University College Dublin

Thematic Quality Review

UCD Research Institutes -
UCD Research Institute of Food & Health, UCD Earth Institute, UCD Conway Institute, UCD CASL, UCD Humanities Institute, UCD Geary Institute

December 2013

Accepted by the UCD Governing Authority at its meeting on 18 February 2014

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1. Introduction and Background

Introduction

1.1   This Report presents the findings of a thematic quality review of at University College Dublin (UCD) Research Institutes (UCD Research Institute of Food & Health, UCD Earth Institute, UCD Conway Institute, UCD CASL, UCD Humanities Institute, UCD Geary Institute), which was undertaken in November 2013.

The Review Process

1.2   Irish Universities have collectively agreed a framework for their quality review and quality improvement systems, which is consistent with both the legislative requirements of the Universities Act 1997, international good practice (e.g. Standards and Guidelines for Quality Assurance in the European Higher Education Area, 2007) and informed by the Qualifications and Quality Assurance (Education and Training) Act 2012. Quality reviews are carried out in academic, administrative and support service units.

1.3   The purpose of periodic review is to assist the University to assure itself of the quality of each of its constituent units, and to utilise learning from this essentially developmental process in order to effect improvement, including:

- To monitor research activity, including: management of research activity; assessing the research performance with regard to: research productivity, research income, and recruiting and supporting doctoral students.

- To monitor the quality of the student experience, and of teaching and learning opportunities.

- To provide an opportunity for units to test the effectiveness of their systems and procedures for monitoring and enhancing quality and standards.

- To provide a framework within which the unit can continue to work in the future towards quality improvement.

- To identify shortfalls in resources and provide an externally validated case for change and/or increased resources.

- To identify, encourage and disseminate good practice.

- To identify challenges and address these.

- To provide public information on the University's capacity to assure the quality and standards of its awards. The University's implementation of its quality review

procedures also enables it to demonstrate how it discharges its responsibilities for assuring the quality and standards of its awards, as required by the Universities Act 1997 and informed by the Qualifications and Quality Assurance (Education and Training) Act 2012.

1.4   Typically, the review model comprises of four major elements:

- Preparation of a Self-assessment Report (SAR)
- A visit by a Review Group (RG) that includes UCD staff and external experts. The site visit normally will take place over a two or three day period
- Preparation of a Review Group Report that is made public
- Agreement of an Action Plan for Improvement (Quality Improvement Plan) based on the RG Report's recommendations; the University will also monitor progress against the Improvement Plan

Full details of the review process can be found on the UCD Quality Office website: www.ucd.ie/quality.

1.5   This thematic review of the research institutes was undertaken with the aim of enhancing the operation and activities of the institutes. Terms of reference and scope for the review were agreed by the University in consultation with the Institutes and informed the preparation of the SAR by the Institutes and UCD Research, and the writing of this report. These terms of reference are set out in Appendix 1 to the Report, and focus on understanding of the role, purpose and impact of Research Institutes and challenges and opportunities for future development, their contribution to the research resource of the University, their management and governance, their relationship with Colleges and Schools, and the effectiveness of University structures and supports in facilitating their activities.

1.6   The composition of the Review Group for the UCD Research Institutes was as follows:

- Professor Brian Nolan
  Principal, UCD College of Human Sciences, Chair

- Professor Alan Baird
  UCD School of Veterinary Medicine, Deputy Chair

- Professor Pat Thomson
  Professor of Education, Faculty of Social Sciences, University of Nottingham

- Professor John Coggins
  Emeritus Professor/Honorary Research Fellow, College of Life Sciences, University of Glasgow

1.7   The Review Group visited UCD from 19-22 November 2013 and held meetings with the University's Vice-President for Research, the Research Institute Directors, Research Institute administrative/support staff, representative Institute members, Heads of Schools, College

Principals, former Institute Directors, Dean of Graduate Studies, UCD Research's Director, Major Institutes and Programmes, and Director, Research Finance and Operations, postdoctoral researchers and postgraduate students from Institutes, and members of Institute Oversight/Advisory Boards.   The site visit schedule is included as Appendix 3.

1.8   In addition to the Self-assessment Report and its appendices, the Review Group considered documentation provided in hard copy during the Site Visit.

Preparation of the Self-assessment Report

1.9   UCD Research Institutes established a Self-assessment Co-ordinating Committee in discussion with the UCD Quality Office. The Institute Directors and a representative of UCD Research comprised the members of the Co-ordinating Committee.

1.10   The Co-ordinating Committee (SARCC) met regularly during the preparation of the SAR and the preparation of the report was a collective responsibility of the Institutes Directors. The representative of UCD Research drafted the SAR report which was circulated to Institute Directors. Two Institute Managers compiled the feedback and finalised the report which was signed off by the Institute Directors.

The University

1.11   University College Dublin (UCD) is a large and diverse university whose origin dates back to 1854. The University is situated on a large, modern campus (133 hectare), about 4km to the south of the centre of Dublin.

