility and landscape features while also improving amenities, people movement and wayfinding. The objective is to have 3,110 student bed places on campus by 2016.

UCD Student Residences continue to see full occupancy with demand exceeding available capacity. Following a review of residential accommodation revenues and external market conditions, a three year framework for student accommodation annual price increases has been agreed. This will ensure a sustainable financial model which supports a phased residential refurbishment and capacity expansion programme.

## Campus Developments

Funded through donor support, three new outdoor artwork pieces were added to the University collection, created by Paddy Campbell, Rowan Gillespie and Catherine Greene. The Campus amenity was also enhanced by the introduction of a new quadrangle landscape area adjacent to the UCD Student Centre and UCD Health Sciences Centre.

Campus commuting-related initiatives to be introduced shortly include: a UCD DART Shuttle Bus to Sydney Parade, the Go Car Sharing Initiative, and an increased provision of the 142 Bus Services.

*UCD Sutherland School of Law, the first purpose-built university law school in Ireland.*
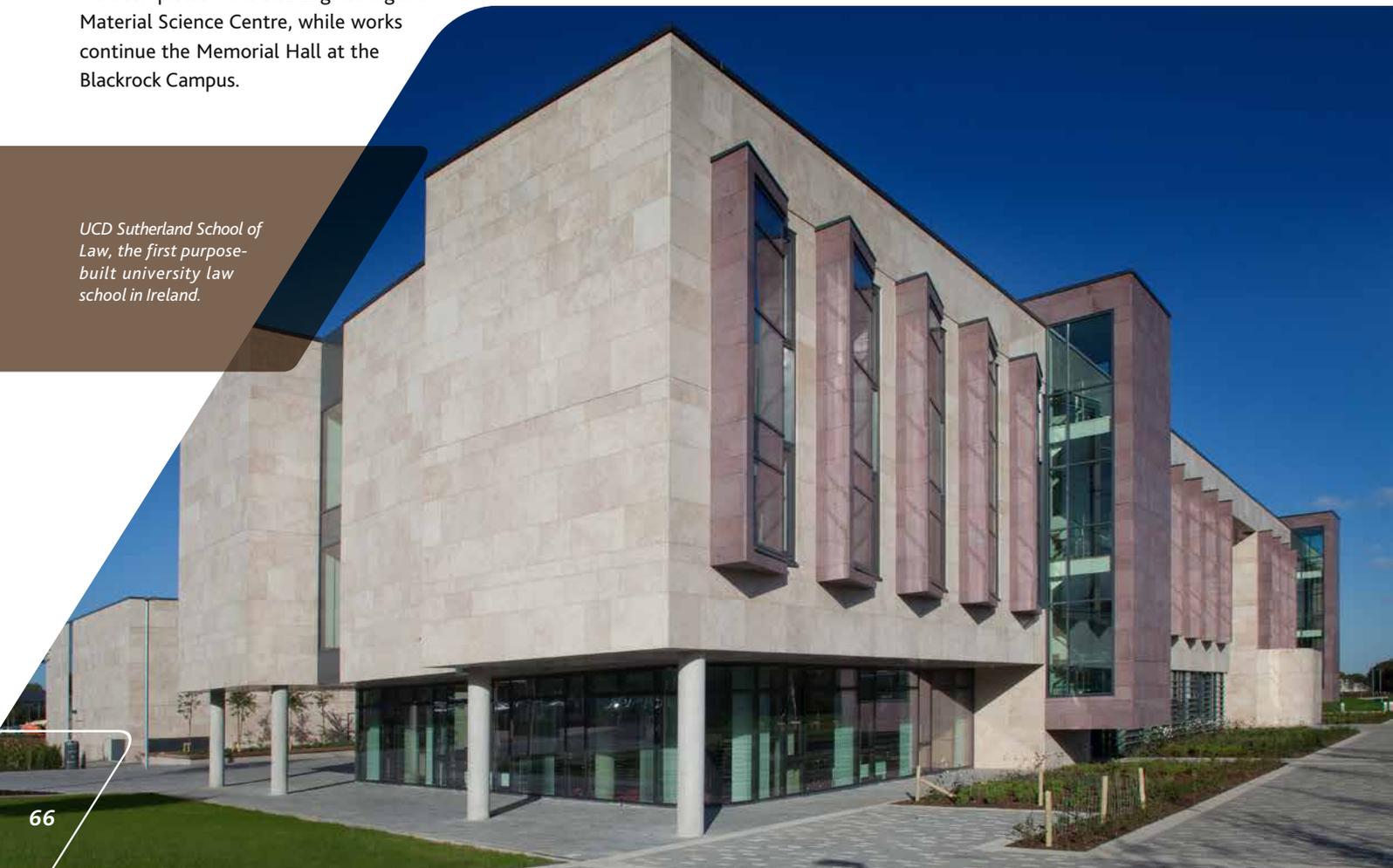
_Proposed design for the UCD Confucius Institute for Ireland, to be located alongside the upper lake on the Belfield campus._

## Energy

UCD reports to the public sector Monitoring and Reporting System, relating to the University's performance towards 2020 energy efficiency targets. These require public sector organisations to improve their energy efficiency by 33% by the year 2020.

