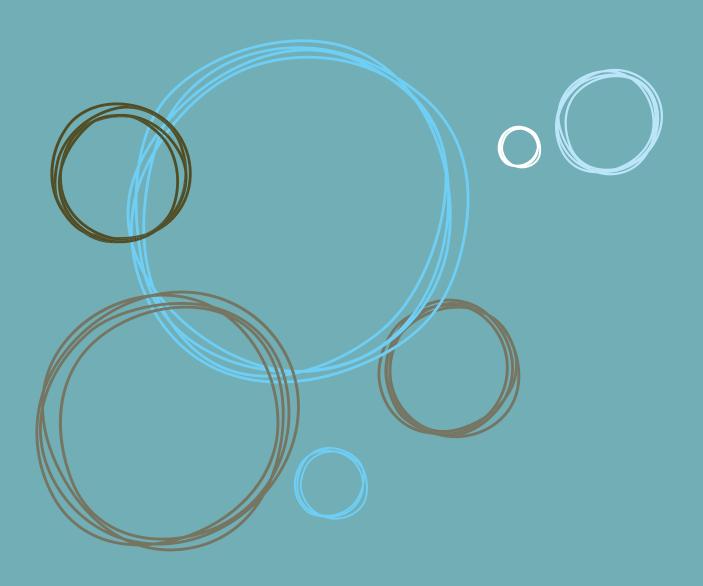


# INSTITUTIONAL RESEARCH REPORT 2012







### This document profiles UCD's research performance over the past year. It is in five parts:

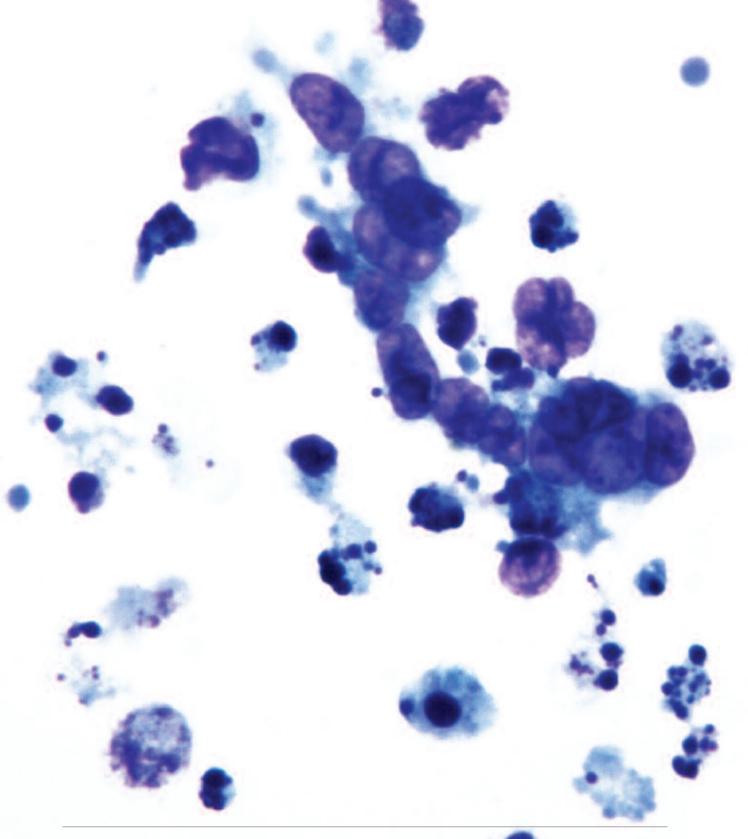
- **1. Reputation:** deals with UCD's international reputation, as evidenced by its place in established rankings of universities and by bibliometric analysis.
- **2. People:** gives details of UCD's staff complement and the proportion that is focused on research.
- **3. Infrastructure:** outlines the main developments in UCD's research infrastructure.
- **4. Funding of research in the university:** gives broad details of the sources and amounts of research funding and how that is allocated internally.
- **5. Governance, management and administration:** gives details of the oversight mechanisms in place within UCD and provides information on membership of research committees
- **Appendix A** gives details of the UCD Academic Centres, along with contact details.
- **Appendix B** gives the membership and contact details for UCD Institutes.
- **Appendix C** lists UCD's key points of contact for research in Colleges, Schools, Institutes and Centres with their contact details.
- **Appendix D** provides a list of frequently cited papers published by UCD researchers.
- **Appendix E** lists books published in 2012 that were authored or co-authored by UCD academics.

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## PREFACE



The Institutional Research Report has been extended based on your feedback on the previous, very popular edition. We have added more facts and figures (also available in an easily viewed slideshow version www.slideshare.net/UCDResearch) as well as contact information in the Appendices.

The data shows that UCD is performing well in a difficult time, with the highest number of publications nationally, an ever increasing number of book publications, recovery of funding, new partnerships with peer institutions, industry and NGOs and the development of state-of-the-art research facilities. UCD is well placed to address the major changes in research in Ireland and the EU, in particular the implementation of national research priorities in ICT, AgriFood, Energy and Health.

UCD has had a strong performance in EU funding and now hosts 10 European Research Council awards, nearly 50% of all those awarded nationally. Internationalisation continues apace particularly in China, positioning UCD well for the upcoming EU Horizons 2020. UCD is partnering with over 300 companies and has attracted several major industry technology centres, including Food Health Ireland. There are challenges ahead and areas for improvement. We need to support high quality publications and enhance the impact of our research, by tackling societal challenges and contributing to R&D in NGOs and government. We need to further develop strategic areas in agrifood, energy, environment, health, humanities, ICT and social sciences. We need to support researchers during this very difficult transition in research priorities and funding. We will strengthen our EU research supports to increase the success of the community when applying for funding. We are continuing to addressing career structures and are developing a gender equality plan. We need to manage the knowledge created in the university more effectively and make it more available through open access and the publication repository. We have embarked on an exercise called 'Beyond Publications', which seeks to capture more broadly the impact of research in UCD on society.

I want to thank the researchers in UCD who through their outstanding achievements contribute so much to the reputation of the university, to its PhD programmes and to the transformation of the university's infrastructure. I also want to thank the Schools and Colleges that work hard to support the research community and the university for the resources it continues to provide to promote research.

**Professor Desmond Fitzgerald** 

Vice President for Research

A university's reputation develops in a variety of ways. The principal factor is the stature of its scholarship, but there are others, including its ethos, values, heritage, resources, scale and location, and the profile of its staff and students.

### REPUTATION

This section shows how UCD compares with its international peers in the Times Higher Education World Rankings and the QS World University Rankings, and it provides some bibliometric analysis using data from the Thomson Reuters Web of Science.



### **International Rankings**

International ranking scales attempt to provide a valid basis for the comparision of universities across a range of measures including research bibliometrics. The university ranking scales rely heavily on quantitative bibliometrics derived from the frequency of citations in peer-reviewed journals, mostly in the natural and physical sciences. Coverage of peer-reviewed publications from the Humanities and Social Sciences is unreliable in these systems. Moreover, since books from any discipline are not suited to citation-based impact factors, arguably there is a subsequent overemphasis on the peer-reviewed journal papers from natural and physical sciences research in the most influential university rankings including Times Higher Education World University rankings, QS World University Rankings and Academic Rankings World Universities. These rankings, however, are widely publicised, and they affect the decisions of choosing where to study and work, and they influence funders and the attitude of the general public. A university that wishes to be internationally competitive would ignore them at its peril. It is therefore important that UCD has the capacity to analyse and understand the results of research evaluation systems and is in a position to claim full credit for the university's research publications.

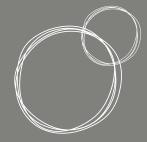
According to the Times Higher Education (THE) World University Rankings 2012¹, UCD is ranked 187th in the world and 31st in the UK and Ireland. Ireland has two institutions in the top 200, but none in the top 100. Highest placed is Trinity College Dublin (110), followed by University College Dublin (187). These rankings can be seen as a reflection of the State's austerity measures and a difficult job market, which have resulted in reduced funding for universities, restricted staffing, more students, and a resulting lower staff to student ratio.

The main reason underlying a weakened performance of Irish universities in the latest THE rankings is the reduced scores in both the teaching and the academic reputation surveys, which together account for 33% of the overall score.

THE & QS World University Rankings						
Year <sup>2</sup>	UCD Ranking (THE)	UCD Ranking (QS)				
2005	221st	221st				
2006	219th	219th				
2007	177th	177th				
2008	108th	108th				
2009	89th	89th				
2010	94th	114th				
2011	159th	134th				
2012	187th	131st				

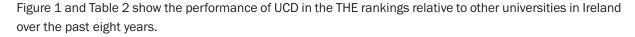
Table 1: THE & QS rankings since 2005

# In the QS 2012 rankings, UCD is ranked 131st in the world, an improvement on its 2011 ranking (134th).



<sup>&</sup>lt;sup>1</sup> http://www.timeshighereducation.co.uk/world-university-rankings/2012-13/world-ranking

<sup>&</sup>lt;sup>2</sup> Up until 2010 QS compiled the THE ranking; post 2010 Thomson Reuters compiles the rankings for THE, while QS publish independent rankings.



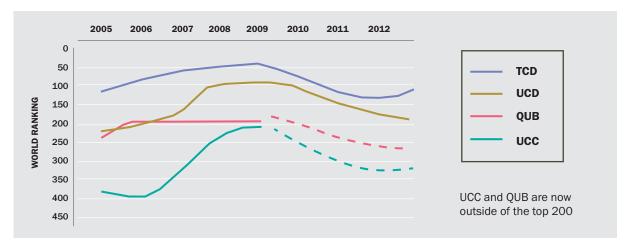


Figure 1: Times Higher Education Rankings of selected universities, 2005 - 2012

THE Rankings 2005-2012										
	2005	2006	2007	2008	2009	2010 <sup>3</sup>	2011	2012		
UCD	221	219	177	108	89	94	159	187		
TCD	111	78	53	49	43	76	117	110		
UCC	384	366	286	226	207	>200	301-350	301-350		
QUB	238	206	205	202	201	>200	251-275	276-300		

**Table 2: Times Higher Education Rankings 2005-2012** 

The THE methodology for ranking universities changed in 2010. The methodology now employs 13 separate performance indicators designed to capture the full range of university activities, from teaching to research to knowledge transfer. These 13 indicators fall into five broad categories:

- 1. Teaching the learning environment (30% of the overall ranking score);
- 2. Research volume, income and reputation (30%);
- 3. Citations research influence (30%);
- 4. Industry income innovation (2.5%); and
- 5. International outlook—staff and students (7.5%).

Thus between 62.5 and  $70\%^4$  of a university's score is attributable to the research activity base and performance.

 $<sup>^{\</sup>rm 3}$  The 2010 rankings uses a different methodology, 65% focused on research activity.

<sup>&</sup>lt;sup>4</sup> Calculated by adding the percentages for Research (30%), Citations (30%) and ndustry income (2.5%); research staff contributes a share of the international staff directly influencing international outlook.

### **Bibliometric analysis**

### **Capturing publications in the UCD Research Management System**

The Annual Report of the President includes a list of the publications produced by each school for the academic year, under the following headings:

Total Publications per academic year							
Publication Type	2006/07	2007/08	2008/09	2009/10	2010/11	Grand Total	
Peer Review Journal	1,822	2,126	2,198	2,649	2,275	11,070	
Conference Publication	978	1,267	1,333	1,350	1,303	6,231	
Book Chapter	283	315	353	315	405	1,671	
Other Journal	89	101	88	85	103	466	
Published Report	33	57	79	76	66	311	
Edited Book	40	71	67	54	62	294	
Book	44	56	59	56	75	290	
Grand Total	3,289	3,993	4,177	4,585	4,289	20,333	

Source: UCD Research Management System Profiles, total publications per academic year; data extracted 26 Oct 2012

Table 3 Source: RMS Profiles, total publications per academic year, data extracted: 26 Oct 2012

The overall volume of publications produced each year from 2006/7 (when the Research Management System was fully implemented) is illustrated in Figure 2. From this, it can be seen that publication volume peaked in 2009/10, after which there was a slight decline. When examining the numbers more closely we can see that there is a change in the profile of the publications coming from UCD. The number of books published by UCD academics continued to grow steadily over the period with an increase in the number of books authored each year. Editing books and writing book chapters also show upward trends across the period. An appendix of the books produced by UCD academics in 2011 indicates a strong performance from Arts, Humanities and Social Sciences scholars in driving this trend.

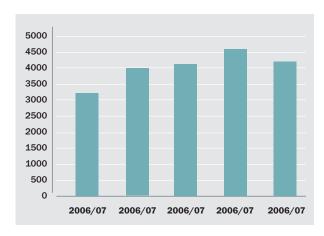


Figure 2: Total publications per academic year

UCD has consistently produced the highest volume of academic publications in Ireland since 2008. However only 69 % of publications in Web of Science were cited over the time period 2007 to 2011.

### **Capturing Publications in External Systems**

In 2011, 2,068 peer-reviewed publications by UCD researchers were recorded – an average of 2.3 publications per academic staff member. Since 2008, among the Irish universities, UCD has consistently produced the highest volume of academic publications. In the past ten years, the total number of publications per year has almost tripled, as can be seen from Figure 3.

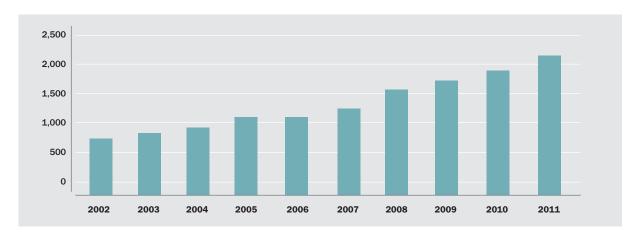


Figure 3: Number of UCD publications per year listed in Thomson Reuters InCites

### **Publication impact**

Figure 4 and Table 4 (taken from Thomson Reuters InCites) show the impact relative to world averages<sup>5</sup> of academic publications from a selection of the universities used in university benchmarking.

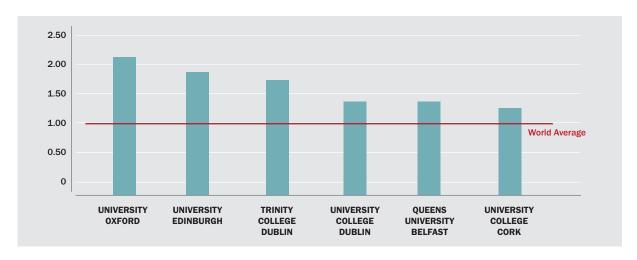


Figure 4: Publications impact of selected universities relative to world average for most recent five years

Impact is the average citation rate of the outputs for a specified source (country, organisation, author). This is a simple and direct measure of research performance, since citations usually reflect acknowledgement by later authors of the value of the published item. The impact figures are rebased to take into account the world average in the field. In this way, comparisons can be made between sources.

	Number of documents in Veb of Science	Number of citations	Average number of citations per document	% Documents cited	Impact relative to world average
University of Oxford	30,165	308,951	10.24	74.43	2.11
University of Edinburgh	15,669	147,990	9.43	74.92	1.94
Trinity College Dublin	5,973	50,681	8.49	71.76	1.75
University College Dublin	n 8,594	57,602	6.70	69.36	1.38
Queen's University Belfa	st 6,450	43,214	6.70	71.32	1.38
University College Cork	4,606	28,426	6.17	70.21	1.27

Table 4: Publications impact of selected universities relative to world average for most recent five years<sup>7</sup>

Note that 31% of UCD publications in the Web of Science were not cited over the time period 2007 to 2011. This, along with the average of 6.7 citations per document and the volume of documents published, raises questions about the research journals being targeted by UCD academics. The challenge ahead is to improve the quality and the impact of UCD's research publications. .

### Trends in publication impact compared with world average

Established European universities had publication impacts above the world average over the past 30 years, (Figure 5). Irish universities have improved their performance. However, UCD's performance has plateaued.

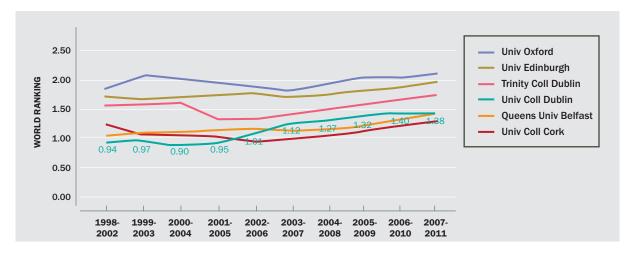


Figure 5: Trends in publications impact relative to world average<sup>8</sup>

<sup>&</sup>lt;sup>6</sup> Selected institutions from University KPI benchmarking exercise

<sup>&</sup>lt;sup>7</sup> Source: Thomson Reuters InCities (Global Comparisons) 2007-2011, accessed 19 November 2012

<sup>8</sup> Source: Thomson Reuters InCities (Global Comparisons) 2007-2011, accessed 19 November 2012

Table 5 shows the rolling five-year average publications impact for selected universities compared with world average.

Institution <sup>6</sup>	1998- 2002	1999- 2003	2000- 2004	2001- 2005	2002- 2006	2003- 2007	2004- 2008	2005- 2009	2006- 2010	2007- 2011
Univ Oxford	1.90	1.96	2.07	2.04	1.99	1.92	1.99	2.05	2.04	2.11
Univ Edinburgh	1.73	1.71	1.74	1.77	1.84	1.79	1.83	1.83	1.87	1.94
Trinity Coll Dublin	1.58	1.60	1.62	1.67	1.43	1.42	1.49	1.56	1.67	1.75
Univ Coll Dublin	0.94	0.97	0.90	0.95	1.01	1.12	1.27	1.32	1.40	1.38
Queen's Univ Belfast	1.02	1.06	1.06	1.09	1.14	1.17	1.17	1.25	1.27	1.38
Univ Coll Cork	1.22	1.08	1.03	1.02	1.00	0.94	1.00	1.07	1.14	1.27

Table 5: Five-year average publications impact for selected universities

### **Journals of high impact**

Publication in high-impact journals (as defined by Thomson Reuters) has a positive effect on a university's overall bibliometric performance in research evaluation systems and in university ranking scales. These journals are predominantly in the natural and physical sciences. Over the period 2007 to 2011, UCD researchers published their work in a variety of leading international peer-reviewed journals<sup>9</sup>. Table 6 shows the numbers of articles<sup>10</sup> published each year in each journal.

2011 Journal Impact Factor	Journal	2007	2008	2009	2010	2011	Grand Total
53.298	New England Journal of Medicine		1			2	3
38.278	Lancet	1			1	1	3
36.28	Nature		2	4	3	2	11
35.532	Nature Genetics			2	3		5
32.403	Cell			1	2		3
31.201	Science		1	4	1	3	9
30.026	JAMA - Journal of the American Medical Association			1			1
26.008	Nature Immunology				1		1
25.421	Cell Stem Cell				1		1
23.462	Lancet Neurology		1		1	1	3
23.268	Nature Biotechnology	1					1
22.589	Lancet Oncology					1	1
22.462	Nature Medicine		1			1	2
21.637	Immunity	1					1
19.488	Nature Cell Biology			1			1
19.276	Nature Methods	1					1
18.967	Nature Physics				1	1	2
18.372	Journal of Clinical Oncology					5	5
15.748	Trends in Ecology and Evolution			1		1	2
	Totals	4	6	14	14	18	56

Source: InCitesTM, Thomson Reuters (2012). Report created 29 Oct, 2012. Data processed 31 Jul 2012 5:34:23 PM. Data Source: Web of Science

Table 6: UCD publications in journals of high impact

<sup>9</sup> As defined in Thomson Reuters WOS database. All journals listed in Table 6 have impact factors of 15 and above.

<sup>&</sup>lt;sup>10</sup> Includes articles in journals only; letters, reviews, etc. are not counted.

### **Web of Science Journal Categories**

Table 7 shows the top 40 Web of Science Journal Categories for UCD's articles, ordered by the highest number of citations per paper. This indicates the subject areas in which UCD's papers are having the highest impact..