1.12   The University Strategic Plan (to 2014) states that the University's Mission is:

"to advance knowledge, to pursue truth and to foster learning, in an atmosphere of discovery, creativity, innovation and excellence, drawing out the best in each student, and contributing to the social, cultural and economic life of Ireland in the wider world".

The University is organised into 38 Schools in seven Colleges;

- UCD College of Arts and Celtic Studies
- UCD College of Human Sciences
- UCD College of Science
- UCD College of Engineering and Architecture
- UCD College of Health Sciences
- UCD College of Business and Law
- UCD College of Agriculture, Food Science and Veterinary Medicine

1.13   As one of the largest universities on the island of Ireland, UCD supports a broad, deep and rich academic community in Science, Business, Engineering, Health Sciences, Agriculture, Veterinary, Arts, Law, Celtic Studies and Human Sciences. There are currently more than

24,000 students in our UCD campus (approximately 15,400 undergraduates, 6,900 postgraduates and 1,900 Occasional and Adult Education students) registered on over 70 University degree programmes, including over 5,000 international students from more than 122 countries. The University also has just over 5,000 students studying UCD degree courses on campuses overseas.

1.14 The University is a national leader in research funding, and has established four major interdisciplinary research themes that match Ireland's needs and current global challenges and is outlined in the University's strategic plan (2009-14). These are Earth Sciences, Energy and the Environment; Health and Healthcare Delivery; Information, Computation and Communications; and Global Ireland.

1.15 The University accounts for over 30% of international students within the Irish education sector, over 25% of all graduate students and almost 28% of all doctoral enrolments across the seven Irish Universities.

UCD Research Institutes

1.16 The six Research Institutes covered by this review have had different development paths, with external funding acting as a critical catalyst notably through successive rounds of the Irish Government's Programme for Research in Third Level Institutions (PRTLI). The institutes are seen in the University's Strategic Plans as a mechanism for developing large thematic and multi-disciplinary research activity by leveraging funding through research funding programmes and other sources.

1.17 UCD has developed metrics to assess its research progress and these are outlined on page 8 of the SAR.

1.18 Institute members are predominantly principal investigators or scholars with a strong record in generating traditional research outputs and levering research funding. Membership typically invites some alignment with the research agenda of the Institute. The Institute members' primary affiliation is to the School in which they teach, research and are counted for budgeting purposes.

1.19 The University has established a formal governance structure for institutes in which they are recognised as academic units, with their own reporting line through the Vice-President for Research who functions as the College Principal for Research Institutes. UCD Research provides a centralised support to the Institutes such as HR, financial management, communications, research funding support at pre-award and grant registration stage. Operational, governance and management structures are broadly similar for each institute with oversight provided by UCD Research.

1.20 UCD Conway, UCD Geary Institute, UCD Humanities, and UCD Urban Institute (absorbed as a research cluster into UCD Earth Institute) were established under various Government PRTLI rounds and allowed the University to identify key research areas in which to build reputation

as part of its strategy to become a leading research intensive university. The Institute of Food and Health and CASL were formally created in 2008, securing funding under subsequent PRTLI rounds.   The Earth Institute was formally established in 2012. (In 2013 the Energy Institute was established but is not included as part of this review.)

Methodology

1.21   Prior to the site visit the Review Group considered the activities of the Research Institutes as outlined in the Self-assessment report and its appendices. The site visit allowed the Review Group an opportunity to evaluate and verify the information outlined in the Self-assessment Report and to meet key stakeholders. All members of the Group participated in all discussions and meetings. This Report has been read and approved by all members of the Group.

1.22   At the exit presentation the Review Group provided an overview of their initial comments.

1.23   The Self-assessment Report provided a clear insight into the workings of the institutes and the extent and variety of its activities and responsibilities. A set of appendices was included, along with additional material provided by the Institutes.

1.24   The Review Group met groups of staff from the Research Institutes and the wider University. The extensive discussions at these meetings provided an invaluable input to the Review.

1.25   The Review Group had an opportunity to meet with postgraduate students and postdoctoral researchers from all of the Institutes and hear directly about their experiences and views.

1.26   The Review Group noted the current fiscal climate and diminishing resources, both financial and human, in parallel with increasing student numbers.   It was noted that the number of UCD staff has fallen by 8% during the period 2008-12 with a corresponding increase in student intake.

1.27   The Review Group visited the laboratories and core facilities for biomolecular and biomedical research in the Conway Institute. It also saw the dedicated research space provided in the Geary Institute and the Humanities Institute, and the extensive footprint where the Earth Institute is to be located in the very impressive new Science Centre.

1.28   The following chapters present the Review Group's findings in relation to the Self-assessment Report and site visit meetings.

2. Role and Purpose of the Institutes

2.1   In considering how the role and purposes of the Research Institutes were understood, the Review Group sought to assess whether the Institutes themselves had a clear vision of their

role and purpose within the University, and whether this was recognised, shared and clearly articulated within the University and externally.