Despite the recent addition of some new energy-intensive buildings and general increases in floor space, UCD has improved its energy efficiency by 11%, when compared to the 2006 baseline. It is noted that the 2020 targets are indeed challenging, but with the correct resources and campus-wide involvement in the energy strategy implementation, they can be achieved.

Sustainability initiatives were incorporated into our new buildings and refurbishments. These range from thermal performance fabric upgrades, façade renewal in the UCD Newman Building, and the introduction of LED lighting, Smart Controls on heating and ventilation systems across many buildings.

The renewal of the on campus CHP (Combined Heat and Power) facility is planned to take place during summer 2015, and will present a significant opportunity to improve the overall Belfield Campus energy sustainability performance. Other projects that are being considered for the coming year include further fabric and plant upgrades, and programmes designed to promote a culture of energy efficiency among staff and students.

Gerry O'Brien
Bursar

## UCD Energy Use

| | 2011 / 2012 | 2012 / 2013 | 2013 / 2014 |
|---|---|---|---|
| Total Area m² | 283,565 | 297,565 | 314,400 |
| | | | |
| Electricity kWh | 25,076,361 | 27,296,800 | 26,304,459 |
| Gas kWh | 47,176,302 | 70,706,905 | 70,970,958 |
| **Total Energy kWh** | **72,252,663** | **98,003,705** | **97,275,417** |
| | | | |
| kWh Use per m² | 255 | 329* | 309 |

↓**20** kWh use per m²

### Decrease in 2013/14 compared to 2012/13

_*Note introduction of new energy-intensive facilities in 2012 including science expansion and a 50m Olympic specification swimming pool. The above energy use excludes student residence accommodation._

# **University** Awards

## **UCD Ulysses Medal**

The Ulysses Medal is the highest honour that UCD can bestow and is awarded to individuals whose work has made an outstanding global contribution.

### Professor Sir Stephen O'Rahilly

11 September 2013, in recognition of his work to the understanding of the genetic causes of diabetes and endocrine obesity.

### Professor Barry Trost

14 October 2013, in recognition of being one of the most highly cited chemists in the world.

### Albie Sachs

27 March 2014, in recognition of his global contribution to human rights.

### Mary McAleese

16 June 2014, in recognition of her transformative presidency of Ireland.

# UCD Foundation Medal

The UCD Foundation Medal is awarded annually to an alumnus in recognition of their outstanding achievements.



### Dr David O'Reilly

15 November 2013, in recognition of his outstanding contribution to the global energy sector.

# Honorary Degrees
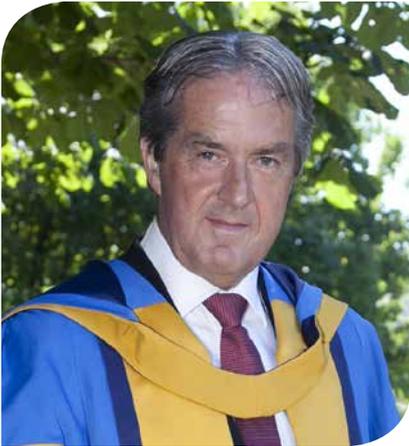
### Aidan Cotter

3 September 2013, distinction in public service for the marketing of Irish food and drink products in Ireland and abroad - Honorary Degree of Doctor of Laws.

### Declan Mc Court

3 September 2013, distinction in business, philanthropy and humanitarianism - Honorary Degree of Doctor of Laws.

### Katherine Zappone

3 September 2013, distinction in education, community outreach and the development of public policy - Honorary Degree of Doctor of Laws.

### Jeffrey Alexander

4 September 2013, distinction in cultural sociology - Honorary Degree of Doctor of Literature.

### Marie Elaine Grant

5 September 2013, distinction in services to Irish sport and the Olympic Games - Honorary Degree of Doctor of Science.
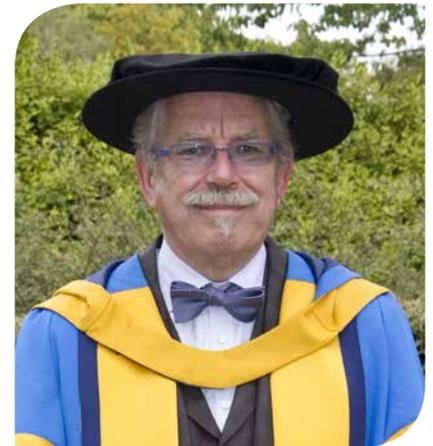
### Robert Ballagh

5 September 2013, distinction in the Arts and contribution to the visual arts in Ireland - Honorary Degree of Doctor of Literature.