1         Physics, Nuclear         4         420         105           2         Cell & Tissue Engineering         1         36         36           3         Biotechnology & Applied Microbiology         159         5473         34.4           4         Evolutionary Biology         16         337         21           5         Neurosciences         133         2779         20.9           6         Chemistry, Physical         56         993         17.7           7         Astronomy & Astrophysics         149         2582         17.3           8         Genetics & Heredity         95         1558         16.4           9         Allergy         3         47         15.7           10         Physics, Particles         31         423         15.6           11         Cardiac & Cardiovascular Systems         77         1099         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology	Rank	Subject Area	Number of articles 2007-2011	Total citations	Citations per paper
3         Biotechnology & Applied Microbiology         159         5473         34.4           4         Evolutionary Biology         16         337         21           5         Neurosciences         133         2779         20.9           6         Chemistry, Physical         56         993         17.7           7         Astronomy & Astrophysics         149         2582         17.3           8         Genetics & Heredity         95         1558         16.4           9         Allergy         3         47         15.7           10         Physics, Multidisciplinary         214         3059         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Inst	1	Physics, Nuclear	4	420	105
4         Evolutionary Biology         16         337         21           5         Neurosciences         133         2779         20.9           6         Chemistry, Physical         56         993         17.7           7         Astronomy & Astrophysics         149         2582         17.3           8         Genetics & Heredity         95         1558         16.4           9         Allergy         3         47         15.7           10         Physics, Multidisciplinary         214         3059         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instrumentation         44         560         12.7           18         Infectious Diseases	2	Cell & Tissue Engineering	1	36	36
5         Neurosciences         133         2779         20.9           6         Chemistry, Physical         56         993         17.7           7         Astronomy & Astrophysics         149         2582         17.3           8         Genetics & Heredity         95         1558         16.4           9         Allergy         3         47         15.7           10         Physics, Multidisciplinary         214         3059         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemis	3	Biotechnology & Applied Microbiolo	gy 159	5473	34.4
6         Chemistry, Physical         56         993         17.7           7         Astronomy & Astrophysics         149         2582         17.3           8         Genetics & Heredity         95         1558         16.4           9         Allergy         3         47         15.7           10         Physics, Multidisciplinary         214         3059         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20	4	Evolutionary Biology	16	337	21
7         Astronomy & Astrophysics         149         2582         17.3           8         Genetics & Heredity         95         1558         16.4           9         Allergy         3         47         15.7           10         Physics, Multidisciplinary         214         3059         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21	5	Neurosciences	133	2779	20.9
8         Genetics & Heredity         95         1558         16.4           9         Allergy         3         47         15.7           10         Physics, Multidisciplinary         214         3059         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           18         Infectious Diseases         79         1005         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2866         12.7           20	6	Chemistry, Physical	56	993	17.7
9         Allergy         3         47         15.7           10         Physics, Multidisciplinary         214         3059         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22	7	Astronomy & Astrophysics	149	2582	17.3
10         Physics, Multidisciplinary         214         3059         14.3           11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2	8	Genetics & Heredity	95	1558	16.4
11         Cardiac & Cardiovascular Systems         77         1099         14.3           12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25	9	Allergy	3	47	15.7
12         Multidisciplinary Sciences         31         423         13.6           13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25	10	Physics, Multidisciplinary	214	3059	14.3
13         Physics, Particles & Fields         69         939         13.6           14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25         Anthropology         10         103         10.3           26         Immunology         79         813         10.3           27         Parasitology         14<	11	Cardiac & Cardiovascular Systems	77	1099	14.3
14         Microbiology         113         1471         13           15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25         Anthropology         10         103         10.3           26         Immunology         79         813         10.3           27         Parasitology         14         144         10.3           28         Hospitality, Leisure, Sport & Tourism	12	Multidisciplinary Sciences	31	423	13.6
15         Chemistry, Multidisciplinary         137         1768         12.9           16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25         Anthropology         10         103         10.3           26         Immunology         79         813         10.3           27         Parasitology         14         144         144         10.3           28         Hospitality, Leisure, Sport & Tourism         4         40         10         10           29 <td>13</td> <td>Physics, Particles &amp; Fields</td> <td>69</td> <td>939</td> <td>13.6</td>	13	Physics, Particles & Fields	69	939	13.6
16         Medical Laboratory Technology         19         244         12.8           17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25         Anthropology         10         103         10.3           26         Immunology         79         81.3         10.3           27         Parasitology         14         144         10.3           28         Hospitality, Leisure, Sport & Tourism         4         40         10           29         Chemistry, Medicinal         39         374         9.6           30         Oncology         205	14	Microbiology	113	1471	13
17         Instruments & Instrumentation         44         560         12.7           18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25         Anthropology         10         103         10.3           26         Immunology         79         813         10.3           27         Parasitology         14         144         10.3           28         Hospitality, Leisure, Sport & Tourism         4         40         10           29         Chemistry, Medicinal         39         374         9.6           30         Oncology         205         1955         9.5           31         Cell Biology         57         524	15	Chemistry, Multidisciplinary	137	1768	12.9
18         Infectious Diseases         79         1005         12.7           19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25         Anthropology         10         103         10.3           26         Immunology         79         813         10.3           27         Parasitology         14         144         10.3           28         Hospitality, Leisure, Sport & Tourism         4         40         10           29         Chemistry, Medicinal         39         374         9.6           30         Oncology         205         1955         9.5           31         Cell Biology         57         524         9.2           32         Clinical Neurology         138         1240         <	16	Medical Laboratory Technology	19	244	12.8
19         Biochemistry & Molecular Biology         227         2886         12.7           20         Energy & Fuels         22         256         11.6           21         Electrochemistry         4         45         11.2           22         Respiratory System         72         802         11.1           23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25         Anthropology         10         103         10.3           26         Immunology         79         813         10.3           27         Parasitology         14         144         10.3           28         Hospitality, Leisure, Sport & Tourism         4         40         10           29         Chemistry, Medicinal         39         374         9.6           30         Oncology         205         1955         9.5           31         Cell Biology         57         524         9.2           32         Clinical Neurology         138         1240         8.9           33         Biology         77         686         8.9	17	Instruments & Instrumentation	44	560	12.7
20       Energy & Fuels       22       256       11.6         21       Electrochemistry       4       45       11.2         22       Respiratory System       72       802       11.1         23       Chemistry, Analytical       33       350       10.6         24       Engineering, Petroleum       8       83       10.4         25       Anthropology       10       103       10.3         26       Immunology       79       813       10.3         27       Parasitology       14       144       10.3         28       Hospitality, Leisure, Sport & Tourism       4       40       10         29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36	18	Infectious Diseases	79	1005	12.7
21       Electrochemistry       4       45       11.2         22       Respiratory System       72       802       11.1         23       Chemistry, Analytical       33       350       10.6         24       Engineering, Petroleum       8       83       10.4         25       Anthropology       10       103       10.3         26       Immunology       79       813       10.3         27       Parasitology       14       144       10.3         28       Hospitality, Leisure, Sport & Tourism       4       40       10         29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6	19	Biochemistry & Molecular Biology	227	2886	12.7
22       Respiratory System       72       802       11.1         23       Chemistry, Analytical       33       350       10.6         24       Engineering, Petroleum       8       83       10.4         25       Anthropology       10       103       10.3         26       Immunology       79       813       10.3         27       Parasitology       14       144       10.3         28       Hospitality, Leisure, Sport & Tourism       4       40       10         29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6	20	Energy & Fuels	22	256	11.6
23         Chemistry, Analytical         33         350         10.6           24         Engineering, Petroleum         8         83         10.4           25         Anthropology         10         103         10.3           26         Immunology         79         813         10.3           27         Parasitology         14         144         10.3           28         Hospitality, Leisure, Sport & Tourism         4         40         10           29         Chemistry, Medicinal         39         374         9.6           30         Oncology         205         1955         9.5           31         Cell Biology         57         524         9.2           32         Clinical Neurology         138         1240         8.9           33         Biology         77         686         8.9           34         Anesthesiology         20         178         8.9           35         Physics, Applied         74         652         8.8           36         Biochemical Research Methods         106         916         8.6           37         Plant Sciences         48         414         8.6	21	Electrochemistry	4	45	11.2
24       Engineering, Petroleum       8       83       10.4         25       Anthropology       10       103       10.3         26       Immunology       79       813       10.3         27       Parasitology       14       144       10.3         28       Hospitality, Leisure, Sport & Tourism       4       40       10         29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	22	Respiratory System	72	802	11.1
25       Anthropology       10       103       10.3         26       Immunology       79       813       10.3         27       Parasitology       14       144       10.3         28       Hospitality, Leisure, Sport & Tourism       4       40       10         29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	23	Chemistry, Analytical	33	350	10.6
26       Immunology       79       813       10.3         27       Parasitology       14       144       10.3         28       Hospitality, Leisure, Sport & Tourism       4       40       10         29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	24	Engineering, Petroleum	8	83	10.4
27       Parasitology       14       144       10.3         28       Hospitality, Leisure, Sport & Tourism       4       40       10         29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	25	Anthropology	10	103	10.3
28       Hospitality, Leisure, Sport & Tourism       4       40       10         29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	26	Immunology	79	813	10.3
29       Chemistry, Medicinal       39       374       9.6         30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	27	Parasitology	14	144	10.3
30       Oncology       205       1955       9.5         31       Cell Biology       57       524       9.2         32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	28	Hospitality, Leisure, Sport & Tourisn	n 4	40	10
31 Cell Biology 57 524 9.2 32 Clinical Neurology 138 1240 8.9 33 Biology 77 686 8.9 34 Anesthesiology 20 178 8.9 35 Physics, Applied 74 652 8.8 36 Biochemical Research Methods 106 916 8.6 37 Plant Sciences 48 414 8.6 38 Physiology 56 481 8.6 39 Pharmacology & Pharmacy 116 991 8.5	29	Chemistry, Medicinal	39	374	9.6
32       Clinical Neurology       138       1240       8.9         33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	30	Oncology	205	1955	9.5
33       Biology       77       686       8.9         34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	31	Cell Biology	57	524	9.2
34       Anesthesiology       20       178       8.9         35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	32	Clinical Neurology	138	1240	8.9
35       Physics, Applied       74       652       8.8         36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	33	Biology	77	686	8.9
36       Biochemical Research Methods       106       916       8.6         37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	34	Anesthesiology	20	178	8.9
37       Plant Sciences       48       414       8.6         38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	35	Physics, Applied	74	652	8.8
38       Physiology       56       481       8.6         39       Pharmacology & Pharmacy       116       991       8.5	36	Biochemical Research Methods	106	916	8.6
39 Pharmacology & Pharmacy 116 991 8.5	37	Plant Sciences	48	414	8.6
	38	Physiology	56	481	8.6
40 Physics, Condensed Matter 24 204 8.5	39	Pharmacology & Pharmacy	116	991	8.5
	40	Physics, Condensed Matter	24	204	8.5

Table 7: Citation of UCD articles, by Web of Science subject areas

### Subject area coverage

Bibliometric data are of limited use for measuring performance in the Social Sciences, and even less use in the fields of Arts and Humanities. This is due on the one hand to the poor coverage of relevant publications in the citations databases, and on the other to the characteristics of research outputs in these disciplines. Table 8 illustrates the extent to which the databases cover the publications in the different disciplines.

Discipline	Coverage
Biological Science, Animals & Plants Biological Science, Humans Chemistry Clinical Medicine Molecular Biology & Biochemistry Physics & Astronomy Applied Physics & Chemistry	> 80%
Geosciences Psychology & Psychiatry Social Science, Medicine	60-80%
Economics & Business Engineering Mathematics	40-60%
Arts & Humanities Social Science	<40%

Table 8: Coverage of different disciplines in bibliometric databases<sup>11</sup>

Thomson Reuters databases cover less than two-thirds of all peer-reviewed journals. They index only one-third of journals in Social Sciences and less than one quarter of journals in Arts and Humanities. Thomson Reuters has recently started to index books, but not to a sufficient degree for comparative analysis. This means that it is only a subset of the university's research outputs that is evaluated by these bibliometric systems. (Appendix E lists books published in 2012 that were authored or co-authored by UCD academics.) While it is true that a standard approach is used in ranking universities worldwide, large science-performing universities fare better than universities with a liberal arts emphasis. UCD's profile as a comprehensive university means that a supplementary approach to research profiling is needed if UCD is to convey the full range of its research activities to funders and the public.

### **Beyond Publications**

Within UCD, a research management system (RMS-Expertise Profiles) captures and records the research activities and outputs of academic staff. This UCD-designed system is now licensed for use in a number of other Irish universities, including UCC, UL and NUIG. During 2012, the system was integrated with the UCD Institutional Repository, so that the full text of academic publications could be delivered efficiently into the safe storage provided by the Repository and made widely available under open access usage licences. The Repository is regularly trawled by major search engines, including Google and Google Scholar.

<sup>&</sup>lt;sup>11</sup> Source: Centre for Science and Technology Studies (CWTS), Leiden University

The university is now seeking to expand the range of research outputs and outcomes it captures and to provide narrative and context for the full range of its research activities in order to convey how university research contributes to social, cultural and economic development.

The President, through the University Research Strategy Board, has established a committee to examine and make recommendations in this regard. The Committee considered the range of international evidence, reporting and commentary on research impact, societal benefit and stakeholder engagement, and made the following recommendations:

- The University should develop a comprehensive system for capturing and communicating the full range of UCD's original research.
- This system should be based on the principles of equity, transparency and continuity. All disciplines should be equally respected and treated, data should be openly provided, and measures should be taken to ensure proper longitudinal coordination and oversight.
- The system should:

  i) Make use of quantitative and qualitative data sets;

  ii) Identify societal impact and benefit; and
  - iii) Promote self-evaluation and feedback.
- A group should be established with immediate effect to prepare and implement such a system. These recommendations were endorsed by the University Research Strategy Board, the University Management Team (Academic) and the Academic Council. It was agreed that the University would invest in progressing this work, given its high potential for value to UCD, its staff and its students.

### **Web of Science Highly Cited Authors**

Table 9 lists authors and co-authors that are currently at UCD and and have publications, excluding reviews, that have been cited more than 100 times in articles published between 2007 and 2011. (See Appendix D for a fuller list of UCD papers that were cited in the period.)

As noted above, the data for different disciplines is not directly comparable. Publication and citation rates are far higher in life sciences and natural sciences than in social sciences or arts and humanities, and there is therefore more data for the former fields. It would not make sense, for example, to compare the number of citations in medicine with the number in English language and literature.

The university is now seeking to expand the range of research outputs and outcomes it captures.

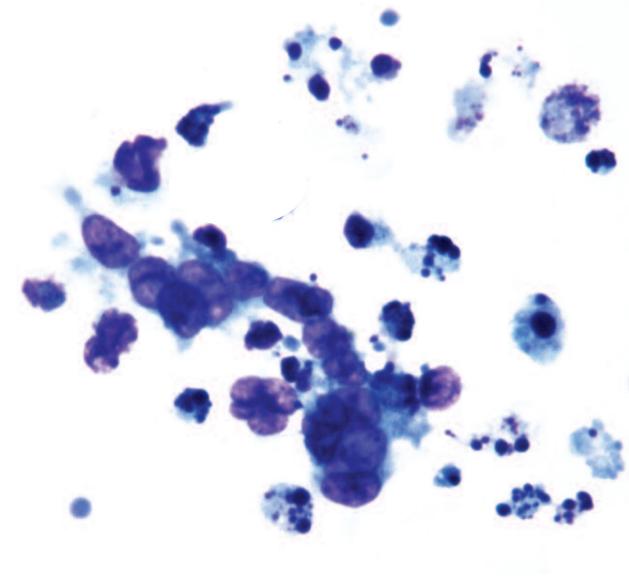


Times Cited	Document Title	UCD Author	School	Institute/ Academic Unit
4,203	Clustal W and clustal X version 2.2	Mr. Paul McGettigan Dr. Andreas Wilm Prof. Des Higgins	Agriculture & Food Science	Conway Institute
760	Amyloid-beta protein dimers isolated directly from Alzheimers brains impair synaptic plasticity and memory	Prof. Ciaran M Regan	Biomolecular & Biomedical Science	Conway Institute
334	Understanding the nanoparticle-protein corona using methods to quantify exchange rates and affinities of proteins for nanoparticles	Dr. Iseult Lynch Prof. Kenneth A. Dawson	Chemistry & Chemical Biology	Centre for Bionano Interactions
269	Nanoparticle size and surface properties determine the protein corona with possible implications for biological impacts	Dr Giuliano Elia Dr. Iseult Lynch Prof. Kenneth A. Dawson	Chemistry & Chemical Biology	Conway Institute - Centre for Bionano Interactions
239	Fermi Observations of High- Energy Gamma-Ray Emission from GRB 080916C	Dr Shelia McBreen	Physics	-
236	A microRNA DNA methylation signature for human cancer metastasis	Prof William Gallagher	Biomolecular & Biomedical Science	Conway Institute
228	Functional impact of global rare copy number variation in autism spectrum disorders	Ms Jillian Casey Prof. Andrew Green	Medicine & Medical Science	Our Lady's Hospital
193	Phenotype, genotype, and worldwide genetic penetrance of LRRK2-associated Parkinsons disease: a case- control study	Mr Timothy Lynch	Medicine & Medical Science	Conway Institute & Mater Misericordiae
179	Protein-nanoparticle interactions	Dr. Iseult Lynch Prof. Kenneth A. Dawson	Chemistry & Chemical Biology	Centre for Bionano Interactions
173	Nucleation of protein fibrillation by nanoparticles	Dr. Iseult Lynch Prof. Kenneth A. Dawson	Chemistry & Chemical Biology	Centre for Bionano Interactions
168	New Principles for Glycoside- Bond Formation	Dr Xiangming Zhu	Chemistry & Chemical Biology	Centre for Synthesis and Chemical Biology
156	Sleep apnoea as an independent risk factor for cardiovascular disease: current evidence, basic mechanisms and research priorities	Prof Walter McNicholas	Medicine & Medical Science	St. Vincent's University Hospital
155	Autophagy induction and autophagosome clearance in neurons: Relationship to autophagic pathology in Alzheimers disease	Dr Barry Boland	Biomolecular & Biomedical Science	Conway Institute
153	Genome Sequence of the Pea Aphid Acyrthosiphon pisum	Dr James C Carolan Ms Karen Reardon Dr Tom Wilkinson	Biomolecular & Biomedical Science	
149	Comparison of the methods for profiling glycoprotein glycans - HUPO Human Disease Glycomics/Proteome Initiative multi-institutional study	Dr Pauline Rudd	NIBRT	Conway Institute
149	Acute exacerbations of idiopathic pulmonary fibrosis	Professor Jim Egan	Medicine & Medical Science	Mater Misericordiae

Times Cited	Document Title	UCD Author	School	Institute
137	Biofuels from microalgae-A review of technologies for production, processing, and extractions of biofuels and co- products	Mr Liam Brennan Dr Philip Owende	Biosystems Engineering	
128	Detailed identification of plasma proteins adsorbed on copolymer nanoparticles	Dr. Iseult Lynch Prof. Kenneth A. Dawson Dr Seamas Donnelly Dr Gerard Cagney	Chemistry & Chemical Biology Chemistry & Chemical Biology Medicine & Medical Science Biomolecular & Biomedical Science	Centre for Bionano Interactions St Vincent's Univ Hospital Conway Institute
124	Genome-wide association study identifies new multiple sclerosis susceptibility loci on chromosomes 12 and 20	Prof. Niall Tubridy	Medicine & Medical Science	St. Vincent's University Hospital
121	A limit on the variation of the speed of light arising from quantum gravity effects	Dr Shelia McBreen	Physics	-
118	Bioorganometallic fulvene- derived titanocene anti-cancer drugs	Dr Matthias Tacke	Chemistry & Chemical Biology	Conway Institute
113	FERMI OBSERVATIONS OF GRB 090902B: A DISTINCT SPECTRAL COMPONENT IN THE PROMPT AND DELAYED EMISSION	Dr Shelia McBreen	Physics	
113	Recommendations on the use of exercise testing in clinical practice	Prof Charles Gallagher	Medicine & Medical Science	St. Vincent's University Hospital
109	GSK189254, a novel H-3 receptor antagonist that binds to histamine H-3 receptors in Alzheimers disease brain and improves cognitive performance in preclinical models	Prof. Ciaran M Regan	Biomolecular & Biomedical Science	Conway Institute
109	Diastolic heart failure - Evidence of increased myocardial collagen turnover linked to diastolic dysfunction	Dr John Andrew Baugh Dr Mark Ledwidge Dr Seamas Donnelly Prof. Kenneth McDonald	Medicine & Medical Science	Conway Institute St. Vincent's University Hospital
105	Recent Applications of Oxazoline-Containing Ligands in Asymmetric Catalysis	Prof. Patrick Guiry	Chemistry & Chemical Biology	Conway Institute
101	Host Cell Factors in HIV Replication: Meta-Analysis of Genome-Wide Studies	Dr Gerard Cagney	Biomolecular & Biomedical Science	Conway Institute

Table 9: Web of Science - Highly Cited Authors (excluding Reviews)

UCD researchers collaborate with colleagues in institutions in many other countries.



### Internationalisation and collaboration

UCD researchers collaborate with colleagues in institutions in many other countries. Figure 6 and Table 10 show the countries represented in collaborative publications. UCD has strong links with other European countries and very strong links with the USA and UK. China was the 10th highest collaborating country between 2006 and 2010, and 11th highest between 2007 and 2011.



Source: http://www.targetmap.com/viewer.aspx?reportId=13931

Figure 6: International collaboration in publications, 2006-2010

Rank	Country/Origin	Number of Web of Science documents	Average citations per document
1	Ireland	11,019	6.43
2	USA	1,561	15.45
3	England	1,440	15.99
4	Germany	841	21.92
5	France	835	19.70
6	Canada	602	15.17
7	Netherlands	536	16.17
8	Sweden	521	18.78
9	Spain	473	14.40
10	Italy	447	15.98
11	People's Republic of China	407	16.07
12	Switzerland	332	20.92
13	Scotland	315	10.71
14	Russia	295	18.00
15	Brazil	280	19.23
16	North Ireland	276	5.57
17	Australia	271	12.79
18	India	269	17.99
19	Czech Republic	259	16.97
20	South Korea	258	18.12

Table 10: Location of UCD's collaborators, by number of co-authored papers 2006-2010

### **Geographic spread of funded research collaborations**

A different pattern of collaboration is revealed by an analysis of research grants. Figure 7 shows the countries where collaborators in UCD-supported research are located.