2.2   It found a variety of purposes articulated in the documentation provided and in its meetings with staff. Specifically these included:

a)   To act as a driver to raise the importance of research at a time when UCD was striving to increase its profile as a research-intensive University.

b)   To enable/facilitate research on a larger scale than can be achieved by individual Schools or individual researchers.

c)   To provide an integrated, externally-facing platform to compete for and win research funding.

d)   To provide an interdisciplinary environment to meet grand challenges and opportunities.

e)   To advocate for UCD's research agenda within and beyond the University, including in relation to national and international research priorities.

f)   To provide key research infrastructure.

g)   To raise awareness of key challenges and opportunities by promoting horizon-scanning and competency development so that UCD is better prepared to push boundaries and move into emerging research areas.

2.3   A differing emphasis and balance across these different elements reflects to some extent differences in the nature of the Institutes themselves, but also some lack of clarity and consistency in articulating a role and purpose and ensuring that it is recognised and shared within the University and externally. The Review Group's view was that the major role and purpose for the Institutes should be as enablers and facilitators of interdisciplinary and/or large-scale research. It also recognised that strong disciplines are essential for underpinning interdisciplinary research. It noted that UCD saw the establishment of the Research Institutes primarily as vehicles for driving larger-scale, interdisciplinary research, and raising the research profile of the University both nationally and internationally.

Commendations

2.4   The period since the establishment of the Institutes has seen increased research activity and output across UCD and across the sector. Capturing the impact of the Institutes to this welcome development is difficult by its nature, as discussed in Section 5 below.

2.5   The Institutes have provided very strong platforms to bid successfully for Government and EU funding and they have contributed to raising the overall research profile of UCD. The particular place for Institutes has been in promoting interdisciplinary research and in providing co-ordinated platforms for preparing major bids for external research funding. This is the essence of their added value.

2.6   In some areas, well-funded Institutes with state-of-the-art infrastructure are essential underpinning for internationally competitive research. Such Institutes, for example the

Conway Institute, significantly help in School recruitment of academic staff of the highest calibre.

2.7   The Institutes have sought to create genuine "communities of scholars", providing an enhanced and supportive environment for graduate students and early-stage researchers, contributed to their training, and promoted collaborative research among them. The Review Group was impressed in particular by the extent to which graduate students were very positive about the added value of being associated with Institutes. Institutes have also hosted successful disciplinary and cross-disciplinary workshops, seminars and lectures.

2.8   The Institutes have contributed and continue to contribute to national and international collaborations and networks including, for example, Food for Health Ireland, Molecular Medicine Ireland, and Systems Biology Ireland. The Institutes have been and continue to be engaged with industry, in collaboration with NovaUCD.

2.9   Reviews (external and internal) of the Institutes are published and are available to inform strategic planning. The Institutes also produce annual strategic plans.

Recommendations

2.10   Institutes with a clearly articulated role and purpose have an important role to play in UCD. To enable and promote a clear articulation of their role, the University should periodically review the individual missions of the Institutes and reflect whether these need to be adjusted to changing circumstances, or indeed whether new Institutes need to be established and/or existing ones phased out or subsumed into new initiatives. The role and mission of the newer Institutes is well defined but it would be helpful for the University to establish a schedule within which it revisits/restates the role and mission of the established Institutes. This is particularly important in a context where the research landscape is changing rapidly and the University needs to be able to respond in a timely fashion.

2.11   Each Institute should be encouraged to map its trajectory according to the Development Roadmap put forward following the CIRCA Report and included as Appendix V of the SAR, to facilitate medium and long term planning.

2.12   The University should ensure that the ethos of an Institute provides an environment which is not perceived by Institute members or their colleagues simply as a 'research hotel' or as an academic silo.

2.13   The University should promote the view that strong disciplines are essential for underpinning interdisciplinary work.

2.14   Institutes can only work effectively if the collective aspirations for research of the Colleges, Schools and Institutes are all aligned. It is critical that measures be taken, and their effectiveness be monitored, to ensure such alignment (on which see also Section 3, Governance and Management).

2.15   UCD must continue horizon scanning so that it is aware of newly emerging research areas and the next generation of grand challenges.

2.16   Modes of engagement with national agencies and industry are key, and coordination between the Institutes, UCD Research, NovaUCD and the Schools may need further attention to ensure clear and effective lines of communication.

3.   Governance and Management, Funding Model, and the Relationship of the Institutes with the Colleges and Schools

3.1   In considering governance and management aspects in relation to the Research Institutes, the Review Group focused particularly on the effectiveness of current structures, including vis-à-vis the University's governance and management structures, and the role of Institute Oversight Boards, Scientific Advisory Boards and Executive Management Committees. The relationships between the Institutes and the Colleges and Schools from which their members are drawn are also of central importance, as is the (interlinked) question of the appropriate funding model. (Governance issues around Institute membership are dealt with in Section 4 below).

3.2.   Institutes are recognised entities across UCD and they are widely regarded as productive, though subject to the issues discussed in the previous section with respect to clarity and shared perspectives on their role. Against this background, the funding model whereby Institutes rely on budgets 'top-sliced' at University level is a matter of concern to Institute Directors and of debate elsewhere in the University.