### John Hegarty

6 September 2013, distinction in science, innovation and university leadership - Honorary Degree of Doctor of Science.

### Terry McCarthy

2 December 2013, distinction in contribution to scholarship and creativity and contribution to world affairs through print media, television and philanthropy - Honorary Degree of Doctor of Literature.

### Eilis McGovern

3 December 2013, distinction in science, medicine, surgery and professional leadership - Honorary Degree of Doctor of Science.

# Honorary Degrees

**Cormac Kilty**

3 December 2013, distinction in biomedical innovation, specifically in medical diagnostics - Honorary Degree of Doctor of Science.

**Barbara Murphy**

3 December 2013, distinction in science, medicine and professional leadership - Honorary Degree Doctor of Science.

**Yvonne Murphy**

5 December 2013, distinction in law - Honorary Degree Doctor of Laws.

**Ciarán Murray**

6 December 2013, distinction in business - Honorary Degree Doctor of Laws.

**Frank Ryan**

6 December 2013, distinction in public service through a 10 year term as CEO of Enterprise Ireland in challenging economic circumstances - Honorary Degree Doctor of Laws.

**Noeline Blackwell**

16 June 2014, distinction in public interest law and justice - Honorary Degree Doctor of Laws.

**Susan Denham**

16 June 2014, distinction in law and justice - Honorary Degree Doctor of Laws.
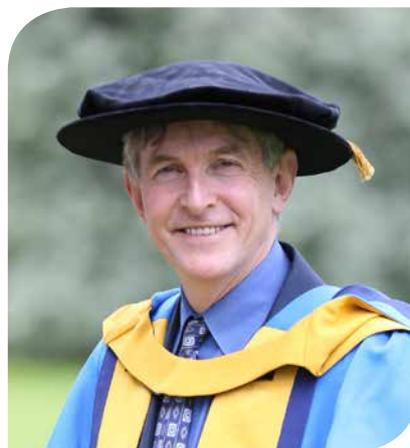
**Conor Gearty**

16 June 2014, distinction in the fields of human rights law - Honorary Degree Doctor of Laws.

**Emily O'Reilly**

16 June 2014, distinction in role as Ombudsman and Information Commissioner - Honorary Degree Doctor of Laws.

# Appointments

## New Appointments

The table below sets out the academic appointments in the period 1 September 2013 to 31 August 2014, to positions of Associate Professor and Professor, and includes both new recruits to UCD and UCD staff promoted.

### Professor Appointments

| | |
|---|---|
| Professor Fionnuala McAuliffe | **UCD School of Medicine and Medical Science** |
| Professor Michael O'Neill | **UCD School of Business** |
| Professor Thomas Walsh | **UCD School of Medicine and Medical Science** |
| Professor Martin Steinhoff | **UCD School of Medicine and Medical Science** |
| Professor Ronan Cahill | **UCD School of Medicine and Medical Science** |

### Professor Promotions

| | |
|---|---|
| Professor Maria Baghramian | **UCD School of Philosophy** |
| Professor Christopher Bean | **UCD School of Geological Sciences** |
| Professor David Brayden | **UCD School of Veterinary Medicine** |
| Professor Mark Crowe | **UCD School of Veterinary Medicine** |
| Professor Alexander Evans | **UCD School of Agriculture and Food Science** |
| Professor William Gallagher | **UCD School of Biomolecular and Biomedical Science** |
| Professor Michael Gilchrist | **UCD School of Mechanical and Materials Engineering** |
| Professor Brian Glennon | **UCD School of Chemical and Bioprocess Engineering** |
| Professor Declan Gilheany | **UCD School of Chemistry and Chemical Biology** |
| Professor John O'Doherty | **UCD School of Agriculture and Food Science** |
| Professor Vera Regan | **UCD School of Languages and Literatures** |
| Professor Anthony Roche | **UCD School of English, Drama and Film** |
| Professor Cormac Taylor | **UCD School of Medicine and Medical Science** |