Source: RMS Grants, New Awards from 2001/02 to 2010/11. (Note that the table counts only projects that have associated partners recorded. For example, of the projects that have external partners, 26.3% of those partners are based in Ireland.) www.targetmap.com/viewer.aspx?reportId=13907

Figure 7: UCD's collaboration on grant-aided research

### **Partner institutions**

Figure 8 shows the top 20 collaborating institutions on academic papers, by number of documents. The number of Web of Science documents shows the number of times the institution appears in the co-author addresses for the entire set of UCD publications in Thomson Reuters InCites from 2006 to 2010.

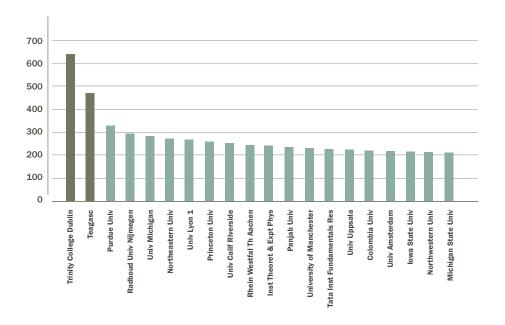
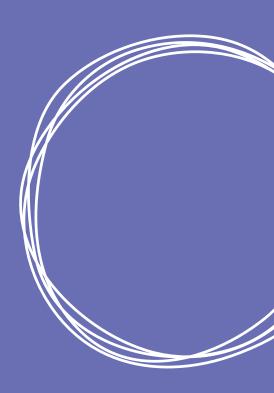


Figure 8: UCD's top 20 collaborating institutions

# PEOPLE

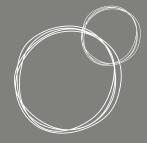






### **Staff Numbers**

Figures 9 and 10 and Table 11 present a profile of UCD's staff. The overall number of academic staff peaked in 2009 and has been falling ever since. In 2012, the downward trend in the numbers of senior academic staff at professorial and senior lecturer level continued, but there was a slight increase in the number of lecturers. The level of the university's funded research activity is reflected in the changes in the numbers of postdoctoral fellows and research assistants: 2012 also saw a slight increase in the aggregate of these two categories, compared with the previous year. The overall numbers of administrative staff and support staff have been falling since their peak in 2009 and 2008 respectively.



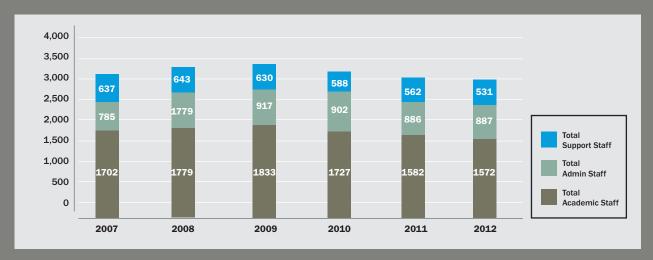


Figure 9: Academic, administrative and support staff in UCD (FTEs)

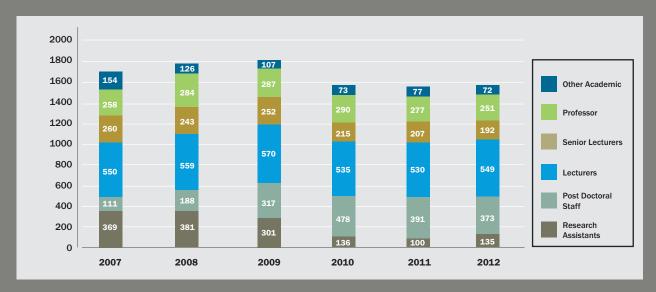


Figure 10: Academic Staff by type

	2007	2008	2009	2010	2011	2012	% change 2011 to 2012			
Academic Staff										
Research assistants (see note 1)	369	381	301	136	100	135	35%			
Postdoctoral staff (see note 2)	111	188	317	478	391	373	-4.6%			
Lecturers	550	559	570	535	530	549	3.5%			
Senior lecturers	260	243	252	215	207	192	-7.2%			
Professor	258	284	287	290	277	251	-9.3%			
Other Academic	154	126	107	73	77	72	-6.4%			
Total Academic Staff	1.702	1,779	1,833	1,727	1.582	1,572	-0.6%			
Administrators/clerical sta	ff									
Total Admin Staff <sup>12</sup>	785	875	917	902	886	887	0.1%			
Support Staff										
Total Support Staff <sup>13</sup>	637	643	630	588	562	531	-5.5%			
Total Staff Numbers	3,124	3,297	3,380	3,217	3,030	2,990	-1.3%			

Source: Data is taken from March payroll for each of the years presented

Table 11: Staff FTE by type<sup>14</sup>

**Note 1:** In the past, many postdoctoral researchers were classified as 'research assistants'. Since 2009-2010 postdoctoral staff are recorded consistently, and the rise in the number of postdoctoral staff is accompanied by a fall in the number of research assistants. **Note 2:** The numbers of postdoctoral staff are taken from the UCD HR system, based on the individual's job title.

Table 12 shows the gender breakdown of UCD staff. The overall gender mix is 53% females to 47% males; 75% of administrators are female, whereas the academic staff is 55% male and the support staff is 58% male.

The level of the university's funded research activity is reflected in the changes in the numbers of postdoctoral fellows and research assistants

 $<sup>^{\</sup>rm 12}$  Administrators are defined as TBC

<sup>&</sup>lt;sup>13</sup> Support staff includes IT support, library, buildings and canteen staff

<sup>&</sup>lt;sup>14</sup> The numbers of staff are at March 31st of each year

	2007	2008	2009	2010	2011	2012	% change 2011 to 2012		
Academic Staff									
Male	976	990	1,040	984	896	870	-2.9%		
Female	726	789	793	743	686	702	2.3%		
Total Academic Staff	1,702	1,779	1,833	1,727	1,582	1,572	-0.6%		
Adminstrators/Clerical S	taff								
Male	183	221	221	221	219	218	-0.4%		
Female	602	654	696	681	667	669	0.3%		
Total Admin Staff	785	875	917	902	886	887	0.1%		
Support Staff									
Male	377	371	375	340	326	306	6.1%		
Female	260	272	255	248	236	225	-4.6%		
Total Support Staff	637	643	630	588	562	531	-5.5%		
Total Staff Numbers									
Male	1,539	1,582	1,636	1,545	1,440	1,394	-3.1%		
Female	1,587	1,715	1,744	1,672	1,590	1,596	0.3%		
Total Staff Numbers	3,124	3,297	3,380	3,217	3,030	2,990	-1.3%		

Table 12: UCD staff by gender (FTEs)

Among the academics holding active grants, 67% are male, and among those with seed funding grants, 53% are male, as shown in Table 13. There is a relationship between role, gender and extramural research funding awards with ratios of active grants generally following gender ratios at lecturer, senior lecturer and professorial level. Seed funding, the internal research funding scheme shows a different pattern possibly because seed schemes were targeted to support early career researchers for some years.

		of UCD emics	Ratio of aca		Ratio of aca	
Level	Female	Male	Female	Male	Female	Male
Lecturer	51.8%	48.2%	43%	57%	55%	45%
Senior Lecturer	38.7%	61.3%	33%	67%	39%	61%
Professor/ Assoc Professor	22.6%	77.4%	20%	80%	29%	71%
	42.4%	57.6%	33%	67%	47%	53%

Table 13: Gender breakdown of UCD academics holding grants

### Sixty-four per cent of permanent academic staff were research active in 2012.

### Research active staff

In the UCD Strategic Plan 2010-2014, research-active staff is defined as follows:

"Taking into account disciplinary norms, a research-active academic will have regularly supervised postgraduates, published quality work in his or her field of expertise and/or attracted appropriate extramural research funding. It is targeted that by 2014, 90% of UCD academic staff will be research active."

As part of UCD's KPI definition process earlier this year, the definition of research-active was revised, with stricter criteria than were used in 2011's Institutional Research Report. This definition counts as research-active those staff members who hold a permanent contract of employment or a temporary contract of three years or more in duration, and who satisfy two of the following criteria<sup>15</sup>:

- Hold an active internally or externally funded research account
- Supervise a PhD or Masters student (in the current academic year)
- Have, in the past two years (SET) or three years (AHSS), published a book, book chapter, article in a journal, conference proceedings or report, or edited a book.

In 2012, 63.6% of UCD academic staff were research-active according to this definition - see Table 14.

	20	)11	20	)12	Diffe	rence
Status	FTEs	Research Active %	FTEs	Research Active %	FTEs	Research Active %
Permanent full-time only	828	69.9%	803	66.4%	-25	-3.5%
Permanent full-time and permanent part-time	881	66.4%	853	63.6%	-28	-2.8%

**Note:** See text above for definitional differences between the two years.

Table 14: Research-active staff, 2011-2012

### Postgraduate enrolment in HEA-funded institutions

UCD is the largest provider of PhD training in Science Engineering and Technology in Ireland. In 2010/11 a total of 160,972 full-time students (undergraduate and postgraduate) were enrolled in HEA-funded institutions. Of these, 4.7% (7,512) were full-time PhD students – see Table 15.

Full-time Research Postgraduate	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	% change 06/07-10/11
PhD	4,539	5,219	6,330	7,414	7,512	65.5%
Masters Degree Research	2,155	2,531	2,206	1,715	1,457	-32.4%
Total Full-Time	6,694	7,750	8,536	9,129	8,969	34.0%

Table 15: Postgraduate enrolment in HEA-funded institutions<sup>16</sup>

<sup>&</sup>lt;sup>15</sup> The definition applied in 2011 required only one of these criteria to be satisfied

 $<sup>^{\</sup>rm 16}$  HEA (2012) 10/11 Higher education: key facts and figures

In the academic year 2010/11, 91% of PhD students were enrolled in one of the seven Irish universities, as shown in Table  $16^{17}$ .

	Field of Study (ISED <sup>18</sup> )	UCD	ucc	NUIG	TCD	NUIM	DCU	UL	GRAND TOTAL
SET19	Science	503	403	270	604	171	280	122	2,353
	Engineering, Manufacturing and Construction	187	149	155	154	22	123	138	928
	Agriculture and Veterinary	169	0	0	0	0	0	0	169
	Health and Welfare	294	100	127	305	1	46	5	878
	Set Total:	1,153	652	552	1,063	194	449	265	4,328
HSS <sup>20</sup>	Broad Programmes	0	0	2	0	0	0	0	2
	Education	9	33	0	36	13	5	52	148
	Humanities and Arts	227	191	149	346	96	52	123	1,184
	Social Science Business & Law	234	180	164	286	71	63	108	1,106
	Services	0	0	0	0	0	0	52	52
	Combined	0	0	0	0	1	0	0	1
	Set Total:	470	404	315	668	181	120	335	2,493
	Grand Total:	1,623	1,056	867	1,731	375	569	600	6,821

Table 16: Number of PhDs enrolled in universities

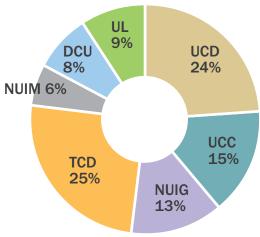
UCD has the highest enrolment of Science, Engineering & Technology (SET) full-time PhD students in Ireland (27%).

<sup>&</sup>lt;sup>17</sup> HEA website http://www.hea.ie/en/node/1429

<sup>&</sup>lt;sup>18</sup> International Standard Classification of Education

<sup>&</sup>lt;sup>19</sup> SET - Science, Engineering & Technology

<sup>&</sup>lt;sup>20</sup> HSS - Humanities & Social Sciences





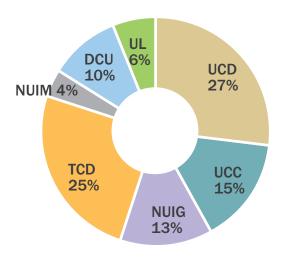


Figure 12: Full-time SET PhD students enrolled in Irish universities

### **Research students - PhDs and Masters**

Table 17 gives a breakdown of research students enrolled in UCD from 2007 to 2012.

Reseach Students	2007	2008	2009	2010	2011	2012	
PhD / Doctoral Students	1,545	1,553	1,684	1,828	1,743	1,752	
Research Masters students <sup>21</sup>	361	374	327	275	213	214	
Total research students	1,908	1,927	2,011	2,103	1,956	1,966	
Total student numbers	22,190	22,264	23,019	24,225	24,625	24,933	

Table 17: Research students, 2007 to 2012<sup>22</sup> PhD output

 $<sup>^{\</sup>rm 21}$  Research Masters Students includes laboratory - and non-laboratory-based research students

 $<sup>^{\</sup>rm 22}$  The numbers of students are at March 31st of each year

### **PhD** graduates

Table 18 shows for each university the numbers of PhD degrees obtained in 2010 by field of study (ISCED). These figures include both full-time and part-time students, including distance and e-learning.

	Field of Study (ISED)	UCD	UCC	NUIG	TCD	NUIM	DCU	UL	GRAND TOTAL
SET	Science	92	70	39	101	31	46	19	398
	Engineering, Manufacturing and Construction	32	29	35	20	6	18	26	166
	Agriculture and Veterinary	37	0	0	0	0	0	0	37
	Health and Welfare	45	20	12	80	0	10	0	167
	Set Total:	206	119	86	201	37	74	45	768
HSS	Broad Programmes	0	0	2	0	0	0	0	0
	Education	6	1	0	7	9	6	7	36
	Humanities and Arts	25	22	35	47	18	7	11	165
	Social Science Business & Law	31	16	2	24	17	3	19	130
	Services	0	0	0	0	0	0	13	13
	Combined	0	0	0	0	0	0	0	0
	Set Total:	62	39	55	78	44	16	50	344
	Grand Total:	268	158	141	279	81	90	95	1,112

Table 18: PhD output 2010, by field of study and university

UCD and TCD are very similar in terms of the numbers of PhD students graduating in 2010.

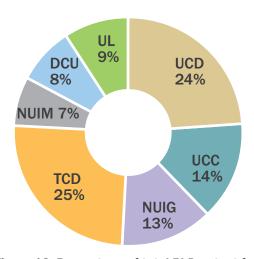


Figure 13: Percentage of total PhD output for each university

### Top 30 research budget holders

### Science, engineering & technology (SET)

Table 19 lists the top 30 Science, Engineering & Technology research budget holders by sum of the value of the total original budgets, as of 30th September 2012<sup>23</sup>. The budget value shown is the sum of all the research award budgets held by the lead investigator on the date of the count. The changes between the 2012 and the 2011 rankings are in some cases indicative of significant new awards.

2012 Rank	2011 Rank	Lead Investigator Name	Total Original Budget €m	Budget Remaining €m	Institute / Major Programme	School
1		Prof. Walter Kolch	23.48	11.33	Conway / SBI	-
2	2	Prof. Barry Smyth	8.87	5.93	Clarity	School of Computer Science & Informatics
3		Prof. Mike Gibney	7.58	1.71	Food & Health	School of Agriculture & Food Science
4	4	Prof. Denis Shields	7.48	2.30	Conway	School of Medicine & Medical Science
5		Prof. Mark O'Malley	7.34	3.92	Electricity Research Centre	School of Electrical, Electronic & Communications Engineering
6	12	Prof. Desmond Fitzgerald	7.32	4.65	Conway	-
7	>20	Prof. David Brayden	7.03	1.04	Conway	School of Veterinary Medicine
8		Prof. Kenneth A Dawson	6.90	2.84	Centre for BioNano Interactions	School of Chemistry & Chemical Biolog
9	7	Prof. Michael Monaghan	6.47	0.36		Veterinary Medicine
10	5	Prof. Alexander Evans	6.38	1.20	Conway	School of Agriculture & Food Science
11	11	Prof. Dolores O'Riordan	6.19	4.56	Food & Health	School of Agriculture & Food Science
12	13	Prof. Simon John More	5.37	0.27		School of Agriculture & Food Science
13		Prof. Catherine Godson	5.13	0.67	Conway	School of Medicine & Medical Science
14	16	Prof. Gregory O'Hare	4.92	1.64	Clarity / CASL	School of Computer Science & Informatics
15	17	Dr Fiona Doohan	4.85	1.55		School of Biology & Environmental Science
16	10	Prof. Maarten Nieuwenhuis	4.24	1.12		School of Agriculture & Food Science
17	18	Prof. Suzi Jarvis	4.15	1.51	Conway	Conway Institute of Biomolecular & Biomedical Research
18	>20	Prof. Joe Carthy	4.10	3.46	Clarity / CASL	College of Science Administration Office
19	>20	Prof. Cecily Kelleher	3.87	0.70	Conway	School of Public Health, Physiotherapy & Population Science
20	>20	Prof. Pádraig Cunningham	3.80	1.19	CASL	School of Computer Science & Informatics
21	19	Prof. Christopher Bean	3.79	1.85	Earth Institute	School of Geological Sciences
22	14	Prof. Gil Lee	3.79	1.11	Conway	School of Chemistry & Chemical Biology
23	>20	Prof. William Gallagher	3.54	1.21	Conway / SBI	School of Biomolecular & Biomedical Science
24	20	Prof. John Murphy	3.41	2.11	Earth Institute	School of Computer Science & Informatics
25	>20	Prof. Frederic Dias	3.23	2.50	CASL / Earth	School of Mathematical Sciences
26	>20	Prof. Shane Ward	3.18	0.91	Food & Health	School of Agriculture & Food Science
27	>20	Prof. Geraldine Butler	3.00	1.75	Conway	School of Biomolecular & Biomedical Science
28	>20	Prof. Donal Macelroy	2.92	0.67	Solar SRC	School of Chemical & Bioprocess Engineering
29	>20	Prof. Helen Roche	2.92	1.11	Conway / Food & Health	School of Public Health, Physiotherapy & Population Science
30	>20	Prof. Ulla Knaus	2.90	1.53	Conway	School of Medicine & Medical Science

Table 19: Top 30 SET research budget holders

<sup>&</sup>lt;sup>23</sup> All budgets in the table have a status of "Active" or "On-hold" in UCD's e-Financials system and have an end date after 30 Sept 2012; the budget holder is the lead investigator for the grant; totals are for externally funded grants only.

### **Humanities & Social Sciences (HSS)**

Table 20 lists the top 30 HSS research budget holders by sum of the value of the total original budgets, as of 30 September  $2012^{24}$ . The budget value shown is the sum of all the research award budgets held by the lead investigator on the date of the count. The changes between the 2012 and the 2011 tables are in some cases indicative of significant new awards.

2012 Rank		Lead Investigator Name	Total Original Budget €m	Budget Remaining €m	Institute / Major Programme	School
1	N/A	Prof. James Joseph Heckman	2.51	1.88	Geary Institute	-
2		Prof. Anthony Brabazon	1.98	0.62	FMC2	School of Business
3	2	Prof. Petra Ahrweiler	1.59	0.97	IRU	School of Business
4	3	Prof. Robert Gerwarth	1.53	0.48	War Studies	School of History & Archives
5	17	Prof. Zorica Nedovic-Budic	1.26	0.90		School of Geography, Planning & Environmental Policy
6	> 20	Dr Orla Doyle	0.97	0.16	Geary Institute	School of Economics
7		Prof. Colm Harmon	0.73	0.24	Geary Institute	-
8	10	Prof. John Cotter	0.48	0.05	FMC2	School of Business
9	12	Prof. Kathleen Lynch	0.46	0.06		School of Social Justice
10	14	Prof. Peter Clinch	0.44	0.23	VP - Innovation	
11	> 20	Dr Finbarr Brereton	0.40	0.26		School of Geography, Planning & Environmental Policy
12	13	Dr Rob Sands	0.35	0.15		School of Archaeology
13	> 20	Dr John Brannigan	0.29	0.20		School of English, Drama & Film
14	18	Dr Catherine Cox	0.25	0.12		School of History & Archives
15		Prof. Brian Nolan	0.25	0.10		College of Human Sciences Administration Office
16	11	Dr Barbara Dooley	0.24	0.12		School of Psychology
17	13	Dr William Mulligan	0.24	0.16		School of History & Archives
18	> 20	Dr Liam Delaney	0.23	0.15	Geary Institute	
19	> 20	Dr Charles McGrath	0.23	0.15		School of History & Archives
20	19	Prof. Julian Horton	0.23	0.15		School of Music
21	> 20	Dr Iseult Honohan	0.22	0.06		School of Politics & International Relations
22	> 20	Dr David Kerr	0.22	0.15		School of History & Archives
23	> 20	Dr Declan Downey	0.22	0.15		School of History & Archives
24	15	Prof. Brian Fynes	0.22	0.10		School of Business
25	20	Dr Alison Ribeiro De Menezes		0.14		School of Languages & Literature
26	> 20	Dr Judith Devlin	0.21	0.13		School of History & Archives
27	> 20	Dr David Edelman	0.19	0.02		School of Business
28	> 20	Dr Jonathan N Turner	0.19	0.15		School of Geography, Planning & Environmental Policy
29	> 20	Dr Sandy Wilkinson	0.18	0.11		School of History & Archives
30	> 20	Dr Peter McNamara	0.16	0.14		School of Business

Table 20: Top 30 HSS research budget holders

<sup>&</sup>lt;sup>24</sup> All budgets in the table have a status of 'Active' or 'On-hold' in UCD's e-Financials system and have an end date after 30 Sept 2012; the budget holder is the lead investigator for the grant; totals are for externally funded grants only.