3.3   The Review Group was struck by the fact that the relationship between the Colleges, Schools and Institutes varies widely across the University. Communication between Colleges, Schools and Institutes is in some cases more limited than it could be, as a result their collective aspirations for research are not always shared and aligned, and this weakens the potential research output of UCD. The governance structure whereby Institutes operate in parallel to Schools/Colleges with an entirely separate reporting line to University senior management may contribute to such lack of alignment.

3.4   The Institutes each have Oversight and Advisory Boards, and also Management Committees drawn from among their membership, as described in the SAR. While these make an important contribution, there appears to be considerable variation in the way in which they operate and the nature of their engagement, and not everyone involved was clear about their own roles and the effectiveness of their participation.

Commendations

3.5   The contribution made by the Institute Directors to the development and functioning of the Institutes has been and will continue to be central. The successful engagement of academic

colleagues in the work of the Institutes, including in their management, is key to their success.

3.6   The contribution of external members of Institute Boards is invaluable, both in the strategic direction of their activities and in building essential linkages with industry, public service and the external community more broadly.

3.7   Despite the very challenging financial environment in which the Institutes, and the University, have had to operate of late, they have sustained and developed their activities.

Recommendations

3.8   Structural and operational aspects of the relationship between the Colleges, Schools and Institutes need to be addressed and tensions resolved. The separate reporting lines for the Institutes and Colleges give rise to some confusion and concern. Thought should be given to developing structures that would facilitate the alignment of their research aspirations.

3.9   There are clear advantages in having Research Institutes in some areas with clearly defined roles, but the Schools are otherwise the appropriate places to initiate and promote research.

3.10   There is a lack of clarity about how the Colleges/Schools and Institutes participate in the development and ranking of the University's research priorities. Both Colleges/Schools and Institutes need to be involved in identifying research priorities – better communication is needed. Assigning research priorities is ultimately a matter for University Management with advice from the Vice President for Research, but it is vital that members of Schools and Institutes share and own the University's research agenda. Schools and Institutes need to have regular discussions to identify both emerging areas of research and areas where more collaboration between them would be beneficial, and there should be a mechanism for these discussions to inform the activities of UCD Research and influence the University's research priorities.

3.11   The role of the Oversight and the External Advisory Boards of the Institutes should be reviewed to ensure that they are effective. At present there is some lack of clarity in roles and in how University management engages with and responds to the advice provided by these Boards. It might be helpful to look closely at the governance models of successful international Research Institutes and where appropriate adopt their good practice. There may also be a value in clarification of the role of Institute Directors, in their mode of appointment and job descriptions, and in the role of Management Committees and how they should operate.

3.12   The "top slice" funding model is problematic both from the point of view of Institute management left with limited scope for independent action and from a sustainability perspective for the University. The Review Group cannot see an obviously preferable

alternative to the present model for Institute funding, though careful investigation of other models being successfully operated elsewhere would be worth pursuing.

4. Membership Models and External Relationships

4.1   The membership model adopted is an important aspect of the manner in which the Research Institutes operate. The Review Group considered the current membership models and whether they are best suited to the purpose of the individual Institutes. The external relationships of the Institutes and structuring of these relationships beyond UCD are also of significance and were considered by the Group.

4.2   The membership models employed by the six Institutes were set out in the SAR. The Review Group also heard during its visit about the way membership is perceived, both by members and non-members of Institutes.

Commendations

4.3   Broad membership of Institues provides a platform for established academics with experience and track records to provide mentorship and career development to early career researchers. Interdisciplinarity in membership allows for the development of collaboration across disciplines and promotes a wider awareness among academics of developments across the University.

4.4   It was evident from the meetings with PIs and external representatives that the Institutes had many productive external research collaborations with other Universities, with Irish Government researchers and with companies.

Recommendations

4.5   The Review Group is of the view that the basis on which Institute membership is determined needs to be flexible, as the composition of Institutes is likely to be dynamic and individuals may wish to pursue their research with members of different Institutes. Rather than a common model applied across all Institutes, specific rules for the membership of each Institute might better reflect its nature and purpose and the potential synergy of the member's research with the Institute's mission. Thus some Institutes might set a limit on the period of membership of each individual academic, to promote dynamism in the overall membership, whereas for others (e.g. where access to specialised laboratories/facilities is key) that might not be appropriate.

4.6   Transparency in the membership model is imperative, both in terms of the nature of the process and the way in which it is operated. It is not helpful for the membership of Institutes to be seen as exclusive as it tends to promote a potentially divisive "them and us" culture. Instead, membership should be, and be seen to be, open to all those who can benefit from and have a serious contribution to make to the Institute in question. A clear

statement of expectations in terms of roles and responsibilities associated with membership is key.

4.7   Benefits enjoyed by researchers and students who are members of Research Institutes should be extended, as far as possible, to the population of researchers and students beyond their walls. Generic matters (e.g. transferable skills training for graduate students, supervisors and early stage researchers) should continue to be supplied by the University's Graduate Schools.