### Associate Professor Promotions

| | |
|---|---|
| Professor Gavin Barrett | **UCD School of Law** |
| Professor John Brannigan | **UCD School of English, Drama and Film** |
| Professor Michael Brophy | **UCD School of Languages and Literatures** |
| Professor Dympna Devine | **UCD School of Education** |
| Professor Seamas Donnelly | **UCD School of Medicine and Medical Science** |
| Professor Fiona Doohan | **UCD School of Biology and Environmental Science** |
| Professor Denis Dowling | **UCD School of Mechanical and Material Engineering** |
| Professor Niamh Hardiman | **UCD School of Politics and International Relations** |
| Professor James Lyng | **UCD School of Agriculture and Food Science** |
| Professor John McCafferty | **UCD School of History and Archives** |
| Professor Ronan McNulty | **UCD School of Physics** |
| Professor Bettina Migge | **UCD School of Irish, Celtic Studies, Irish Folklore and Linguistics** |
| Professor Carmel Mooney | **UCD School of Veterinary Medicine** |
| Professor Evelyn Murphy | **UCD School of Veterinary Medicine** |
| Professor Paula Murphy | **UCD School of Art History and Cultural Policy** |
| Professor Kevin O'Connor | **UCD School of Biomolecular and Biomedical Science** |
| Professor James O'Shea | **UCD School of Philosophy** |
| Professor Aidan O'Sullivan | **UCD School of Archaeology** |
| Professor Mark Scott | **UCD School of Geography, Planning and Environmental Policy** |
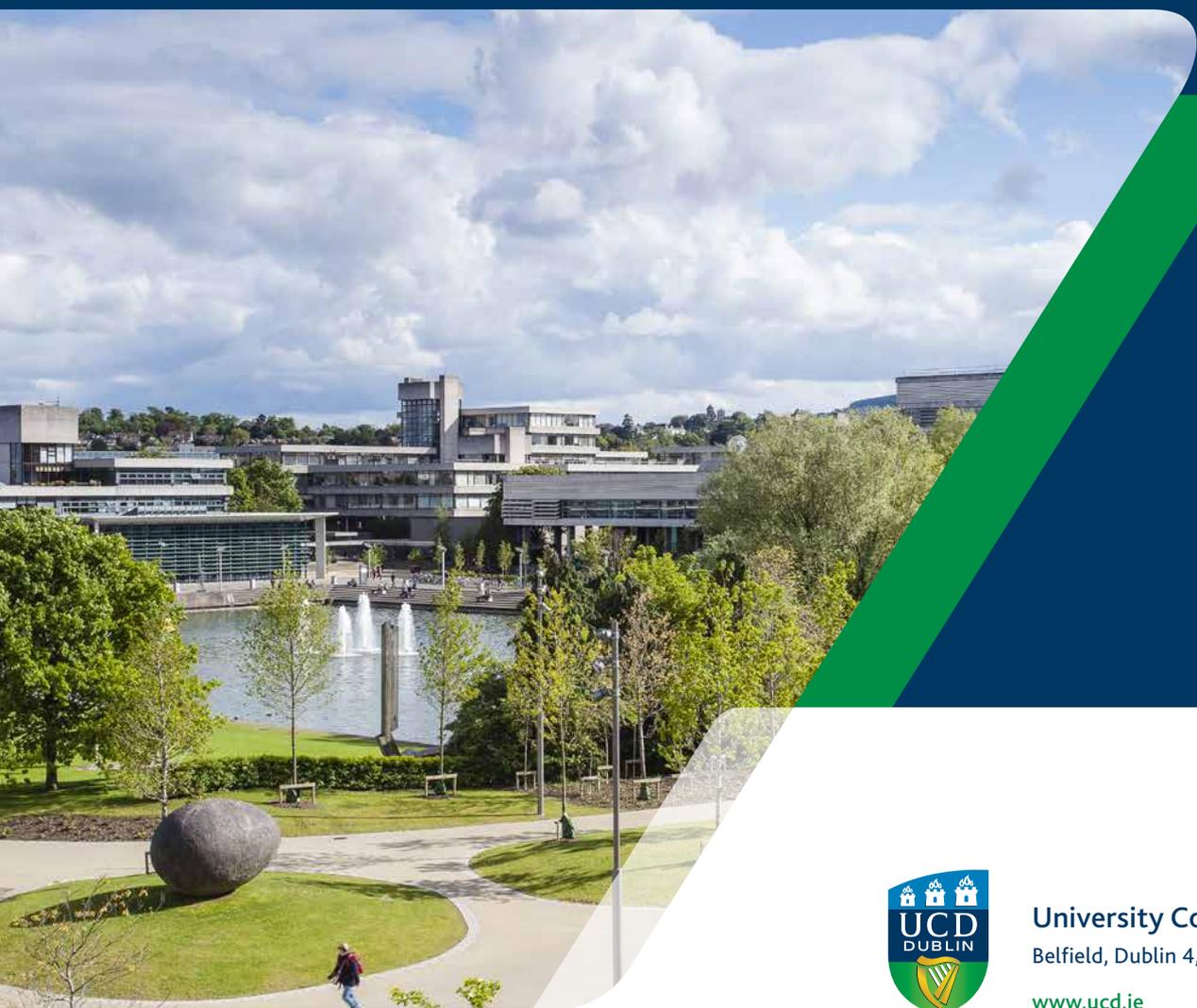
University College Dublin

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www.ucd.ie