### **European Research Council Awards**

The European Research Council's mission is to encourage the highest quality research in Europe through competitive funding, and to support investigator-initiated frontier research across all fields of research, on the basis of scientific excellence.

European Research Council (ERC) grants support individual researchers of any nationality and age who wish to pursue their frontier research. The ERC encourages in particular proposals that cross disciplinary boundaries, pioneering ideas that address new and emerging fields, and applications that introduce unconventional, innovative approaches. The ERC awards are prestigious and are a key strategy in developing research in Europe. UCD now holds 10 ERC awards, nearly 50% of all those awarded nationally.

Table 21 lists the UCD academics who held ERC grants in 2011.

Name/ School	Title	Grant Type/ Duration
Prof. Robert Gerwarth History & Archives	The Limits of Demobilization, 1917-1923: Paramilitary Violence in Europe and the Wider World (LIMOD)	Starting Grant/ September 2009 – August 2013
Prof. Ron Pinhasi Archaeology	From the earliest modern humans to the onset of farming (45,000-4,500 BP): the role of climate, life-style, health, migration and selection in shaping European population history (ADNABIOARC)	Starting Grant/ Jan 2011-Dec 2014
Prof. James Heckman Geary Institute	Understanding Health Across the Lifecourses: An Integrated Developmental Approach (DevHealth)	Advanced Grant/ May 2011 - Apr 2016
Prof. Eoin Casey Chemical & Bioprocessing Engineering	Analysis of Biofilm Medlated Fouling of Nanofiltration Membranes (AFFIRM)	Starting Grant/ Oct 2011 – September 2016
Dr Debra Laefer Civil, Structural & Environmental Engineering	Rethinking Tunnelling in Urban Neighbourhoods (RETURN)	Starting Grant/ Jan 2013 – Dec 2017
Prof. Martin Albrecht Chemistry & Chemical Biology	Probing the Relevance of Carbene Binding Motifs in Enzyme Reactivity (CARBENZYMES)	Starting Grant/ Jul 2009 – Jun 2013
Prof. Jennifer McElwain Biology & Environmental Science	Atmospheric oxygen as a driver of plant evolution over the past 400 million years (OXYEVOL)	Starting Grant/ Feb 2012 - Feb 2017
Dr Emma Teeling Biology & Environmental Science	Comparative genomics /'wildlife' transcriptomics uncovers the mechanisms of halted ageing in mammals (AGELESS)	Starting Grant/ Jan 2013- Dec 2018
Prof. Frederic Dias Mathematical Sciences	Multidisciplinary Studies of Extreme and Rogue Wave Phenomena (MULTIWAVE)	Advanced Grant Apr 2012 – Mar 2016
Prof. Martin Albrecht Chemistry & Chemical Biology	CARBENERGY- Mesoionic carbene complexes for water splitting: Harnessing renewable energy sources	Proof of Concept/ Oct 2012 – September 2013

Table 21: UCD Academics holding ERC Awards in 2011

### **Knowledge management**

The UCD research repository is at the heart of the universities knowledge management system. In time, it will become the destination for the comprehensive capture, storage and retrieval of all of the knowledge generated by academic research activities. Currently the research repository in UCD holds 3,400 items and has recorded 320, 300 downloads to date. Nowadays, the availability of a critical mass of knowledge materials through a university's repository is a key factor that contributes to the global stature of the universities' scholarship.

Since 2008, UCD has produced more than four thousand research publications per annum, but many of these publications are available only in print, as are a range of other outputs of the university's research. There is a strategic need to capture these publications as a long-term asset for UCD, it's staff and students. Emerging national and international policies will also require the university to make data that is generated through publicly-funded research widely available. When mature, the universities research repository will become a national asset, reflecting Ireland's and UCD's contribution to global knowledge.

### **Research Repository UCD**

In 2012 UCD's Institutional Repository was upgraded and integrated with UCD's Research Management System (RMS Expertise Profiles and renamed as 'Research Repository UCD'. The integration with the RMS Profiles means that UCD researchers can now upload the full-text of articles, conference papers, etc. to Research Repository UCD, while simultaneously updating their author profile on UCD's RMS Profiles.

Table 22 shows the number of papers uploaded to and downloaded from the Repository over a three-year period. Table 23 shows the most popular downloads, and Table 24 shows the main countries in which the downloaders were located.

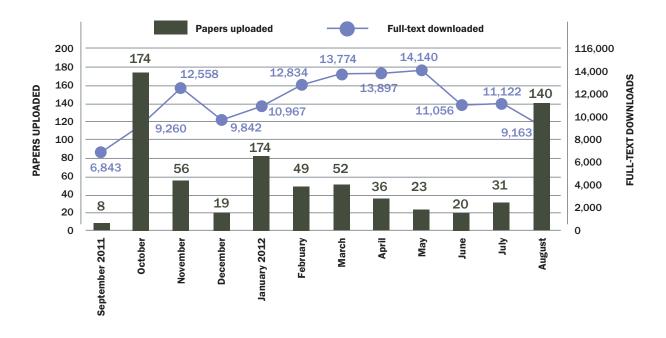


Figure 14: Uploads to and downloads from Research Repository UCD, September 2011 to August 2012

Academic year	Papers uploaded	Items online	Full-text downloads
2009/10	911	2,172	51,498
2010/11	819	2,758	90,683
2011/12	690	3,277	131,574

Table 22: Research Repository UCD: uploads, downloads and total items, 2009-2012

Rank	Downloads	Title	Authors
1	3874	Using Twitter to recommend real-time topical news Smyth, Barry	Phelan, Owen; McCarthy, Kevin;
2	2192	Inequality and crime	Kelly, Morgan
3	2060	Equality in education : an equality of condition perspective	Lynch, Kathleen; Baker, John
4	1856	Elderly care in Ireland - provisions and providers	Lynch, Kathleen; Baker, John
5	1466	Air freight logistics	Reynolds-Feighan, Aisling J.
6	1443	Protection, economic war and structural change: the 1930s in Ireland	Neary, J. Peter ; Ó Gráda, Cormac
7	1228	Financial statement fraud : some lessons from US and European case studies	Brennan, Niamh ; McGrath, Mary
8	1196	Electronic properties of F/Zr co-doped anatase TiO2photocatalysts from GGA +U calculations	Long, Run ; English, Niall J.
9	1153	Social and economic value of sport in Ireland	Delaney, Liam ; Fahey, Tony
10	1127	What do people die of during famines : the Great IrishFamine in comparative perspective	Ó Gráda, Cormac ; Mokyr, Joel

Table 23: Research Repository UCD: Top ten downloads

UCD now holds 10 ERC awards, nearly 50% of all those awarded nationally.



Rank	Origin	Downloads	Perc (%)
1	United States	93,608.90	24.83
2	Ireland (excl. UCD)	74,150.00	19.67
3	United Kingdom	24,340.20	6.46
4	China	20,450.60	5.42
5	UCD	16,152.80	4.28
6	India	9,549.80	2.53
7	Germany	8,864.10	2.35
8	Canada	6,837.00	1.81
9	France	6,779.60	1.8
10	Iran, Islamic Republic of	6,244.80	1.66

Table 24: Research Repository UCD: Geographical location of downloads

More details are available at http://researchrepository.ucd.ie

# **Open access guidelines**

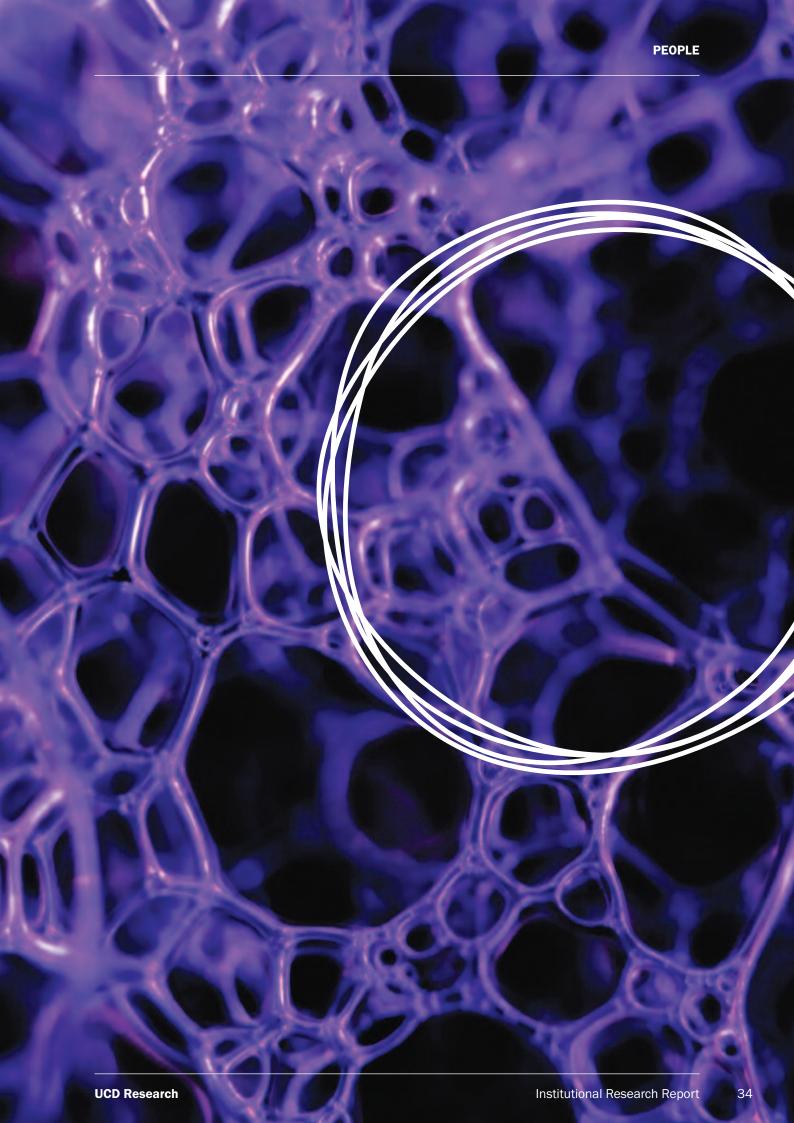
Open access is defined as 'free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited'.

#### **National Steering Committee on Open Access Policy**

Irish research organisations have established a committee to coordinate activities and to combine expertise at a national level to promote unrestricted, online access to the outputs of research that is wholly or partially funded by the State.

The National Steering Committee on Open Access Policy has agreed a set of principles to underpin the open access policies of each institution. The committee recommends that these principles should be effective from January 2013, with individual research organisations determining their own timeframes for implementation. Accepting the existing variations in access to open access infrastructure and the different maturity of open access policies and practices, a phased approach to implementation will be adopted, including initial efforts to broaden the coverage of the open access infrastructure beyond Irish universities to all publicly funded research in Ireland.

During 2012, UCD took a number of steps towards further developing its knowledge management strategy, policies and infrastructure in line with these agreed principles.



There have been considerable developments in UCD's infrastructure over the past five years, in particular with the construction of the first phase of the new Science Centre.

# INFRA-STRUCTURE

The five strategic priority areas are:

- Agri-food
- Culture, Economy and Society
- Energy and Environment
- Health
- Information, Computation and Communications

The full range of schools, centres and resources contributing to these priority areas can be found at www.ucd.ie/research



# **Recent research infrastructure developments**

#### **UCD Science Centre**

The new Science Centre is a 67,000m² building, which is being developed in three distinct phases, involving an ambitious new build and refurbishment of the original UCD science blocks. When all three phases are complete, the UCD Science Centre will accommodate Ireland's largest science community and will represent the largest capital investment in science in the history of the Irish State. Funding for the project – an estimated total of some €300 million – is provided by Government, with matching funds from the university, and philanthropic donations.

Built with funds from the Programme for Research in Third-Level Institutions (PRTLI) and university monies, phase one of the Science Centre was opened in September 2011. The facility provides 6,300m² of scientific research space, with the capacity for 300 researchers working in pharmaceutical sciences, food and health, and nanomedicine.

The next phase, which is due for completion in early 2014, includes the development of teaching, innovation academy, outreach and public engagement facilities, as well as facilities for Earth Sciences, the Complex and Adaptive Systems Laboratory (CASL) and the INSIGHT Centre (comprising CLIQUE, CLARITY and TRIL).



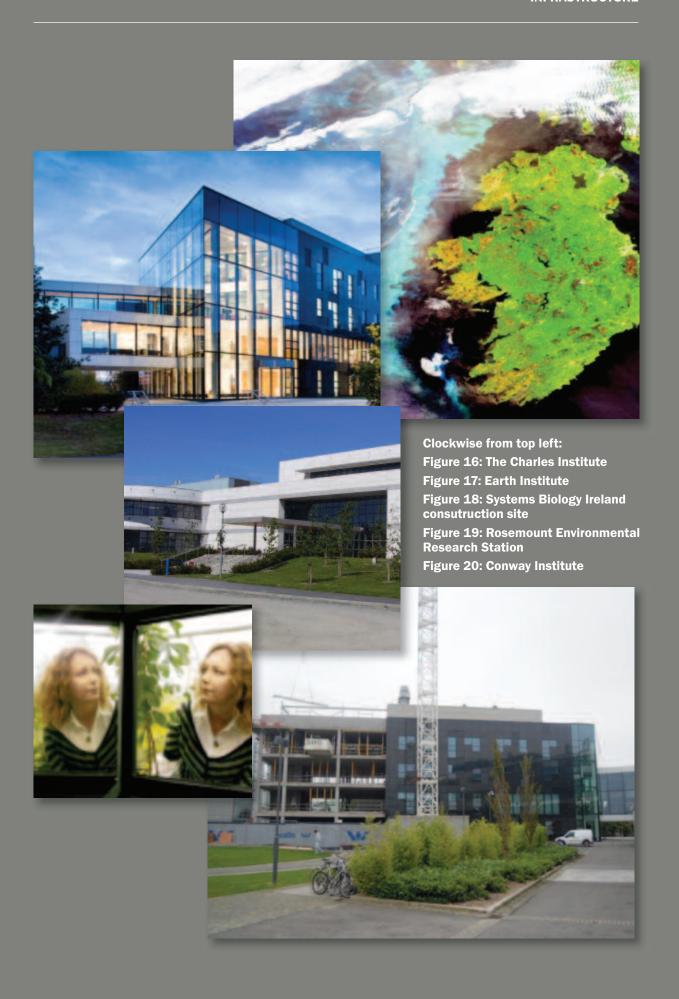
Figure 15: UCD Science Centre development

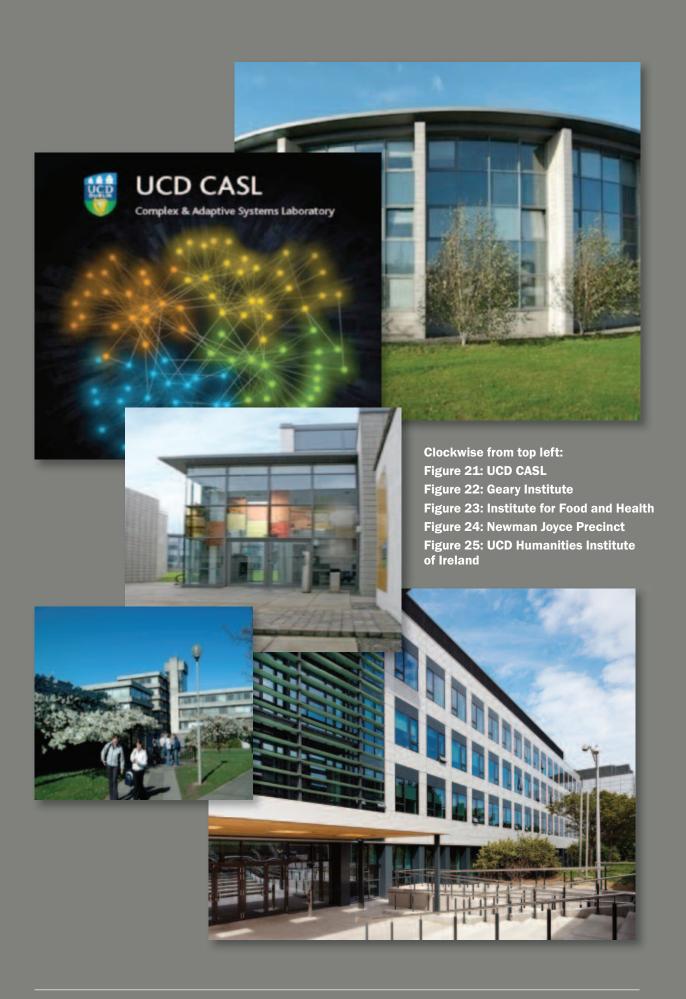
#### Health

In UCD, a range of human and animal health and medical sciences buildings are clustered around the UCD Science Centre, creating a unique capacity for world class multidisciplinary research and advanced education. The UCD Charles Institute, completed in 2011, is the first national institute devoted to dermatology in Ireland. The next phase of the Science Centre development will provide acommodation for Systems Biology Ireland.

These modern research facilities support this UCD research priority and contribute to the national research priorities.

The UCD Conway Institute is also working in the area of Health and supporting key multidisciplinary initiatives, under the directorship of Professor Walter Kolch. This community of researchers has an interdisciplinary approach to performing novel research in biomedicine and translating results into clinical, industrial and commercial applications for the benefit of society.





# **Energy and Environment**

#### **Rosemount Environmental Research Station**

UCD's infrastructure for Earth Sciences research and education was extended in 2011 by the Rosemount Environmental Research Station.

This progressive facility accommodates the Programme for Experimental Atmospheres and Climate (PEAC), and the UCD Crop Research Programme. These programmes draw on the disciplines of biology, plant biotechnology, horticulture, agriculture, and environmental and evolutionary biology.

#### **UCD Earth Institute**

The UCD Earth Institute, led by Professor Chris Bean, is a centre for energy and environment research of a scale capable of leading Ireland's response to climate change and the global energy crisis creating a recognised hub for innovative green technologies in Ireland

# **Culture, Economy and Society**

UCD is developing infrastructure to support its strategic priority of Culture, Economy and Society, a key element in which is the Newman Joyce Precinct, which is envisaged as a gathering place for the Arts and Humanities. An integrated design team has been appointed for this project.

Major research Institutes working in this strategic priority area include the UCD Humanities Institute of Ireland, under the directorship of Professor Gerardine Meaney, which offers a dynamic range of programmes centred on cultures and identities in Ireland, and the UCD Geary Institute, under the directorship of Professor Phillip O'Connell, which conducts a number of social science research projects in areas of human development, behavioural and applied microeconomics, political science, public health and sociology.

#### Information, computation and communications

The UCD Complex and Adaptive Systems Laboratory (CASL), under the directorship of Dr Michael O'Neill, is a dynamic interdisciplinary research community advancing scientific knowledge through mathematics and computation.

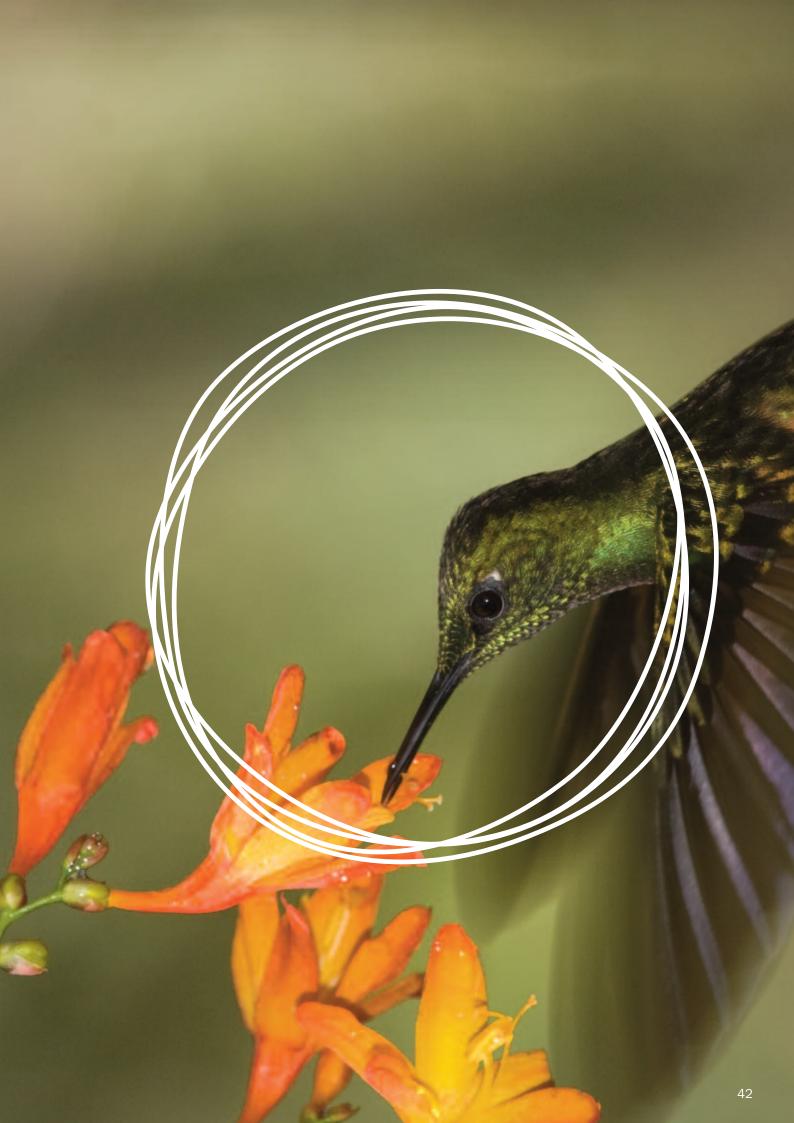
#### **Agri-food**

UCD Institute of Food and Health, led by Professor Mike Gibney, brings together academic and research staff from across UCD working in health-related aspects of food research, and aligns UCD's efforts with national, international and industry research agendas.