4.8   The Institutes should seek to become more involved with public engagement, knowledge transfer and delivering impact (for further discussion see Section 5 below).

5. Contribution of the Institutes

5.1   It is essential that the contribution of the Research Institutes to the strategic aims of the University be assessed and monitored on an on-going basis. The Review Group considered this contribution in terms of the role of the Institutes in promoting research output and impact (including interdisciplinarity), and their contribution to graduate education, and these will be dealt with in turn.

Research Contribution

5.2   Capturing the contribution of the Institutes to research output and impact empirically is difficult by its nature. The SAR presents some data on research output by Institute members, and gives examples of publications in particularly high-impact journals, as well as noting the percentage of members counted as 'research active' in terms of UCD's Key Performance Indicators. It also presents data on funding acquired, which in some instances is very substantial.

5.3   The SAR did not compare rates of publications (and other outputs) of Institute-based researchers and School-based researchers, or of individual academics before and after they became members. Since membership is determined on the basis of (inter alia) research activity, the fact that Institute members are more likely to be active than others is not surprising or an indicator of Institute contribution. (Indeed, the fact that some Institute members are not counted as active – as shown in the SAR Table 9, p. 51 - raises questions about the way 'research active' is being measured, about the way membership is determined, or both and merits further investigation.)

Commendations

5.4   The Research Institutes' members have published extensively and to a high standard in a wide range of important areas.

5.5   The Research Institutes have provided a key element in the University's ability to attract additional funding and to respond nimbly and collectively to funding calls, contributing substantially to the University's capacity to support research.

5.6   Some of the Institutes have been active in supporting innovation activity such as generation of patents and spin-outs. Some have also had a significant role in building the external profile of the University's research in their area, in dissemination and public engagement and in knowledge exchange.

Recommendations

5.7   The Research Institutes need to demonstrate that they 'add value' to research activity and outcomes. Simple measures such as numbers of research grants, amounts of research funding and citation indices are insufficient. Each RI needs to develop, in collaboration with the Schools and Colleges and within a framework developed with UCD Research, measures which appropriately capture, within their purpose and mission, a suitable range of 'value added' measures.

5.8   Research dissemination and public engagement, knowledge exchange and impact are key aspects of research, to which Research Institutes can contribute significantly. However we heard relatively little about impact and the ways in which potential research users engage with, take up and apply UCD research. Discussions about these dimensions of research must be integral to discussions about purposes and mission, with the intended impact and the potential users of research identified from the outset.

5.9   The continued ability of a Research Institute to attract funding is key to their sustainability. The provision of technology and research platforms are an important element of the way in which some Institutes contribute to research productivity (as well as to graduate training). Other Institutes may contribute significant networks and reputational advantage. Research Institutes can be a single point of call for external organisations and industry partners. UCD's Research Institutes have been significant in underpinning national collaborations, national initiatives and grant capture but they have been less engaged to date in serving as a vehicle for structured international linkages, and developing this potential should be a priority.

Contribution to Graduate Education

5.10   The Institutes make a significant contribution to graduate education and training of post-doctoral researchers, through their support for the doctoral and post-doctoral scholars associated with them. The SAR provides a useful discussion of this role, and the Group had the opportunity to meet graduate students and postdoctoral researchers associated with the different Institutes and hear their perspectives.

Commendations

5.11   The Review Group was impressed by the enthusiasm of the graduate students and postdoctoral researchers from the Institutes it met, almost all of whom were very positive about the added value of being associated with an Institute. There is a very positive ethos in the Institutes.

5.12   In general the postgraduate students and early career researchers in the Institutes appeared to be well supported. The doctoral students met by the Group were very positive about the experience of being in an inter-disciplinary environment and about the training they were receiving within their Institute setting and their induction into a community of scholars. The Institutes cost effectively create a very productive working environment, in which communities of scholars flourish.

5.13   The RIs play a valuable role in the provision of modules, seminars, master classes and relevant placements.

5.14   Early career researchers were highly appreciative of their continued research experience, and they highly valued the social environment of the Institutes.

Recommendations

5.15   The information available to the Review Group suggested that there might be different levels of support available to PhDs across disciplines, and within and without RIs. This is beyond the scope of the review, but it may be helpful for UCD's Graduate Schools to investigate parity of provision for PhDs across the University. Institute training opportunities may not be as well linked as they might be with each other and with the Graduate School to which they belong. Some PhD students were unaware of training opportunities outside their institute, both in other institutes and in their Graduate School. It also seemed that more engagement with UCD Graduate Studies is likely to be helpful particularly in relation to the use of the statistical data that is available to assist recruitment, registration and assessment as well as to track completion rates and destinations.

5.16   Early career researchers were very conscious of the limited opportunities available to them to progress beyond the post-doctoral stage, in terms of the trajectory set out in the Research Skills and Career Framework. They also expressed concerned about the extent to which the career development and training aspects of that Framework relied on individual PIs with insufficient input from the Institute and wider institution. Access to teaching opportunities were not equally available and there was lack of transparency access to accredited professional education. A consequence of clustering early career researcher in the Research Institutes is that they can see and discuss the collective consequences of lack of a secure employment pathway. There may be creative solutions to this situation, perhaps by providing scaffolded support for entrepreneurialism and innovation, which

would help to address the institutional 'brain drain' problem with early career researchers within and outside the RIs.

5.17   Some of the Research Institutes were concerned about the administrative issues associated with provision of modules, seminars, master classes and relevant placements, and how they were resourced. It is clear that responsibility for such provision will remain in Schools, but the process of clarifying the relationship between Schools and Research Institutes and the Graduate School must address these tensions.

5.18   It was evident from interaction with graduate students and early career researchers associated with the Institutes that organisation of social events and facilitating of interaction is seen as highly beneficial, through such simple initiatives as coffee mornings, table tennis, five-a-side, etc.; the Institutes can in this and other spheres serve as a test-bed for initiatives that could then be rolled out across the University.

6. Engagement with University Administrative Platforms and Financial Systems

6.1   The Review Group also considered the engagement of the Institutes with the University's administrative and financial systems and how effectively this in supported the activities of the Institutes in an efficient and cost-effective manner.

Commendations

6.2   University academics, including Institute members, are in a School (as required by the Universities Act 1997) and University-level systems and supports are available to them on that basis. Institutes also provide some level of support, in particular in preparing research bids and managing research awards in cooperation with UCD Research, the Bursar's Office and HR. The Institutes also interact with the University's systems in managing their own budgets.

Recommendations

6.3   It would be helpful to delineate more clearly the appropriate roles of Institutes and university-level systems in providing support to academics in preparing research bids and managing research, to avoid unnecessary duplication. Academics across the University require effective support if the University is to attain its strategic goals, while the specific needs of Institutes and their members as a consequence of their structure and aims and the nature of their activities also need to be met.

7. Summary of Key Recommendations

The Review Group recommend that UCD should

- Periodically review the individual missions of the Institutes and reflect whether these need to be adjusted to changing circumstances, or indeed whether new Institutes need to be established and/or existing ones phased out or subsumed into new initiatives.

- Ensure that the ethos of Institutes provides an environment which is not perceived by Institute members or their colleagues simply as a 'research hotel' or as academic silos.

- Promote the view that strong disciplines are essential for underpinning interdisciplinary work.

- Recognise that, while there are clear advantages in having Research Institutes in some well-defined areas, the Schools are often the appropriate places to initiate and promote research.

- Undertake measures to ensure that the University's research priorities and those of the Colleges, Schools and Institutes are fully aligned.

- Ensure that there is coordination between the Institutes, UCD Research, Nova and the Schools in their engagement with national agencies and industry.

- Clarify the role of Institute Directors, their mode of appointment and job descriptions.

- Review the role of the Oversight and the External Advisory Boards of the Institutes to ensure that they are effective.

- Review the membership model for the Institutes with the aim of having a transparent, flexible model that each Institute can mould for its purpose.

- Extend as far as it is possible the benefits enjoyed by researchers and students who are members of Research Institutes to the population of researchers and students beyond their walls.

- Provide a clear statement of expectations in terms of the roles and responsibilities associated with membership of the Institutes.

- Encourage the Institutes to become more involved with public engagement, knowledge transfer and planning for and delivering impact, with the intended impact and the potential users of research identified from the outset.

- Encourage the Institutes to develop, in collaboration with the Schools and Colleges and within a framework developed with UCD research, measures which appropriately capture a suitable range of 'value added' measures.

- Encourage the Institutes to become much more involved in developing structured international linkages.

- Clarifying the relationship between the Schools, the Research Institutes and the Graduate School with regard to the provision and resourcing of modules, seminars, master classes and relevant placements for PhD students.

- Delineate more clearly the roles of the Institutes and of the university-level systems in providing support to academics in the preparation of research bids and in managing research.

- Seek a creative solution to the lack of secure employment pathways for early career researchers by providing scaffolded support for entrepreneurialism and innovation.

Appendix One: UCD Thematic Quality Review of UCD Research Institutes Terms of Reference/Scope

Terms of reference/Scope:

A thematic quality review will be undertaken with the aim of enhancing the operation and activities of UCD Research Institutes:

1. To review the level of consistency and understanding of the role, purpose and impact of Research Institutes (RIs) within UCD – to identify challenges and opportunities for the future development of UCD RIs

2. To review the contribution made by RIs to the development of the research resource in the University, including:

    a. Graduate education – the student experience and the research/teaching nexus
    b. Impact of interdisciplinarity and 'critical mass' on research activity
    c. Technology/ research platforms
    d. Ability to attract funding
    e. Highlight the most significant achievements/advances

3. To review the effectiveness of current management, governance and quality assurance mechanisms of RIs

4. To review the effectiveness of the relationships between RIs and:

    a. their cognate Colleges and Schools; and
    b. other relevant UCD RIs

    e.g.
    -   Consistency of mission and strategic direction
    -   Shared perspective and ability to leverage each other's strengths to deliver on goals (Schools with Institutes and vice versa) including: impact of shared equipment/resources; ability to recruit/develop research staff etc

5. To consider in broad terms, how effective the University structures and supports are in facilitating the activities of the RIs, including: financial sustainability; ability to influence University policy/direction; research administration and policies; support for grant applications etc

Sponsor: Research Institutes Sub-Committee (RISC)

RISC shall be responsible for (i) the oversight of the preparations for the thematic review of the RIs (including the preparation of the Self-assessment Report) and (ii) the post review implementation plan, to address the recommendations made in the Review Group Report.