The UCD schools, major research institutes, academic centres and individual scholars all contribute to the universities wide range of research activities. An expression of the universities strategic priorities for research and the academic units and programmes currently contributing to them can be found at http://www.ucd.ie/research/whatweresearch/strategicpriorities

# RESEARCH FUNDING





# **Volumes of proposals and awards**

Table 25 shows the key activity metrics relating to grants and grant proposals for the years 2007/8 to 2011/12. The 'Grants Registered as % of Proposals recorded' column gives an indication of the success rate of proposals by the UCD academic community.

Year	No. Externally Funded Proposals	No. Externally Funded Grants Registered	Unique PIs (awarded grants in the year)	Value of Awards (€m) Proposals	Grants Registered as % of recorded	No. 'Live' Grants <sup>26</sup>	Unique Pls (holding grants) <sup>27</sup>
2007/08	1,096	463	259	115.9	42.2%	1,036	496
2008/09	1,292	535	299	116.8	41.4%	1,200	515
2009/10	1,069	449	260	49.5	42.0%	1,221	519
2010/11	1,120	510	299	103.1	45.5%	1,353	505
2011/12	1,257	530	300	75.1	42.2%	1,266	501

Table 25: Grants and grant proposals, 2007/8 to 2011/12

The data show that the number of research proposals and of awards went up in 2011/12. The value of research funding from new awards remains lower than in 2007/8 and 2008/9. Conversion of proposals to awards (%) is holding steady while the number of unique Principal Investigators (P.I.'s) has increased. In summary more effort for smaller funding in an increasingly competitive funding environment is resulting in an increased burden of research management and administration per  $\in$  awarded for both the academic and the administrative support staff.

The value of research funding from new awards continues to recover as funding sources diversify.



# **Competitive peer-reviewed extramural awards**

Figure 26 shows the breakdown of new awards by value for the past five academic years. The number of awards in the sub  $\in$ 100k bracket is increasing, and the numbers of high-value awards are decreasing while the overall number of new awards is increasing.

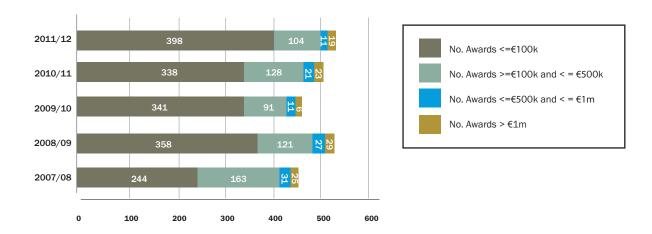


Figure 26: Number of new external awards by value, 2007/8 to 2011/12

Awards for Science, Engineering & Technology (SET) research account for the majority of both the volume and the value of new awards each year – see Figures 27 and 28.

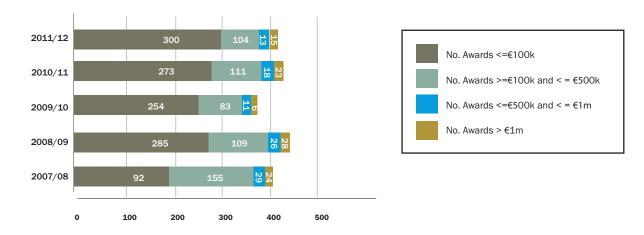


Figure 27: Number of new external awards for SET research by value, 2007/8 to 2011/12

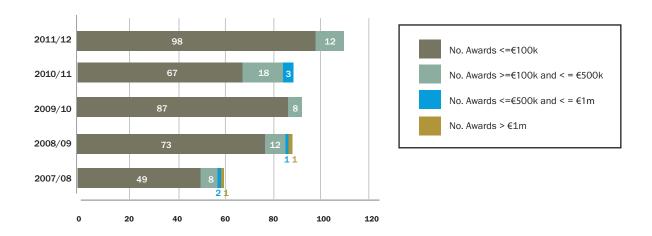


Figure 28: Number of new external awards for HSS research by value, 2007/8 to 2011/12

# **Research awards and expenditure**

The monetary value of new externally funded research awards reached a peak in 2008/09. 2009/10 saw a 58% reduction on new awards with just  $\leqslant$ 49.48m of new grants registered. Over the same period, however, the overall research expenditure decreased by only 15%. This illustrates the delay between winning an award and the corresponding expenditure. Although there was a recovery in new awards in 2010/11, the research expenditure continues to display a downward trend to  $\leqslant$ 75.06m in 2011/12.

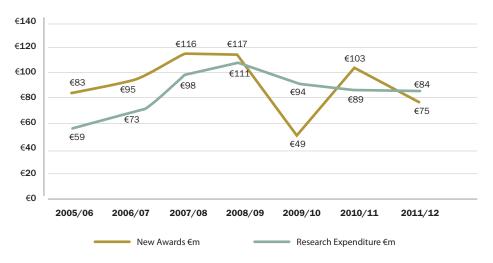


Figure 29: Research expenditure and new awards, 2005/6 to 2011/12 (€m)

Research overheads reached their lowest point in recent years in 2009/10 at  $\in$ 6.65m; overheads recovered to  $\in$ 17m last year.

Year Award Registered	Total Value of Awards €m	Direct €m	Indirect (Overheads) €m	Overhead %
2005/06	83.10	71.33		16.51%
2006/07	95.37	80.62	14.75	18.30%
2007/08	115.90	98.30	17.60	17.91%
2008/09	116.75	95.71	21.04	21.98%
2009/10	49.48	42.82	6.65	15.53%
2010/11	103.05	86.05	17.00	19.75%
2011/12	75.06	65.57	9.49	14.47%

Table 26: Value of research awards

# **Research Capacity Fund**

The Research Capacity Fund was established in UCD at the beginning of 2005 as a strategic response to the need to address the terms and conditions of funding agencies (with the exception of the HEA) for the use of overheads. This internal fund captures, records and reports on the research overheads awarded to the university to provide for some of the indirect costs associated with hosting research projects and programmes in the university. The fund's aim is to build research capacity in UCD and to create a world-class research environment for the university's community of academic scholars, researchers and graduate and undergraduate students.

The Research Capacity Fund is used to:

- Resource strategic supporting initiatives targeted towards capacity building, such as research careers, research management and systems development, matching funding for capital developments, strategic and major initiative scheme projects;
- Offset indirect costs arising from the hosting of research activities in academic units
- Provide targeted 'soft infrastructure 'in support units (e.g. staffing in the development office, HR, Research IT services team, Research finance office, and UCD research.

The university produces an overhead investment plan (OIP) for strategic investment of the research overheads that are necessary to provide a world-class environment for researchers within the institution. Table 27 gives a breakdown of the schemes and disbursements made since 2005.

Commitments made to date of report	2005 €'000	2006 €'000	2007 €'000	2008 €'000	2009 €'000	2010 €'000	2011 €'000	2012 €'000	Total €'000
RSS - Capital		1,900	3,000	3,000	0	714	596	594	9,804
RSS - Schools	903	1,200	3,000	3,000	4,482	4,715	3,932	3,922	25,514
RSS - Stokes					605	515	540	507	2,167
Schools overhead support (RAM)			0	0	4,338	2,908	1,183	1,624	10,053
Seed Funding	468	1,182	1,250	1,246	172	439	(28)	489	5,218
Strategic & Maj or Initiatives Scher	me 199	135	175	244	799	538	735	702	3,57
S&MI - Science Centre Implementation	0	0	0	0	0	0	1,250	0	1,250
President's Research Fellowship	0	0	0	0	0	136	(6)	0	130
V.P. Reserve	118	56	11	12	0	0	0	0	197
Dedicated Infrascructure			1,031	1,458	1,533	1,248	750	1,000	7,020
Direct Support to Research Community	1,688	4,473	8,467	8,960	11,929	11,213	8,952	8,838	64,520
Release of Previous Provision	0	0	0	0	5,000	0	0	0	5,000
Research Development and Suppor	<b>t</b> 326	1,518	1,919	2,167	1,931	2,754	2,934	2,771	16,2320
Total	2,014	5,991	10,386	11,127	18,860	13,967	11,886	11,609	85,840

Table 27: Disbursements from the Research Capacity Fund

The Research Capacity Fund investments and disbursements are regularly reported by the Bursar to the Finance, Resources and Assets Management Committee (FRAMC), a subcommittee of the Governing Authority.

# **Sources of research funding**

Figure 30 shows the total value of awards by funding agency over the period 2007/08 to 2011/12. UCD's leading research funder is Science Foundation Ireland, followed by the European Commission and Irish Research Councils.

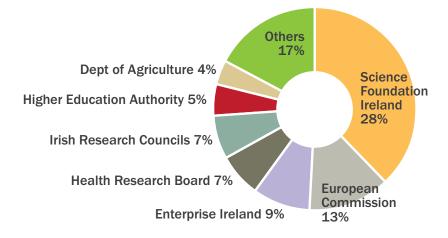


Figure 30: Total Awards per funding agency 2007/08 to 2011/12

Table 28 shows the total value of awards by type of funder. There was a significant reduction in funding from the Irish State in 2009/10 (down 69% on the previous year). Irish State funding recovered to  $\in$ 66m in 2010/11 but dipped to  $\in$ 44.7m in 2011/12. Funding from Irish and international business sources more than doubled from 2010/11 to 2011/12 as UCD built its research relationships with more than 300 industry partners.

Funding Agency Type	2007/08	2008/09	2009/10	2010/11	2011/12	Grand Total	% of total
Irish State	101.8	100.3	31.0	66.2	44.7	343.9	75%
European Commission	5.7	6.8	9.7	23.0	14.1	59.3	13%
Other	6.1	7.0	4.2	10.2	7.5	35.1	8%
Irish & International Business	2.3	2.6	4.6	3.9	8.8	22.1	5%
Grand Total	115.9	116.7	49.5	103.3	75.1	460.4	

Table 28: Value of Research Awards by funding agency type

# **Budget allocations for registered grants**

Analysis of the budget allocations from new awards shows that on average, salaries account for 35% of budgets, scholarships and fees for 19%, equipment for 5%, and travel, consumable and others for 21%. On average 6% of budgets are transferred to partners, while overheads account for 14%.

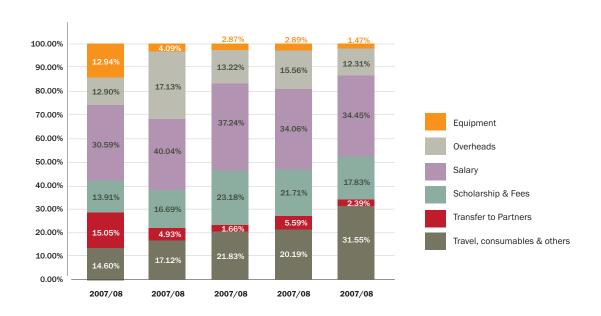


Figure 31: Allocation of awards by budget category (%)

Budget Category	2007/08 €m	2008/09 €m	2009/10 €m	2010/11 €m	2011/12 €m	Total €m
Salary	41.74	49.17	18.74	37.25	26.71	173.61
Travel, consumables & others	19.91	21.02	10.98	22.08	24.47	98.47
Scholarships & Fees	18.98	20.50	11.66	23.75	13.82	88.72
Overheads	17.60	21.04	6.65	17.01	9.55	71.85
Transfer to Partners	20.54	6.05	0.84	6.12	1.86	35.40
Equipment	17.66	5.02	1.44	3.16	1.14	28.42
Grand Total <sup>28</sup>	136.44	122.80	50.31	109.37	77.54	496.46

Table 29: Allocation of awards by budget category (€m)

With the exception of 2009/10 during which state funding for research was frozen for a period, the trend is for proportionately less funding for scholarships and fees with more for travel and consumables.

Diversification of the funding base is a key aim for the Vice President for Research since 2009. The growth in the proportion of non exchequer investment in university research since 2008/9 reflects the increase in funding from EU, industry and NGO sources.

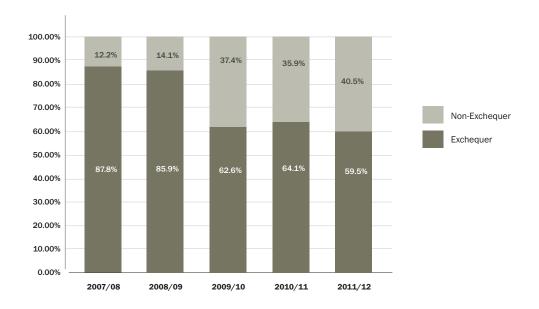


Figure 32: Proportion of funding from State and other sources, 2007/08 to 2011/12

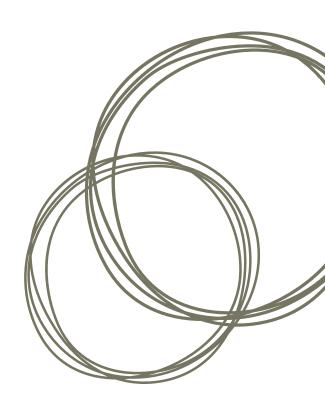
# **Top industry funders**

Table 30 shows UCD's top ten industry funders for research over the past five years.

Industry Funder	Total (€m)
Servier	7.50
Ark Therapeutics Group plc	3.10
GE Medical Systems Ireland Ltd/Intel Ireland Ltd.	1.90
Tullow Oil Ltd.	1.10
Pfizer Ltd.	0.92
GlaxoSmithKline Ltd.	0.91
Multicompany ITF (UK)	0.89
Statoil ASA Norway	0.84
Agilent Technologies Ireland Ltd.	0.72
AP Envecon	0.72
AstraZeneca Ltd.	0.42
Others	10.56
Total	29.58

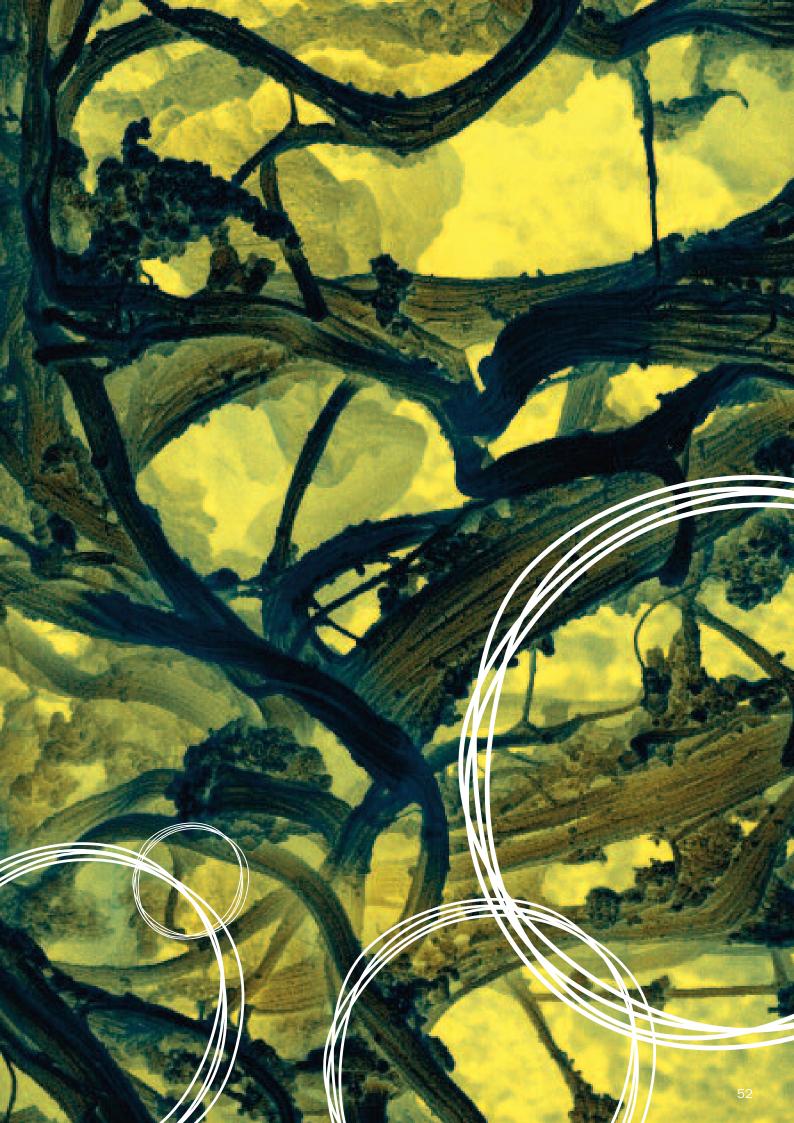
Table 30: Top industry funders of research in UCD

Diversification of the funding base is a key objective. UCD raised 41% of its research funding from non exchequer sources in 2011/12.



The governance structures for research in UCD comprise the University Research Strategy Board (URSB), the University Management Team-Research Institutes Sub-Committee (UMT RISC), the Research IT Steering Group and the Seed Funding Committee.

# GOVERNANCE, MANAGEMENT AND ADMINISTRATION



# Research governance

The governance structures for research in UCD comprise the University Research Strategy Board (URSB), the University Management Team Research Institutes Sub-Committee (UMT RISC), the Research IT Steering Group, and the Seed Funding Committee. The membership of committees in 2012/13 is given.



#### **URSB** members 2012-13

Dr Hugh Brady (Chair) Prof. Maeve Conrick Mr Tony Carey Prof. Julie Berndsen Dr Cormac Murphy Prof. Gerald Byrne Dr Susi Geiger Prof. Walter Kolch Prof. David Brayden Prof. Mark Rogers Prof. Brian Nolan Prof. Padraig Dunne Dr Lynda Mulvin Prof. Anthony Fagan Prof. Joe Carthy Prof. Gabriel Cooney Dr Aoibheann Gibbons Prof. Lizbeth Goodman Prof. Desmond Fitzgerald Prof. Ciarán Ó hÓgartaigh Prof. Michael Monaghan Prof. Alun Jones Dr John B. Howard Prof. Peter Clinch Prof. Barry Smyth Prof. Imelda Maher Prof. Lorraine Hanlon

### **UMT RISC**

The University Management Team Research Institutes Sub-Committee maintains oversight of the overall strategic direction, planning and outcomes for the Research Institutes.

#### **UMT RISC members 2012-13**

Dr Hugh Brady (Chair) Prof. Pat Guiry Prof. Joe Carthy Mr Gerry O'Brien Prof. Gerardine Meaney Prof. Ciarán Ó hÓgartaigh Prof. Mark Rogers Prof. Walter Kolch Prof. Gerry Byrne Ms Triona McCormack Prof. Mike Gibney Prof. Colin Scott Prof. Des Fitzgerald Prof. Brian Nolan Prof. Michael Monaghan Ms Sharon Bailey

Dr Brian Caulfield Prof. Chris Bean Prof. Maeve Conrick Dr Michael O'Neill

# **Research IT Steering Group**

The Research IT Steering Group oversees and advises UCD IT Services on the development and implementation of the Research IT support service.

#### **Research IT Steering Group members 2012-13**

Prof. Zorica Nedovic-Budic (Chair)

Mr Eamonn Hynes

Ms Julia Barrett

Mr Fred Clarke

Dr Aoibheann Gibbons

Dr Vio Buchete

Dr Ciarán O'Beirne

Mr Mark Hargaden

Prof. Denis Shields

Mr Fred Clarke

Dr Brian Caulfield

Mr Ronan Prendergast

Dr Emma Teeling Dr Niall English
Prof. Feargal Murphy Mr Seamus Shaw

# **Seed Funding Committee**

The Seed Funding Committee designs policy for the UCD Seed Funding Scheme (2008) and oversees its implementation.

#### **Seed Funding Committee members 2012-13**

Prof. Alun Jones (Chair)

Prof. Catherine Godson

Prof. Ron Pinhasi

Dr Emma Teeling

Prof. Orla Feely

Prof. Orla Feely

Prof. Ian O'Donnell

# **Management**

#### **Key performance indicators**

KPIs are defined as 'quantifiable performance measurements used to define success factors and measure progress toward the achievement of organisational goals'. In general, research excellence in higher education is evaluated by assessing and monitoring quantitative inputs such as research income, research students, research staff and measures of research outputs such as bibliometrics. <sup>29</sup>

To assess progress and competitiveness, a balance between input and output measures is desirable, as is inclusion of leading (predictive) and lagging (past) indicators.

<sup>&</sup>lt;sup>29</sup> Strategic Planning and Decision Support Project, 2006, Irish Universities.

#### **University Strategic Plan to 2014**

In UCD's Strategic Plan to 2014, progress towards the university's objectives is assessed using the following metrics:

- 1. Peer-reviewed (quality) publications per staff member and publications in a given year per staff member;
- 2. Number of publications in top-ranked outlets (top 10% of journals in a given discipline or top-ranked book or monograph publishers);
- 3. Percentage of research-active staff<sup>30</sup>;
- 4. Competitive peer-reviewed extramural research awards: success with major Irish and international funding programmes, measured in terms of market share.