November 2012

Appendix Two: UCD Research Institutes Response to the Review Group Report

The Review Panel provided an excellent opportunity for the Directors of the Research Institutes and the University to review the purpose, contribution and oversight of the Institutes. We wish to thank the Review Panel for their expert opinion, their advice and their recommendations. The Panel's engagement with the academics and staff at UCD and their professionalism is to be commended.

Role and Purpose of the Institutes

The Review Group was of a view, that the major role and purpose for the Institutes should be as enablers and facilitators of interdisciplinary and/or large-scale research. Indeed, UCD established the Research Institutes as vehicles for driving larger-scale, interdisciplinary research, and raising the research profile of the University both nationally and internationally. They were establsihed in response to the HEA's Programme for Research in Third Level Institutions. The aim of the PRTLI was to build an infrastructure for research in Ireland and in so doing transform the Irish economy. The particular place for Institutes has been in promoting interdisciplinary structured PhD programmes, a key objective of government strategy in building research capacity. UCD has doubled the number of PhDs since the establishment of the Institutes and the University accounts for 25% of the PhD students in Ireland.

The Institutes have been particularly effective in enticing high profile academics to UCD. Of the 64 SFI Stokes Professors and Lecturers nationally, 17 were recruited to UCD and this success was in no small part due to the facilities established in the Institutes. In this regard, Directors should have a level of influence over the recruitment in their areas.

The Institutes provide platforms to bid successfully for Government and EU funding. UCD now leads in EU FP7 funding and in funding from SFI. In addition, they were well placed to develop and host major initiatives such as Strategic Research Clusters, Centres for Science Enterprise and Technology, Enterprise Ireland Technology Centres, SFI Professorships and European Research Council Awardees. In part this is explained by their role in co-ordinating high-cost technology platforms that no one individual could afford. This is an essential aspect of their added value.

More importantly, the Institutes create "communities of scholars", providing an enhanced and supportive environment for graduate students and post-doctoral fellows, contribute to their training through structured programmes, such as the Research Career Framework, and promote collaborative research amongst them.

Review of the Institutes: Greater Integration with Schools and Colleges

As outlined in the discussions with the Review Panel, the Institutes went through a formal review by the Circa Group in 2008 and the recommendations were implemented, including the establishment of Oversight Boards and External Advisory Boards. As discussed with the panel, the quality review is seen as a means to once again review the Institutes and to draw upon their recommendations in reconsidering the role and management of the Institutes alongside the development of the University Strategy 2014-2019.

An important objective is that they add value, promoting interdisciplinary research but building on strong disciplines and Schools. Indeed, the major investment in the UCD O'Brien Centre for Science was to create an environment of strong disciplines that underpin interdisciplinary programmes, such as the Institute of Food and Health, INSIGHT Data Analytics Centre and the Earth Institute. Emphasising this further, it is the academics and graduate students in the Schools that are members of the Institutes. To improve the alignment of missions the Institutes, Colleges and Schools have

been engaged in strategic development of priority areas, including AgriFood, ICC, Culture, Society and Economy, Health Sciences and Energy. These areas map to national research priorities and have been the focus of engagement with Government. In that context, the Institute Directors in the areas considered by Government were engaged with development of the national priorities and how they would be implemented. These dialogues and joint planning will be continued through the upcoming university-wide strategic planning exercise. Better integration across the university will be facilitated by the amalgamation of UCD Research and UCD Innovation, with the appointment of the Vice-President for Research, Innovation and Impact.

Governance and Management – Relationship with Schools

The Oversight Boards were established to facilitate the integration of research across the Schools and Institutes. More recently, Schools and Institutes have been engaged in planning for and designing strategic priority areas that span Schools and Institutes across the University in order to achieve greater integration. In this context, it will be important that Institutes are involved in the early stages of recruitment of academics, to insure alignment to the priority research areas and the support of both Schools and Institutes for incoming academics. Institutes can also facilitate the interdisciplinary engagement needed to address priority areas, such as energy, for example by supporting appointments that span different disciplines and Schools and providing the types of disruptive technologies often required in emerging areas of interdisciplinary research. That said, it is important to preserve the independence of Institute Directors so that they can harness resources across the University in a dynamic way to address areas of research that require/benefit from cross discipline engagement. Similarly, regular review of priority areas by Schools and Institutes with the University management is necessary to promote integration of the research effort, apply resources as required, develop new graduate programmes, address gaps in expertise and identify emerging areas and technologies. The institutes have an important role to play in trans disciplinary horizon scanning initiatives.