#### **Key Performance Indicators**

Financial success and academic success are used as proxies for the research KPIs 1, 2 and 4 in the Strategic Plan.

The financial success indicator is calculated as the average awards less the average research expenditure over three years. This shows whether the value of the research awards is on average greater than the expenditure in a given time period.

The indicator of academic success is the publication impact (calculated by Thomson Reuters) of the publication output of the institution relative to world averages. An impact figure of greater than one indicates that output is above average. The impact factors shown in Table 31 are based on five-year averages and are analysed using Thomson Reuters' publication and citation data from Web of Science through InCites. This tool is provided by the Irish Universities Association's National Data project, funded by the HEA Strategic Investment Fund.

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Expenditure €m 3-year average	58.99	72.79	98.45	110.9	94.08	88.5	84.08
expenditure €m			76.74	94.05	101.14	97.83	88.89
Awards €m 3-year average	83.10	95.37	115.90	116.75	49.48	103.25	75.06
awards €m			98.12	109.34	94.04	89.83	75.93
Financial success indicator: 3-year average awards less expenditure €m			21.38	15.29	-7.10	-8.00	-12.96
Academic success indicator	0.95	1.01	1.12	1.27	1.32	1.40	1.38
Academic staff	1,622	1,702	1,779	1,833	1,727	1,582	1,572

Table 31: Key Performance Indicators, 2005/6 to 2011/12

<sup>&</sup>lt;sup>30</sup> Taking into account disciplinary norms, a research-active academic will have regularly supervised postgraduates, published quality work in his or her field of expertise and/or attracted appropriate extramural research funding. It is targeted that by 2014, 90% of UCD academic staff will be research active

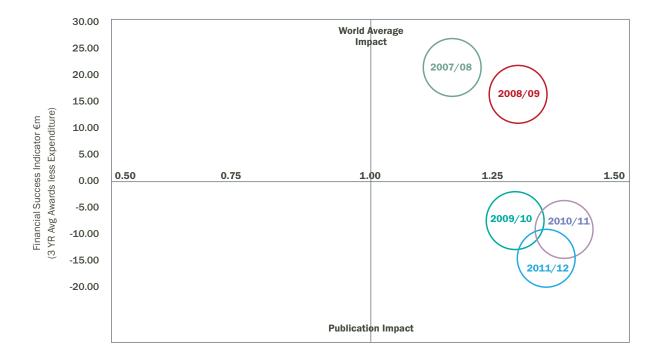


Figure 33: Financial success and academic success indicators

From the figures in Table 31, illustrated in Figure 33, it is apparent that the financial success indicator has been negative since 2009/10, indicating that UCD is spending more than it is being awarded in research grants. The peak awards in 2008/9 were spent over the ensuing three-year period, and the fall in new awards in 2009/10 affected the next two years. Overall these changes indicate a drop in research capacity, particularly in Science, Engineering and Technology research, where 93% of competitive extramural research funding is invested and where Web of Science-based impact analysis (Incites) is most relevant.

UCD's academic success indicator is also lower in 2011/12 than in 2010/11, indicating a slight decrease in the impact of UCD's publication output relative to world averages. This is a lagged indicator, as impact builds over a period of years, and it should be carefully monitored over the coming years. Policy interventions should be implemented to support academics in targeting high impact journals. Finding ways to capture and include the value of other research outputs is becoming increasingly important. UCD's growing yield in books is not included here and the overall research contribution of the Humanitites, a significant force in the university, is not properly reflected with this analysis.

The circle size in Figure 33 is proportional to the number of academics at UCD in a given year, which has decreased since peaking in 2009. This decrease may be a contributory factor to changes in funding and impact.

# **Comparative metrics**

A composite of UCD's academic FTE research output and financial metrics is shown in Table 22.

In order to put UCD's KPIs and metrics in context, it is useful to compare publicly available sources of information on publications, patents and research funding, and to normalise these by dividing by the total number of academic staff. Table 32 summarises these normalised metrics for UCD, and Tables 33, 34 and 35 show how they compare with the figures from other institutions in Ireland and abroad.

Metric	2008	2009	2010	2011
Impact of publications (InCites five-year impact relative to the world)	1.27	1.32	1.40	1.38
No. of publications in InCites	1,651	1,759	1,843	2,068
Total academic staff FTE	1,779	1,833	1,727	1,582
No. of publications (InCites) per academic staff FTE	0.93	0.96	1.07	1.31
Research Expenditure €m	98.45	110.90	94.08	88.50
Research income €'000 per academic staff FTE	€55.34	€60.50	€54.48	€55.94

**Table 32: UCD benchmark metrics** 

Table 33. Impact of publications in other universites in the UK and Ireland

UK universities*	2003-2007	2004-2008	2005-2009	2006-2010
University of Oxford	1.93	2.00	2.06	2.07
University of Cambridge	1.91	1.98	2.01	2.10
University of Edinburgh	1.80	1.85	1.85	1.89
University of Southampton	1.33	1.39	1.45	1.55
University of Nottingham	1.17	1.25	1.32	1.33
University of Glasgow	1.61	1.63	1.67	1.65
University of Warwick	0.94	0.98	1.07	1.16
Queen's University of Belfast	1.17	1.16	1.24	1.26
University of Manchester	1.26	1.33	1.42	1.55
University of Birmingham	1.47	1.52	1.53	1.49
Total UK University Sector	1.32	1.35	1.38	1.41
Other Irish universities*	2003-2007	2004-2008	2005-2009	2006-2010
Dublin City University	0.70	0.77	0.84	0.99
NUI Galway	0.88	0.90	0.91	1.03
University of Limerick	0.52	0.53	0.62	0.63
Trinity College Dublin	1.42	1.49	1.55	1.66
University College Cork	0.94	0.99	1.06	1.13
NUI Maynooth	0.79	0.87	0.92	0.96
Total Irish University Sector	1.07	1.12	1.18	1.25

<sup>\*</sup>Source: Thomson Reuters InCites 2011

Publication impact relative to world averages in Thomson Reuters InCites for a five-year moving average. Report created 18 Jan 2012. Data processed 31 Dec 2010. Data source: Web of Science

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Table 34 Number of publications per academic staff member in other universites in the UK and Ireland

UK universities*	2008	2009	2010	2011
University of Oxford	1.146	1.19	1.17	N/A
University of Cambridge	1.28	1.28	1.23	N/A
University of Edinburgh	0.99	1.05	1.06	N/A
University of Southampton	0.88	0.88	0.92	N/A
University of Nottingham	0.78	0.80	0.82	N/A
University of Glasgow	0.84	0.84	0.84	N/A
University of Warwick	0.83	0.84	0.81	N/A
Queen's University of Belfast	0.76	0.79	0.81	N/A
University of Manchester	0.93	0.95	0.90	N/A
University of Birmingham	0.97	1.02	1.03	N/A
Other Irish universities*	2008	2009	2010	2011
Dublin City University	0.83	0.78	0.90	N/A
NUI Galway	0.67	0.86	0.91	N/A
University of Limerick	0.57	0.59	0.70	N/A
Trinity College Dublin	1.45	1.59	1.79	N/A
University College Cork	1.09	1.15	1.40	N/A
NUI Maynooth	0.83	0.79	0.94	N/A

<sup>\*</sup>Source: Thomson Reuters InCites 2011

Total publications per institution per calendar year in Thomson Reuters InCites divided by the total academic staff FTE. Report created 18 Jan 2012. Data processed 31Dec 2010. Data source: Web of Science

<sup>®</sup> This data is reproduced under licence from Thomson Reuters. UK Academic Staff FTEs are from the HESA website. Irish academic staff numbers are from annual HEA returns.

Table 35: Research income per academic staff member in other universites in the UK and Ireland

UK universities*  Research Income €'000 per Academic Staff Member						
Research income & 000 per Acade	2008	2009	2010	2011		
University of Oxford	€61.58	€67.50	€76.14	N/A		
University of Cambridge	N/A	N/A	€69.66	N/A		
University of Edinburgh	€56.06	€67.54	€73.91	N/A		
University of Southampton	€39.29	€41.11	€44.06	N/A		
University of Nottingham	€32.80	€35.51	€38.68	N/A		
University of Glasgow	€53.24	€57.21	€59.08	N/A		
University of Warwick	€37.88	€45.29	€49.39	N/A		
Queen's University of Belfast	€37.15	€43.78	€49.40	N/A		
University of Manchester	€48.74	€53.93	€53.90	N/A		
University of Birmingham	€43.43	€48.46	€51.58	N/A		
Other Irish universities**   Research Income €'000 per Academic Staff Member   2008 2009 2010 2011						
Dublin City University	N/A	N/A	N/A	N/A		
NUI Galway	€67.13	€69.79	€72.66	N/A		
University of Limerick	€90.57	€95.47	€84.73	N/A		
Trinity College Dublin	€89.90	€126.40	€117.83	N/A		
University College Cork	€88.39	€108.97	N/A	N/A		
NUI Maynooth	€68.23	€84.82	€82.94	N/A		

<sup>\*</sup>Source: University Websites 2011, Annual Reports and British Universities Finance Directors Group website www.bufdg.ac.uk/resources/statements/ (All amounts presented in euro for comparability; conversion rates: £1.00 = €1.20077

<sup>\*\*</sup>Source: University websites 2011

#### **UCD Institutes and Research Centres**

Table 36 shows UCD Institutes and Research Centres.

#### **UCD Major & Multidisciplinary Research Institutes**

- UCD Complex & Adaptive Systems Laboratory
- UCD Conway Institute
- UCD Earth Institute
- · UCD Geary Institute
- UCD Humanities Institute
- · UCD Institute of Food & Health

#### **Funded Programmes**

#### SFI Centres for Science, Engineering & Technology (CSETs)

- CLARITY Centre for Sensor Web Technologies
- Systems Biology Ireland

#### **Major Inter-Institutional Collaborative Programmes**

- Molecular Medicine Ireland (MMI)
- National Institute for Bioprocessing Research & Training (NIBRT)
- Technology Research for Independent Living (TRIL)
- National Digital Research Centre (NDRC)

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

- Clique
- Financial Mathematics Computation (FMC²)
- Irish Drug Delivery Network
- Reproductive Biology
- Solar Energy Conversion
- Sustainable Electrical Energy Systems (SEES)

#### **Thematic Institutes**

- Irish Institute for Chinese Studies (UCD Confucius Institute)
- The Charles Institute
- UCD Clinton Institute for American Studies
- UCD Institute for British Irish Studies
- · UCD Institute for Sport & Health
- UCD John Hume Institute for Global Irish Studies
- UCD Micheál Ó Cléirigh Institute

#### **UCD Research Centres**

A full list of UCD Academic Centres within Colleges can be found in Appendix A.

- Irish Social Science Data Archive (ISSDA)
- National Virus Reference Laboratory
- SMARTIab
- · Centre for Synthesis and Chemical Biology
- Centre for BioNano Interactions (CBNI)
- · Electricity Research Centre
- UCD Clinical Research Centre (CRC)
- UCD Nanomedicine Centre
- UCD RTI Applied Research Centre

#### **Table 36: UCD Institutes and Research Centres**

# **APPENDICES**

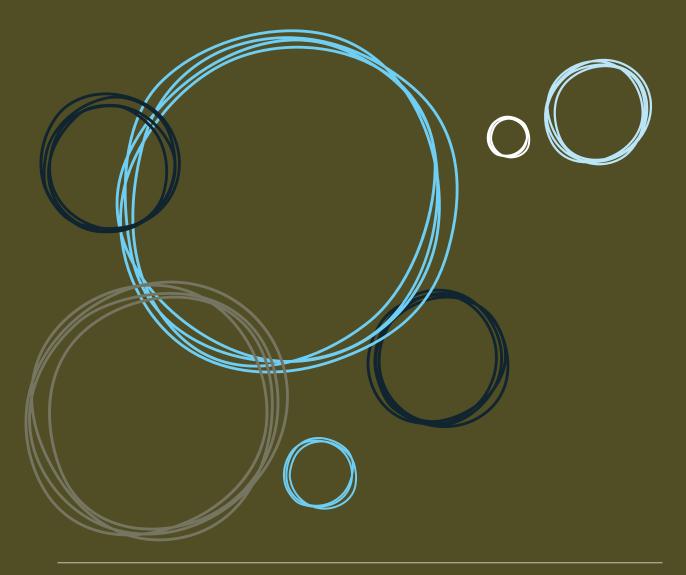
**Appendix A:** UCD academic centres

**Appendix B:** Institute membership

**Appendix C:** Key research contacts

**Appendix D:** Papers cited 100 times or more

**Appendix E:** Books authored by UCD academics



# **APPENDIX A**

# **UCD Academic Centres**

Centre Name	Centre Type	School of Primary Association	Director		
College of Agriculture, Food Science and Veterinary Medicine					
Centre for Humanitarian Action	Combined Research & CPD	School of Agriculture & Food Science	Dr Patrick Gibbons		
Centre for Veterinary Epidemiology and Risk Analysis	Research	School of Veterinary Medicine	Prof. Simon More		
College of Arts and Celtic Studies					
Centre for Australian Studies	Research	School of History & Archives	Dr Hamish Maxwell-Stewart		
UCD Clinton Institute for American Studies	Research	School of History & Archives	Prof. William Kennedy		
UCD Centre for War Studies	Research	School of History & Archives	Prof. Robert Gerwarth		
UCD James Joyce Research Centre	Research	School of English, Drama & Film	Prof. Anne Fogarty		
Centre for Canadian Studies	Research	School of History & Archives	Dr Marc Caball		
Centre for the History of Media	Research	School of History & Archives	Dr Alexander Wilkinson		
Mícheál Ó Cléirigh Institute	Research	School of History & Archives	Dr John McCafferty		
Lárionad de Bhaldraithe do Léann na Gaeilge	CPD	School of Irish, Celtic Studies, Irish Folklore & Linguistics	Dr Regina Uí Chollatáin		
Centre for the Study of Gender, Culture and Identities	Research	School of English, Drama & Film	Prof. Gerardine Meaney		
Centre for the History of Medicine in Ireland	Research	School of History & Archives	Dr Catherine Cox		
College of Business & Law					
UCD Institute of Criminology	Research	School of Law	Prof. Paul O'Connor		
UCD Centre for Regulation & Governance	Research	School of Law	Prof. Colin Scott		
UCD Commercial Law Centre	CPD	School of Law	Dr Aidan Gill		
Centre for Corporate Governance at UCD	Combined Research & CPD	School of Business	Prof. Niamh Brennan		
Centre for Innovation, Technology & Organisation	Research	School of Business	Dr Seamas Kelly		
UCD Commercial Law Centre	CPD	School of Law	Mr Brian Hutchinson		
Centre for Business Analytics	Research	School of Business	Prof. Cathal Brugha		
College of Engineering and Architecto	ure				
Centre for Manufacturing Engineering	Research	School of Mechanical & Materials Engineering	Prof. Gerald Byrne		
Materials Science & Engineering Research Centre	Research	School of Mechanical & Materials Engineering	Prof. Michael Gilchrist		
Biomedical Engineering Research Centre	Research	School of Mechanical & Materials Engineering	Prof. David FitzPatrick		
Communications & Optoelectronics Research Centre	Research	School of Electrical, Electronic & Communications Engineering	Prof. Anthony Fagan		
UCD Centre for Adhesion and Adhesives	Research	School of Electrical, Electronic & Communications Engineering	Prof. Alojz Ivankovic		
UCD Dooge Centre for Water Resources Research	Research	School of Civil, Structural & Environmental Engineering	Prof. Michael Bruen		
Bridge and Transport Research Centre	Research	School of Civil, Structural & Environmental Engineering	Prof. Eugene O'Brien		

# **UCD Academic Centres**

Centre Name	Centre Type	School of Primary Association	Director
College of Health Sciences			
Irish Centre for the Study of Nursing and Midwifery History	Research	School of Nursing, Midwifery & Health Systems	Prof. Gerard Fealy
Centre for Emergency Medical Science (CEMS)	Research	School of Medicine & Medical Science	Prof. Gerard Bury
Centre for the Protection of Older People	Research	School of Nursing, Midwifery & Health Systems	Prof. Gerard Fealy
UCD Diabetes Research Centre Centre for Safety and Health at Work (CSHWW)	Research CPD	School of Medicine & Medical Science School of Public Health, Physiotherapy and Population Science	Prof. Catherine Godson Dr Anne Drummond
UCD Centre for Food Safety	Research	School of Public Health, Physiotherapy and Population Science	Prof. Séamus Fanning
National Nutrition Surveillance Centre (NNSC)	Research	School of Public Health, Physiotherapy and Population Science	Prof. Cecily Kelleher
Centre for Health Services Research	Research	School of Public Health, Physiotherapy and Population Science	Dr Patricia Fitzpatrick
Centre for Sports Studies	CPD	School of Public Health, Physiotherapy and Population Science	Dr John Shuttleworth
College of Human Sciences			
Institute for British Irish Studies (IBIS)	Research	School of Politics & International Relations	Prof. Jennifer Todd
Equality Studies Centre	Combined Research & CPD	School of Social Justice	Dr Judy Walsh
Women's Studies Centre	Research	School of Social Justice	Dr Katherine O'Donnell
Centre for Disability Studies	Research	School of Psychology	Dr Suzanne Guerin
UCD Dublin European Institute	Research	School of Politics & International Relations	Prof. Daniel Thomas
Social Science Research Centre	Research	School of Psychology	Dr Dympna Devine
College of Science			
Centre for Cybercrime Investigation	Combined Research & CPD	School of Computer Science & Informatics	Prof. Joseph Carthy
National Centre for Isotope Geochemistry	Research	School of Geological Sciences	Mr Stephen Daly
UCD Meteorology & Climate Centre	Research	School of Mathematical Sciences	Prof. Peter Lynch
Centre for Irish Bat Research	Research	School of Biology & Environmental Science	Dr Emma Teeling

# APPENDIX B

# **Institute membership**

#### **Humanities Institute members**

Prof. Gerardine Meaney (Director)

Dr Paolo Acquaviva Prof. Angela Bourke Dr John Brannigan Dr Michael Brophy

Dr Joanna Mary Bruck

Dr Marc Caball
Dr Lucy Collins
Prof. Gabriel Cooney

Prof. Mary Daly Prof. Nicholas Paul Daly

Dr Philip Charles De Souza

Dr Sharae Deckard Dr Aude Doody

Dr Nicola Frances Figgis

Prof. Mary T Gallagher

Prof. Robert Gerwarth Prof. Lizbeth Goodman Dr Jane Grogan

Dr Georg Grote

Dr Jacqueline Marie Jones

Dr David Stewart Kerr Dr Lee Komito

Dr Frank Lawrence Dr Helen Lewis

Dr Caoimhin Mac Giolla Leith

Dr Samantha Leah Martin-Mcauliffe

Dr Wolfgang Marx Dr Bettina Migge Dr Anne Mulhall Dr Paula Murphy

Prof. Diane Mary Elizabeth Negra

Prof. Máire B Ní Annracháin Prof. Muiris O Suilleabhain Dr Tadhg O' Hannrachain

Dr Finola O'Kane Crimmins

Prof. Tadhg O'Keeffe Dr Aidan O'Sullivan

Dr Alan Alfred Demetrious Peatfield

Dr Gillian Pye

Prof. Anthony V Roche Dr Fionnghaula Sweeney Prof. Theresa E Urbainczyk Dr Regina Uí Chollatáin Dr Graeme Martin Warren

Prof. Harry White

#### **Geary Institute members**

Prof. Philip O'Connell (Director)

Dr Geoffrey S Cook
Prof. John Cotter
Dr Liam Delaney
Dr Kevin J M Denny
Prof. Paul Devereux
Dr Orla Doyle
Prof. Anthony Fahey

Prof. Séamus Fanning

Dr Niamh Hardiman

Prof. Colm Harmon

Prof. James Joseph Heckman

Dr Vincent Hogan Dr Christopher Jepsen Dr Kanika Kapur

Prof. Cecily Catherine Kelleher

Dr Naonori Kodate Dr Dorren McMahon Prof. Brian Thomas Nolan

Prof. Patricia Noonan Walsh

Dr Michelle Catherine Norris

Dr Sarah A Parlane Dr Diane Payne

Prof. Richard E Tremblay Prof. Patrick Gerard Wall Prof. Patrick Paul Walsh Dr Ciara Whelan

Prof. Karl Whelan

Prof. Christopher Thomas Whelan

Dr Nessa Winston

# CASL members

Dr Michael O'Neill (Director)

Prof. Petra Ahrweiler Prof. Christopher J Bean

Dr Christopher James Bleakley Prof. Anthony Brabazon

Dr Nicolae Viorel Buchete

Dr Eimear Byrne
Dr Geoffrey S Cook
Dr Edward A Cox

Prof. Pádraig Cunningham Dr Kathleen Mary Curran Prof. Frederic Dias Prof. Peter Duffy Dr David Edelman Prof. Nial Friel

Dr Isobel Claire Gormley Prof. Roderick Gow Prof. Roderick Gow Dr Marcus Greferath Dr Russell Higgs

Prof. Mohand Tahar Kechadi Dr Vladimir Lobaskin Prof. Peter Lynch

Dr Neil Joseph Hurley

Prof. Joao Marques-Silva Dr Sean McGarraghy Prof. Gary McGuire

Prof. Thomas Brendan Murphy

Prof. Adrian Ottewill
Dr Andrew Parnell
Dr Diane Payne
Dr Gianluca Pollastri
Prof. Scott Thurston Rickard

Prof. Denis Shields

### Institute of Food and Health members

Prof. Mike Gibney (Director)

Mr Mick O'Sullivan
Dr Aifric O'Sullvan
Prof. Nick Holden
Dr Alan Kelly
Dr Nigel Brunton
Dr Amalia Scannell
Prof. Patrick Wall
Dr Anne Nugent
Dr Paul Whyte

Prof. Cecily Kelleher

Prof. Séamus Fanning Dr Celine Murrin Prof. Shane Ward

Dr Colm O'Donnell Dr Thomas Boland Prof. Dolores O'Riordan

Dr Tom Curran Dr Eileen Gibney Prof. Torres Sweeney Dr Enda Cummins Prof. Ronan Gormley Dr Fiona McGillicudy

Prof. Alan Reilly Prof. Francis Butler Dr James Lyng Prof. Frank Monahan

Prof. John O'Doherty Dr JC Jacquier Dr Kevin Mc Donnell Dr Lorraine Brennan Prof. Helen Roche Dr Karina Pierce

Conway	75.0	ll av	N/C
COHWA	A	ΙΓοΥ	11

Prof. Denis Shields Dr Jarlath Nally Prof. Walter Kolch (Director) Dr Lorraine Brennan Prof. Matthias Wilm Prof. Johan Ericsson Prof. Patrick Guiry Dr Paul Crossey Prof. Finian Martin Dr Tara McMorrow Prof. Boris Kholodenko Prof. William Powderly Prof. Mohamed Al-Rubeai Dr Jeremy Simpson Dr Tadhg O Croinin Dr Neil Ferguson Prof. Geraldine Butler Dr Xiangming Zhu Prof. Mark Crowe Dr Margaret Mc Gee Dr Jana Haase Prof. Walter McNicholas Prof. Ulla Knaus Prof. Prem Puri Dr Albert Smolenski Dr Peter O' Brien Prof. Alan Baird Dr Annette Byrne Dr Paul Evans Prof. Oliver Fitzgerald Dr Chandralal Hewage Dr Seamas Donnelly Prof. Fionnuala McAuliffe Prof. Wim Meijer Prof. Gil Lee Prof. Ciaran Regan Dr Matthias Tacke Dr Patrick R O'Connell Dr John Baugh Prof. William Gallagher Dr Gerard Cagney Prof. Kevin Malone Dr Gethin McBean Prof. Des Higgins Prof. Joe Duffy Prof. Helen Roche Dr Anika Mostaert Prof. Brendan Loftus Prof. Cormac Taylor Dr Kevin O'Connor Dr Orina Belton Prof. Declan Gilheany Prof. Dolores J. Cahill Prof. Donal O'Shea Dr Amanda McCann Prof. Suzanne Jarvis Dr Jim Egan Prof. Patrick Lonergan Prof. Pauline Rudd Prof. Grace Mulcahy Dr Emma Teeling Dr John O'Connor Dr Oliver Blacque Prof. John J. Callinan Prof. Alexander Evans Prof. Catherine Godson Dr Michael Keane Prof. Giuliano Elia Dr Edward McKone Dr Keith Murphy Dr David MacHugh Prof. Dimitri Scholz Prof. Douglas Veale Dr James O'Gara Prof. Billy Bourke Dr Marguerite Clyne Prof. Jonathan Malthouse Prof. Stephen Gordon Dr Breandán Kennedy Prof. Paul Engel Prof. Paul McLoughlin Dr Evelyn Murphy Dr Patricia Maguire Dr Noreen Sheehy Prof. William Watson Dr Stefan Oscarson Prof. David Brayden Dr John Crean Prof. Andrew Green Dr Francesca Paradisi Prof. Therese Kinsella Dr Hilary McMahon

#### **Institute PhDs and Post Doctoral Fellows**

Humanities Institute: PhD / Post Doc numbers			
Year	PhD Students	Post Docs	
2007/08	27	3	
2008/09	28	2	
2009/10	36	2	
2010/11	30	4	
2011/12	35	4	

CASL: PhD / Post Doc numbers				
Year	PhD Students	Post Docs		
2007/08	92	26		
2008/09	103	23		
2009/10	92	34		
2010/11	111	40		
2011/12	92	26		

Institute of Food and Health: PhD / Post Doc numbers				
Year	PhD Students	Post Docs		
2008/09	124	50		
2009/10	112	54		
2010/11	116	43		
2011/12	114	45		
2012/13	107	46		

# **APPENDIX C**

# **Key Research Contacts**

School	Name	Role	Email	Ext.
Agriculture & Food Science	Moya Ryan	School Office Manager	moya.ryan@ucd.ie	7205
Applied Social Science	Catherine Baulch	Office Manager	catherine.baulch@ucd.ie	8419
Archaeology	Robert Sands	I.T. Specialist	robert.sands@ucd.ie	8341
Architecture	Elizabeth Shotton	Acting Head of Research and Innovation	elizabeth.shotton@ucd.ie	2703
Landscape Architecture	Dr. Karen Foley	Lecturer	karen.foley@ucd.ie	3246
Art History and Cultural Policy	Carla Briggs	Curator of Slides	carla.briggs@ucd.ie	8403
Biology & Environmental Science	Susan Wilson	Senior Executive Assistant	susan.wilson@ucd.ie	2243
Biomolecular & Biomedical Science	Heather Wood Geraldine Neylan	Executive Assistant Administrative Officer	heather.wood@ucd.ie geraldine.neylan@ucd.ie	6680 6455
Biosystems Engineering	Mai Cass	Senior Executive Assistant	mai.cass@ucd.ie	7484
Business	Aine Doherty	Senior Executive Assistant	aine.doherty@ucd.ie	8881/ 4704
Chemical & Bioprocess Engineering	g Dr Sharon Davin	Manager	sharon.davin@ucd.ie	1719
Chemistry & Chemical Biology	Susan Muldoon	School Office Manager	susan.muldoon@ucd.ie	2881
Civil Structural & Environmental Engineering	Prof. Michael Bruen	Director of Academic Centre - Water Resources Research	michael.bruen@ucd.ie	3212
Classics	Michelle McDonnell	Senior Executive Assistant	michelle.mcdonnell@ucd.ie	8166
Computer Science and Informatics	Alex Ufimtsev	Web Developer	alexu@ucd.ie	2926
Economics	Nicolas Clifton	Administrative Officer	nicolas.clifton@ucd.ie	8272
Education	Lorraine Heffernan	School Office Manager	lorraine.Heffernan@ucd.ie	7968
Electrical, Electronic and Communications Engineering	Grace O'Shea	Research Administrator	grace.oshea@ucd.ie	1934
English Drama & Film	Pauline Slattery	Administrative Officer	pauline.slattery@ucd.ie	8323
Geography Planning & Environmental Policy	Louise Dunne	Research Manager	louise.dunne@ucd.ie	2673
Geological Sciences	Sarah Procter	Administrative Officer	sarah.procter@ucd.ie	2331
History and Archives	Kate Breslin	Administrative Officer	kate.breslin@ucd.ie	8371
Information & Library Studies	Victoria Ellenberger	Executive Assistant	victoria.ellenberger@ucd.ie	7054
Irish Celtic Studies Irish Folklore & Linguistics	Anna Germaine	School Administrator	anna.germaine@ucd.ie	8200
Languages & Literature	Dr Paolo Acquaviva	Lecturer	paolo.acquaviva@ucd.ie	8655
Law	Ewa Szczupak	Programme Administrator	ewa.szczupak@ucd.ie	8754

School	Name	Role	Email	Ext.
Mathematical Sciences	Dr Michael Mackey Nuria Garcia Ordiales Michelle Power	Lecturer School Manager Senior Executive Assistant	michael.mackey@ucd.ie nuria.garcia@ucd.ie michelle.power@ucd.ie	2587 7152 2580
Mechanical & Materials	Oran Rua	School Administrator	oran.rua@ucd.ie	1787
Engineering	Martine Kisielewicz	Senior Executive Assistant	martine.kisielewicz@ucd.ie	1884
Medicine and Medical Science	Yvonne Barry	Programme Manager	yvonne.barry@ucd.ie	6738
Music	Melissa Devereux		music@ucd.ie	
Nursing Midwifery & Health	Isabel Hidalgo	Executive Assistant	isabel.Hidalgo@ucd.ie	6434
Systems	Grainne Connor	Programme Office Administrator	grainne.connor@ucd.ie	
Philosophy	Maria Baghramian	Associate Professor	maria.baghramian@ucd.ie	8125
Physics	Bairbre Fox	School Administrator	bairbre.a.fox@ucd.ie	2213
Politics and International Relations	Dara Gannon	Manager	dara.gannon@ucd.ie	8670
Psychology	Mary Boyle	Administrative Officer	mary.boyle@ucd.ie	8369
Public Health Physiotherapy and Population Science	Aileen Ward	School and Programme Office Manager	aileen.ward@ucd.ie	3424
Social Justice	Elizabeth Hassell	School Manager	elizabeth.hassell@ucd.ie	7104
Sociology	Linda Vines	Executive Assistant	linda.vines@ucd.ie	8674
Veterinary Medicine	Maria Mulholland	Senior Executive Assistant	maria.mulholland@ucd.ie	6102
UCD Earth Sciences Institute	Aideen Hartney	General Manager	aideen.hartney@ucd.ie	2873
UCD Conway Institute	Elaine Quinn	Communications and Education Officer	elaine.quinn@ucd.ie	6706
UCD Geary Institute	Susan Butler	Manager	susan.butler@ucd.ie	4610
UCD Humanities Institute of Ireland	Valerie Norton	Manager	valerie.norton@ucd.ie	4690
UCD Complex and Adaptive Systems Laboratory	Barry Hogan	Institute Manager	barrychogan@ucd.ie	5342
UCD Institute of Food and Health	Geraldine Quinn	Operations Manager	geraldine.quinn@ucd.ie	2808

## **APPENDIX D**

### Papers cited 100 times or more

парого	01000 200		11101	•				
Still at UCD	No Yes Yes Yes	No No	NO N	o Z	o Z	o Z	Yes Yes No	N N N N N N N N N N N N N N N N N N N
Institute	Conway Institute No Conway Institute Conway Institute Conway Institute Conway Institute	Conway Institute Conway Institute	Conway Institute		Conway Institute	Mater Misericordiae	- Centre for Bionano Interactions-	Conway Institute Centre for Bionano Interactions-
School	Conway Institute Agriculture & Food Science	Biomolecular & Biomedical Science Biomolecular & Biomedical Science Biomolecular & Biomedical Science	Biomolecular & Biomedical Science	Physics	Blomolecular & Blomedical Science	Medicine & Medical Science	Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology	Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology
UCD Author	Mr. Mark Larkin Mr. Gordon Blackshields Mr. Paul McGettigan Mr. Iain Wallace Dr. Andreas Wilm Prof. Des Higgins	Ms. Amaya Garcia-Munoz Prof. Ciaran M Regan Prof. Dominic Walsh	Prof. Dominic Walsh	Prof. Martin Grunewald	Prof. Dominic Walsh	Gaine, Sean P	Dr. Tommy Cedervall Dr. Iseult Lynch Prof. Kenneth A. Dawson Prof. Sara Linse	Dr. Martin Lundqvuist Mr. Johannes Stigler Dr. Giuliano Elia Dr. Iseult Lynch Dr. Tommy Gedervall Prof. Kenneth A. Dawson
Document Title	Clustal W and clustal X version 2.0	Amyloid-beta protein dimers isolated directly from Alzheimers brains impair synaptic plasticity and memory	A beta Oligomers - a decade of discovery	CMS physics technical design report, volume II: Physics performance	Natural oligomers of the Azheimer amyloid-beta protein induce reversible synapse loss by modulating an NMDA-type glutamate receptor-dependent signaling pathway	Updated Clinical Classification of Pulmonary Hypertension	Understanding the nanoparticle-protein corona using methods to quantify exchange rates and affinities of proteins for nanoparticles	Nanoparticle size and surface properties determine the protein corona with possible implications for biological impacts
Journal	Bioinformatics	Nature Medicine	Journal of Neurochemistry	Journal of Physics G-Nuclear and Particle Physics	Journal of Neuroscience	Journal of the American College of Cardiology	Proceedings of the National Academy of Sciences of the Unite	Proceedings of the National Academy of Sciences of the Unite
First Author	ARTICLE LARKIN, MA et al.	ARTICLE SHANKAR, GM et al.	WALSH, DM et al.	REVIEW BAYATIAN, GL et al.	ARTICLE SHANKAR, GM et al.	iS SIMONNEAU, G et al.	ARTICLE CEDERVALL, T et al.	ARTICLE LUNDQVIST, M et al.
Doc Type	ARTICLE	ARTICLE	REVIEW	REVIEW	ARTICLE	PRO- CEEDINGS PAPER S	ARTICLE	ARTICLE
Pub Year	2007	2008	2007	2007	2007	2009	2007	2008
2011 Journal Impact Factor	5.47	22.46	4.06	4.18	7.12	14.16	89.68	89.6
Times Cited	4,203	760	555	409	382	363	334	269

Still at UCD	Yes	Yes	Yes -No	No No Yes Yes No	S S	Yes	Yes	o Z	
Institute	Conway Institute		Conway Institute ence	Our Lady's Hospital Conway Institute	Conway Institute	Conway Institute & Mater Misericordiae	- Centre for BioNano Interactions-	Conway Institute	
School	Medicine & Medical Science	Physics	Biomolecular & Biomedical Science Biomolecular & Biomedical Science	Medicine & Medical Science Medicine & Medical Science		Medicine & Medical Science	Chemistry & Chemical Biology Chemistry & Chemical Biology		
UCD Author	Prof. Bill Powderly	Dr Shelia McBreen	Prof William Gallagher Mr William Faller	Dr Regina Regan Dr Judith Conroy Ms Jillian Casey Prof. Andrew Green Ms Naisha Shah Dr Sean Ennis	Prof. Michael J. Dunn	Mr Timothy Lynch	Dr. Iseult Lynch Prof. Kenneth A. Dawson	Prof. Eoin O'Brien	
Document Title	Class-sparing regimens for initial treatment of HIV-1 infection	Fermi Observations of High-Energy Gamma-Ray Emission from GRB 080916C	A microRNA DNA methylation signature for human cancer metastasis	Functional impact of global rare copy number variation in autism spectrum disorders	the minimum information about a proteomics experiment (MIAPE)	Phenotype, genotype, and worldwide genetic penetrance of LRRK2-associated Parkinsons disease: a case-control study	Protein-nanoparticle interactions	European Society of Hypertension guidelines for blood pressure monitoring at home: a summary report of the second international consensus conference on home blood pressure	28 20 20 20 20 20 20 20 20 20 20 20 20 20
Journal	New England Journal of Medicine	Science	Proceedings of the National Academy of Sciences of the Unite	Nature	Nature Biotechnology	Lancet Neurology	Nano Today	Journal of Hypertension	
Doc First Type Author	ARTICLE RIDDLER, SA et al.	ARTICLE ABDO, AA et al.	ARTICLE LUJAMBIO, A et al.	ARTICLE PINTO, D et al.	ARTICLE TAYLOR, CF et al.	ARTICLE HEALY, DG et al.	REVIEW LYNCH, let al.	REVIEW PARATI, G et al.	
Pub Year	2008	2009	2008	2010	2007	2008	2008	2008	
2011 Journal Impact Factor	53.30	31.20	9.68	36.28	23.27	23.46	15.36	4.02	
Times Cited	242	239	236	228	221	193	179	174	

Still at UCD	No No Yes	S S	0	Yes	Yes	Yes	Yes No Yes	Yes
Institute	Centre for BioNano Interactions	Conway Institute & CASL		Centre for Synthesis and Chemical Biology	St. Vincent's	Conway Institute		Conway Institute
School	Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology		Physics Physics	Chemistry & Chemical Biology	Medicine & Medical Science	Biomolecular & Biomedical Science	Biology & Environmental Science Biology & Environmental Science Biology & Environmental Science Biology & Environmental Science	NIBRT
UCD Author	Prof. Sara Linse Dr Cela Maria Cabaleiro Lago Dr. Iseult Lynch Prof. Kenneth A. Dawson	Mr Fergal Casey	Dr Mikolaj Stefan Cwiok Prof. Martin Grunewald	Dr Xiangming Zhu	Prof Walter McNicholas	Dr Barry Boland	Dr James C Carolan Dr. Carol Fitzroy Ms Karen Reardon Dr Tom Wilkinson	Dr Pauline Rudd
Document Title	Nucleation of protein fibrillation by nanoparticles	Universally sloppy parameter sensitivities in systems biology models	Search for W bosons decaying to an electron and a neutrino with the DO detector	New Principles for Glycoside-Bond Formation	Sleep apnoea as an independent risk factor for cardiovascular disease: current evidence, basic mechanisms and research priorities	Autophagy induction and autophagosome clearance in neurons: Relationship to autophagic pathology in Alzheimers disease	Genome Sequence of the Pea Aphid Acyrthosiphon pisum	Comparison of the methods for profiling glycoprotein glycans - HUPO Human Disease Glycomics/Proteome Initiative multi-institutional study
Journal	Proceedings of the National Academy of Sciences of the Unite	al. PLOS Computational Biology	Physical Review Letters	Angewandte Chemie- International Edition	al. European Respiratory Journal	Journal of Neuroscience	PLOS Biology	Glycobiology
First Author	E LINSE, S et al.	ARTICLE GUTENKUNST, RN et al.	ARTICLE ABAZOV, VM et al.	/ ZHU, XM et al.	/ MCNICHOLAS, WT et al.	E BOLAND, B et al.	ARTICLE RICHARDS, S et al.	ARTICLE WADA, Y et al.
Doc Type	ARTICLE	ARTICLE	ARTICLE	REVIEW	REVIEW	ARTICLE	ARTICLE	ARTICL
Pub Year	2007	2007	2008	2009	2007	2008	2010	2007
2011 Journal Impact Factor	89. 6	5.22	7.37	13.46	5.90	7.12	11.45	8 5 8
Times	173	168	168	168	156	155	153	149

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Institute		Mater Misericordiae	Conway Institute	1	St Vincent's		Conway Institute	Conway Institute	
School	Agriculture & Food Science	Medicine & Medical Science	Professor Philip Newsholme Biomolecular & Biomedical Science Conway Institute	Physics Physics	Medicine & Medical Science	Physics	Medicine & Medical Science		
UCD Author	Prof. Frank O'Mara	Professor Jim Egan	Professor Philip Newsholm	Dr Marta Felcini Prof. Martin Grunewald	Prof. Kenneth McDonald	Ms Anna Cannon.	Prof. Bill Powderly	Prof. Eoin O'Brien	
Document Title	Greenhouse gas mitigation in agriculture	Acute exacerbations of idiopathic pulmonary fibrosis	Diabetes associated cell stress and dysfunction: role of mitochondrial and non-mitochondrial ROS production and activity	The CMS experiment at the CERN LHC	State of the art: Using natriuretic peptide levels in clinical practice	The First Catalog of Active Galactic Nuclei Detected by the Fermi Large Area Telescope	Clinical Practice Guidelines for the Management of Cryptococcal Disease: 2010 Update by the Infectious Diseases Society of America	Prognostic accuracy of day versus night ambulatory blood pressure: a cohort study	
Journal	Philosophical Transactions of the Royal Society B-Biological	American Journal of Respiratory and Critical Care Medicine	Journal of Physiology-London	Journal of Instrumentation	European Journal of Heart Failure	Astrophysical Journal	Clinical Infectious Diseases	Lancet	
First Author	SMITH, P et al.	ARTICLE COLLARD, HR et al.	REVIEW NEWSHOLME, P et al.	REVIEW CHATRCHYAN, S et al.	MAISEL, A et al.	ARTICLE ABDO, AA et al.	REVIEW PERFECT, JR et al.	ARTICLE BOGGIA, J et al.	
Doc Type	REVIEW	ARTICLE	REVIEW	REVIEW	REVIEW	ARTICLE	REVIEW	ARTICLE	
Pub Year	2008	2007	2007	2008	2008	2010	2010	2007	
2011 Journal Impact Factor	6.40	11.08	4.72	1.87	4.90	6.02	9.15	38.28	
Times Cited	149	149	147	144	144	144	144	141	

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Institute	Conway Institute		- Centre for BioNano Interactions -	St Vincent's			Conway Institute
School	Biomolecular & Biomedical Science Conway Institute	Physics Physics	Chemistry & Chemical Biology Chemistry & Chemical Biology	Medicine & Medical Science	Biosystems Engineering Biosystems Engineering	Biology & Environmental Science	Biomolecular & Biomedical Science Conway Institute
UCD Author	Dr Jens Erik Nielsen	Dr Mikolaj Stefan Cwiok Prof. Martin Grunewald	Dr. Tommy Cedervall Dr. Iseult Lynch Prof. Kenneth A. Dawson Prof. Sara Linse Dr Celia Maria Cabaleiro Lago Dr. Martin Lundqvuist	Prof. Michael Duffy	Mr Liam Brennan Dr Philip Owende	John Chambers	Prof. Dominic Walsh
Document Title	PDB2PQR: expanding and upgrading automated preparation of biomolecular structures for molecular simulations	Measurement of B-s(0) Mixing Parameters from the Flavor-Tagged Decay B-s(0)->, J/psi phi	The nanoparticle - protein complex as a biological entity, a complex fluids and surface science challenge for the 21st century	Tumour markers in colorectal cancer: European Group on Tumour Markers (EGTM) guidelines for clinical use	Biofuels from microalgae- A review of technologies for production, processing, and extractions of biofuels and co-products	CO2 balance of boreal, temperate, and tropical forests derived from a global database	Soluble Oligomers of Amyloid beta Protein Facilitate Hippocampal Long-Term Depression by Disrupting Neuronal Glutamate Uptake
Journal	Nucleic Acids Research	Physical Review Letters	Advances in Colloid and Interface Science	European Journal of Cancer	Renewable & Sustainable Energy Reviews	Global Change Biology	Neuron
First Author	ARTICLE DOLINSKY, TJ et al.	ARTICLE ABAZOV, VM et al.	ARTICLE LYNCH, I et al.	ARTICLE DUFFY, MJ et al.	REVIEW BRENNAN, Let al.	REVIEW LUYSSAERT, S et al.	ARTICLE LI, SM et al.
Doc Type	ARTICLE	ARTICLE	ARTICLE	ARTICLE	REVIEW	REVIEW	ARTICLE
Pub Year	2007	2008	2007	2007	2010	2007	2009
2011 Journal Impact Factor	8.03	7.37	8.12	5.54	6.02	6.86	14.74
Times	139	138	138	137	137	135	135

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Institute	Conway Institute Conway Institute	Centre for Food Safety and Food- borne Zoonomics	Centre for BioNano Interactions- Conway Institute St Vincent's Conway Institute		St Vincent's	Conway Institute	Conway Institute Conway Institute Mater Misericordiae Conway Institute
School	Biomolecular & Biomedical Science Biomolecular & Biomedical Science	Agriculture & Food Science § Public Health, Physiotherapy & Population Science	Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology Chemistry & Chemical Biology Medicine & Medical Science Biomolecular & Biomedical Science	Medicine & Medical Science	Medicine & Medical Science		Medicine & Medical Science Medicine & Medical Science Medicine & Medical Science Medicine & Medical Science
UCD Author	Prof. Dominic Walsh Mr Alfred Welzel	Mr Niall Mullane Professor Séamus Fanning	Dr. Tommy Cedervall Dr. Iseult Lynch Prof. Kenneth A. Dawson Prof. Sara Linse Dr Martina Foy Dr. Seamas Donnelly Dr. Gerard Cagney	Dr Frances Hayes	Prof. Niall Tubridy	Prof. Eoin O'Brien	Ms Barbara Mc Grogan Dr Breege Gilmartin Prof. Desmond Carney Dr Amanda McCann
Document Title	Substrate-targeting gamma-secretase modulators	Cronobacter gen nov, a new genus to accommodate the biogroups of Enterobacter sakazakii, and proposal of Cronobacter sakazakii gen nov, comb nov, Cronobacter malonaticus sp nov, Cronobacter turicensis sp nov, Cronobacter turicensis sp nov, Cronobacter turicensis sp nov, Cronobacter dub	Detailed identification of plasma proteins adsorbed on copolymer nanoparticles	Testosterone Therapy in Men with Androgen Deficiency Syndromes: An Endocrine Society Clinical Practice Guideline	Genome-wide association study identifies new multiple sclerosis susceptibility loci on chromosomes 12 and 20	Prognostic significance of visit-to-visit variability, maximum systolic blood pressure, and episodic hypertension	Taxanes, microtubules and chemoresistant breast cancer
Journal	Nature	International Journal of Systematic and Evolutionary Microbiology	Angewandte Chemie- International Edition	Journal of Clinical Endocrinology & Metabolism	Nature Genetics	Lancet	Biochimica Et Biophysica Acta- Reviews On Cancer
First Author	ARTICLE KUKAR, TL et al.	ARTICLE IVERSEN, C et al.	ARTICLE CEDERVALL, T et al.	ARTICLE BHASIN, S et al.	ARTICLE BAHLO, Metal.	ARTICLE ROTHWELL, PM et al.	REVIEW MCGROGAN, BT et al.
Doc Type	ARTICLE	ARTICLE	ARTICLE	ARTICLE	ARTICLE	ARTICLE	REVIEW
Pub Year	2008	5008	2007	2010	2009	2010	2008
2011 Journal Impact Factor	36.28	2.27	13.46	5.97	35.53	38.28	9.38
Times	135	132	128	124	124	124	123

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Institute		Conway Institute	Conway Institute Conway Institute Conway Institute		St Vincent's	Conway Institute	Conway Institute St Vincent's St Vincent's
School	Physics	Chemistry & Chemical Biology	Biomolecular & Biomedical Science Science I Science	Physics	Medicine & Medical Science	Biomolecular & Biomedical Science Biomolecular & Biomedical Science	Medicine & Medical Science Medicine & Medical Science
UCD Author	Dr Shelia McBreen	Dr Matthias Tacke	Ms Aisling O'Connor Biomolec Biomolecular & Biomedical Science Biomolecular & Biomedical Science	Dr Shelia McBreen	Prof Charles Gallagher	Dr Andrew Gerard Foley Prof. Ciaran M Regan	Mr Ramon Martos Martinez Dr John Andrew Baugh Dr Mark Ledwidge O'Loughlin, Christina Conlon, Carmel Patle, Anii Dr Seamas Donnelly Prof. Kenneth McDonald
Document Title	A limit on the variation of the speed of light arising from quantum gravity effects	Bioorganometallic fulvene-derived titanocene anti-cancer drugs	Porphyrin and Nonporphyrin Photosensitizers in Oncology: Preclinical and Clinical Advances in Photodynamic Therapy Professor William Gallagher Dr Annette Therese Byrne	FERMI OBSERVATIONS OF GRB 090902B: A DISTINCT SPECTRAL COMPONENT IN THE PROMPT AND DELAYED EMISSION	Recommendations on the use of exercise testing in clinical practice	GSK189254, a novel H-3 receptor antagonist that binds to histamine H-3 receptors in Alzheimers disease brain and improves cognitive performance in preclinical models	Diastolic heart failure - Evidence of increased myocardial collagen turnover linked to diastolic dysfunction
Journal	Nature	Chemical Society Reviews	Photochemistry and Photobiology	Astrophysical Journal Letters	European Respiratory Journal	Journal of Pharmacology and Experimental Therapeutics	Circulation
First Author	ARTICLE ABDO, AA et al.	STROHFELDT, K et al.	OCONNOR, AE et al.	ARTICLE ABDO, AA et al.	PALANGE, P et al.	ARTICLE MEDHURST, AD et al.	ARTICLE MARTOS, R et al.
Doc Type	ARTICLE	REVIEW	REVIEW	ARTICLE	REVIEW	ARTICLE	ARTICLE
Pub Year	2009	2008	2009	2009	2007	2007	2007
2011 Journal Impact Factor	36.28	28.76	2.41	5.53	5.90	3.833	14.74
Times	121	118	117	113	113	109	109

Still at UCD	0 N N	Yes	Yes	No Yes	Yes	No No Yes
Institute	Conway Institute Conway Institute Conway Institute	St Vincent's	Conway Institute	Conway Institute	Conway Institute	Centre for BioNano Interactions Centre for BioNano Interactions Centre for BioNano Interactions
School	Biomolecular & Biomedical Science Biomolecular & Biomedical Science	Medicine & Medical Science	Medicine & Medical Science	Chemistry & Chemical Biology	Biomolecular & Biomedical Science Conway Institute	Chemistry & Chemical Biology
UCD Author	Dr Vicki Betts Mr Alfred Welzel Prof. Dominic Walsh	Prof. Michael Hutchinson	Prof. Dolores Cahill	Ms Gräinne Hargaden Prof. Patrick Guiry	Dr Gerard Cagney	Ms Dorota Walczyk Dr Francesca Baldelli Bombelli Mr Marco Monopoli Dr. Iseult Lynch Prof. Kenneth A. Dawson
Document Title	Amyloid beta protein dimer- containing human CSF disrupts synaptic plasticity: Prevention by systemic passive immunization	Diagnostic Criteria for Multiple Prof. Michael Hutchinson Sclerosis: 2010 Revisions to the McDonald Criteria	ProteomeBinders: planning a European resource of affinity reagents for analysis of the human proteome	Recent Applications of Oxazoline-Containing Ligands in Asymmetric Catalysis	Host Cell Factors in HIV Replication: Meta-Analysis of Genome-Wide Studies	What the Cell ~Sees~ in Bionanoscience
Journal	Journal of Neuroscience	Annals of Neurology	Nature Methods	Chemical Reviews	PLOS Pathogens	Journal of the American Chemical Society
First Author	ARTICLE KLYUBIN, letal.	ARTICLE POLMAN, CH et al.	ARTICLE TAUSSIG, MJ et al.	REVIEW HARGADEN, GC et al.	:W BUSHMAN, FD et al.	ARTICLE WALCZYK, D et al.
Doc Type					REVIEW	
Pub Year	2008	2011	2007	2009	2009	2010
2011 Journal Impact Factor	7.12	11.09	19.28	40.20	9.13	6.91
Times	108	108	106	105	101	100

# **APPENDIX E**

## **Books authored by UCD academics**

Author (UCD author in bold)	UCD author's school	Publication Title	Publisher
Dr Finola O'Kane	School of Architecture	William Ashford's Mount Merrion; The Absent Point of View	Churchill House Press
Dr Catherine Cox	School of History & Archives	Negotiating Insanity in the Southeast of Ireland, 1820-1900	Manchester University Press
Dr Dylan Trigg	School of Philosophy	Body Parts	3:AM Press
Dr Karen Hennessy	School of Public Health, Physiotherapy & Population Science	The Irish Sport Horse: A test of brand equity	Lambert Academic Publishing
V Lambert, T Long, Ms Deirdre Kelleher	School of Nursing, Midwifery & Health Systems	Communication Skills for Children's Nurses	Open University Press, McGraw Hill Education
Ms Orla Murphy	School of Architecture	Town: origins, morphology & future	Orla Murphy
Franca Ruggieri, Prof. Anne Fogarty	School of English, Drama & Film	Polymorphic Joyce (Joyce Studies in Italy 12)	Edizioni Q
Prof. Diarmaid Ferriter	School of History & Archives	Ambiguous Republic: Ireland in the 1970s	Profile Books
Prof. John Coakley	School of Politics & International Relations	Nationalism, ethnicity and the state: making and breaking nations	Sage
Dr Bettina Migge, Isabelle Leglise	Applied Language Centre	Exploring Language in a Multilingual Context: Variation, Interaction and Ideology in Language Documentation	Cambridge University Press
Dr Mary Kelly-Quinn, Dr Jan-Robert Baars	School of Biology & Environmental Science	The Remarkable Rye Water	Hudson
Dr Nicole Grimes, Angela R. Mace	School of Music	Mendelssohn Perspectives	Ashgate
Thomas B Courtney, Mr Brian Hutchinson, Dabhi O'Leary	School of Law	The Law of Companies (3ed)	Bloomsbury Professional
Dr John McCafferty, Alan Ford	School of History & Archives	The origins of sectarianism in early modern Ireland (paperback reprint)	Cambridge University Press
Dr Anthony Veale	School of Computer Science & Informatics	Exploding The Creativity Myth: The Computational Foundations of Linguistic Creativity	Bloomsbury Academic
J Kremer, Prof. Aidan P. Moran, G Walker, C Oraig	School of Psychology	Key Concepts in Sport Psychology	Sage

Author (UCD author in bold)	UCD author's school	Publication Title	Publisher
Prof. Brian O'Connor	School of Philosophy	Adorno	Routledge
Prof. Dermot Moran	School of Philosophy	HusserI's Crisis of the European Sciences and Transcendental Phenomenology. An Introduction	Cambridge University Press
Dr Dympna Devine	School of Education	New Managerialism in Education: Gender, Commercialisation and Carelessness	Palgrave Macmillan
Dr Susan Grant	School of History & Archives	Physical Culture and Sport in Soviet Society: Propaganda, Acculturation, and Transformation in the 1920s and 1930s	Routledge
Dr Thomas Szanto	School of Philosophy	Bewusstsein, Intentionalität und mentale Repräsentation: Husserl und die analytische Philosophie des Geistes	De Gruyter
Dr Alexander S Wilkinson (ec	Dr Alexander S Wilkinson (ed.) School of History & Archives	Exploring the Print World of Early-Modern Iberia	Bulletin of Spanish Studies
Dr Andreas Hess	School of Sociology	Modernizacion Reluctante: Cultural Plebeya y Economia Moral en el Pais Vasco	Hiria
Dr Eoin Daly	School of Law	Religion, Law and the Irish State: the Constitutional Framework in Context	Clarus
Dr Georg Grote	School of Languages & Literature	The South Tyrol Question 1866-2010, From National Rage to Regional State	Peter Lang
Dr Helen Lewis	School of Archaeology	Investigating Ancient Tillage. An experimental and soil micromorphological study	Archaeopress
Prof. Gerardine Meaney	UCD Humanities Institute	(Un)Like Subjects: Women, Theory, Fiction.	Routledge
Eoin O'Sullivan, Prof. lan O'Donnell	School of Law	Coercive Confinement in Ireland: Patients, Prisoners and Penitents	MUP
Prof. Mike Gibney	School of Agriculture & Food Science	Something to chew on $\sim$ Challenging controversies in food and health	UCD Press
Dr Andrew Sanders, Ian S. Wood	Alumni Development	Times of Troubles: Britain's War in Northern Ireland	Edinburgh University Press
Dr Lucy Collins	School of English, Drama & Film	Poetry by Women in Ireland: A Critical Anthology 1870-1970	Liverpool University Press
Prof. Bryan Fanning	School of Applied Social Science	Racism and Social Change in the Republic of Ireland: Second Edition	Manchester University Press
Tanya Aplin, Lionel Bently, Prof. Philip Johnson, Simon Malynicz	School of Law	Gurry on Breach of Confidence: The Protection of Confidential Information	Oxford University Press
Dr Carmel Mooney, ME Peterson	School of Veterinary Medicine	BSAVA Manual of Canine and Feline Endocrinology	BSAVA Publications

Author (UCD author in bold)	UCD author's school	Publication Title	Publisher
Dr Charles Ivar McGrath	School of History & Archives	Ireland and Empire, 1692-1770	Pickering and Chatto
Dr Ian R. Walsh	School of English, Drama & Film	Experimental Irish Theatre, After W.B. Yeats	Palgrave Macmillan
Dr James O'Shea	School of Philosophy	Kant's Critique of Pure Reason: An Introduction and Interpretation	Acumen Press
SJ Young, Dr Jessica Bramham	School of Psychology	Cognitive-Behavioural Therapy for ADHD in Adolescents and Adults	Wiley
Dr Paul Rouse, Mark Duncan	School of History & Archives	Handling Change: A History Of The Irish Bank Officials' Association	The Collins Press
Prof. Ben Tonra, M Kennedy, J Doyle, N Dorr	School of Politics & International Relations	Irish Foreign Policy	Gill and Macmillan
Dr Eilis Ni Dhuibhne	School of English, Drama & Film	The Shelter of Neighbours	Blackstaff Press
Gerard Hogan, Dr Eoin Kinsella (Documents Editor)	School of History & Archives	The Origins of the Irish Constitution, 1928-1948	Academy
J Feehan, Dr Helen Sheridan, Mr Damian Egan	School of Agriculture & Food Science School of Biology & Environmental Science	The Grasses of Ireland	Teagasc
MW Eysenck, Prof. Mark Keane	School of Computer Science & Informatics	Psicología Cognitiva (4th Italian Edition, Eysenck & Keane, 2010)	ldelson-Gnocchi
Prof. Ronan O'Dowd	School of Electrical, Electronic and Communications Engineering	Photonics Handbook Parts 1 and 2	Ronan
M McDowell, R Thom, Dr Ivan Pastine, R Frank, B Bernanke	School of Economics	Principles of Economics, Third European Edition	McGraw-Hill
Dr Joseph Cohen, Prof. Dermot Moran	School of Philosophy	The Husserl Dictionary	Continuum
Prof. Aidan P. Moran	School of Psychology	Sport and Exercise Psychology: A Critical Introduction (2nd edition)	Routledge

Author (UCD author in bold)	UCD author's school	Publication Title	Publisher
Patrick E. Murphy, Gene R. Lacniak, Prof. Andrea Prothero	School of Business	Ethics in Marketing: International Cases and Perspectives	Routledge
Prof. Tom Inglis	School of Sociology	Making Love: A Memoir	New Island
Dr Dylan Trigg	School of Philosophy	The Memory of Place: a Phenomenology of the Uncanny	Ohio University Press
D Lavallee, J Kremer, Prof. Aidan P. Moran, M Williams	School of Psychology	Sport Psychology: Contemporary Themes (2nd edition)	Palgrave-Macmillan
Prof. Da-Wen Sun (editor)	School of Biosystems Engineering	Computer Vision Technology in the Food and Beverage Industries	Woodhead Publishing Limited
Dr Louise McHugh, I Stewart	School of Psychology	The Self and Perspective Taking: Contributions and Applications from Modern Behavioral Science	New Harbinger
Dr Marie Keenan	School of Applied Social Science	Child Sexual Abuse and the Catholic Church: Gender, Power, Organizational Culture	Oxford University Press
Dr Marius Ghergu, V Radulescu	School of Mathematical Sciences	Nonlinear PDEs	Springer Verlag
Prof. Alan Carr	School of Psychology	Clinical Psychology: An Introduction.	Routledge
Prof. Alan Carr	School of Psychology	Family Therapy: Concepts, Process and Practice (Third Edition).	Wiley
Prof. Eugene O'Brien, AS Dixon, E Sheils	School of Civil, Structural & Environmental Engineering	Reinforced and Prestressed Concrete Design, 2nd Ed.	Taylor & Francis

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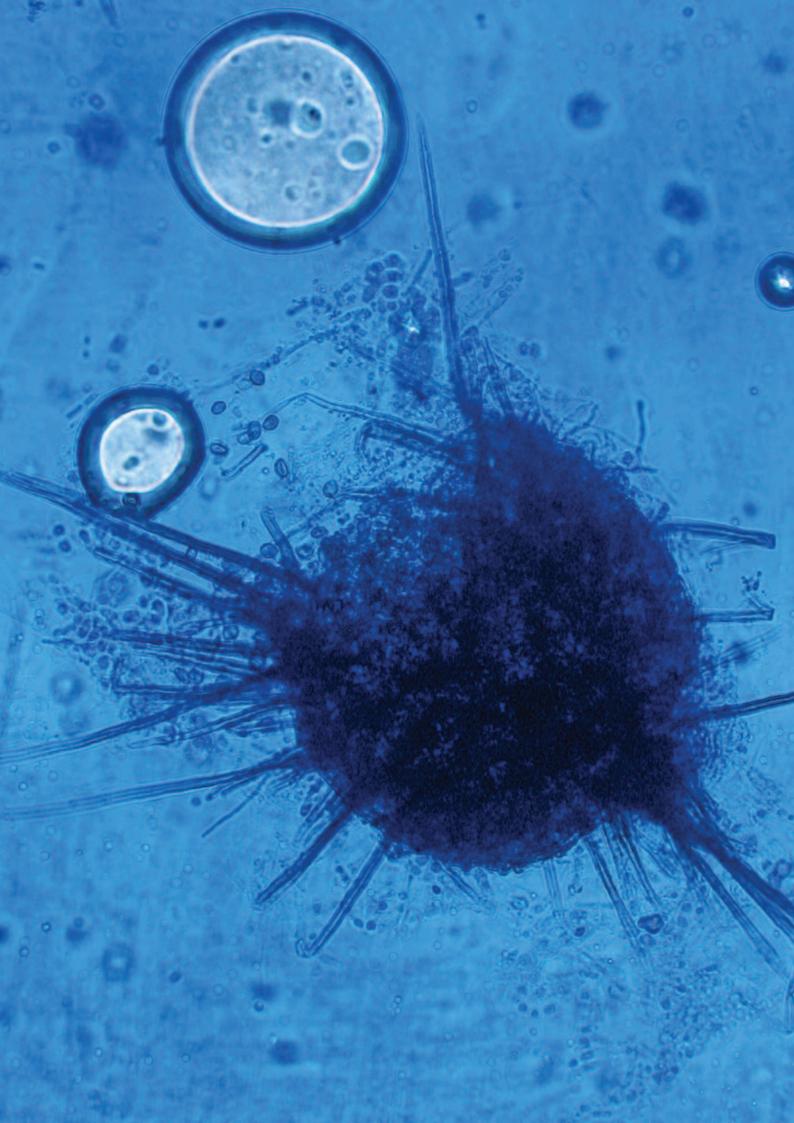
Page 20 : 'To be or not to be', Mr Tim Carnus Page 32: 'Into the blue', Dr Stephen Davis

Page 34: 'Bubblemania', Ms Eleanor Cunningham Page 36: 'Poisioning cycads', Ms Karen Bacon

Page 42: 'Flight Control', Mr Billy Clarke Page 52: 'Makes you think!', Dr Ian Reid

Inside back cover: 'Bursting Contamination', Ms Yvonne Abbott

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