As the Review Panel highlighted, the oversight and funding of the Institutes need to be addressed. The Institute Directors report to the Vice-President for Research, who in turn reports to the Senior Management, and is therefore akin to the College model. In the future, the oversight boards will step down, although there is value in a stakeholder's group, made up of external members that can advise the Director and facilitate engagement externally. In addition, the Research (or Scientific) Boards have played a distinct role in providing an independent review of the Institutes, reporting directly to the Vice-President for Research.

The mechanism of funding has been problematic. The Institutes have no means of generating an income as the Resource Allocation Model that is used to fund Schools is largely based on student fees and an allocation of the core grant based on student numbers. Moreover, while the Institutes' funding is top-sliced from the University budget, and the University core budget has been cut by more than 50%, the Institutes' allocation has been progressively cut with little opportunity to compensate for this through income generation (e.g., student fees). This has seriously impeded their development. An alternative model is where there is a degree of top slicing combined with an element of the research overheads and a *proportion* of fees for courses uniquely offered by the Institute. Indeed, the Review Panel highlights the contribution made by the Institutes in graduate education and should receive some recognition for this.

Institutes should also be in a position to develop a budget for particular programmes of work or priorities based on a strong business case. Funding for such programmes could come from overheads or revenue streams that the Institute can generate. Indeed, Schools and Institutes could work together to develop programmes of work jointly, with a shared responsibility for the delivery of the programme. This is happening on small scale projects within some of the Institutes but is

very much 'below the radar'. It would however, be a constructive way of developing the integration of Schools and Institutes.

Membership Models and External Relationships

There is no specific model for membership, indeed as indicated by the review team some tend to restrict membership while others are more open (which may explain the variable research outputs of the members). While in some cases, particularly the smaller Institutes, membership has remained fairly stable, others have re-evaluated membership after a fixed period. That said, there is a need to insure turnover and require active membership, and that members contribute to the mission and outputs of the Institute.

Contribution/Value of the Institutes

The Review Panel raise an important issue, namely measuring the impact of the research Institutes in terms of the performance of individual members or the overall impact on research in the University. Assessing impact of research is the subject of a UCD Research initiative 'Beyond Publications' and will be implemented in the near future. More specifically, we have and will continue to monitor the collaborations between researchers in institutions, based on authorship on publications and jointly awarded grants, both of which demonstrate a remarkable increase in collaborations since the establishment of the Institutes. Other measures have been applied, including domain-specific global rankings (e.g., the REPEC) and external engagement (NGOs, government, industry).

Appendix Three: Schedule for Review Group Site Visit to UCD Research Institutes

Pre-Visit Briefing Prior to Site Visit
Tuesday, 19 November 2013

17.15-18.45   Review Group and Deputy of Quality meet at Radisson Blu St Helen's hotel to review preliminary issues and to confirm work schedule and assignment of tasks for the following two days

19.30   Dinner hosted for the RG by the Registrar and Deputy President, Professor Mark Rogers

Day 1: Wednesday 20th November 2013
Venue: UCD Research Boardroom

09.00-09.30   Private meeting of Review Group (RG)

09.30 – 10.15   RG meet with Director, Major Institutes & Programmes, UCD Research

10.15-10.30   Break

10.30 –11.30   RG meet with Institute Directors (SET)
11.30-11.45   Tea/coffee break

11.45-12.30   RG meet with Institute Directors (HSS)

12.30-13.00   Break – RG review key observations and prepare for lunch time meeting

13.00-14.00   Working lunch (buffet) – meeting with external stakeholders

14.00-14.30   RG meet former Director of UCD Earth Institute

14.30-15.45   RG meet with representative group of Institute Members – primary focus on research related issues.

15.45-16.00   RG tea/coffee break
16.00-17.00   RG meet with support staff representatives (e.g. administrative / technical etc)
17.00-17.05   Break
17.05-18.00   RG to meet VP for Research and Principal, College of Health Sciences**,**

18.15   RG depart

Day 2: Thursday, 21st November
Venue: UCD Research Boardroom

08.30-10.00   RG tour of Research Institute facilities:
- UCD Geary Institute
- UCD Humanities Institute

- UCD Conway Institute
- UCD Science Centre East

10.00-10.10	Break

10.10-11.00   RG meet with selection of Heads of School representing the constituencies of the various Institutes

11.00-11.15   RG tea/coffee break

11.15-12.15   RG meet with College Principals or their nominees

12.15-12.45   RG meet with Director of the Centre for Synthesis and Chemical Biology

12.45-13.15   Lunch – Review Group only

13.15-14.00   RG meet with representative group of postdoctoral fellows from across the Institutes

14.00-14.30   RG meet UCD Dean of Graduate Studies

14.30-15.00   RG meet with Finance Manager, UCD Research to outline Research Institutes' financial situation

15.00-15.15   Break

15.15-16.15   RG meet with a representative group of postgraduate students
16.15-17.15   RG meet with representatives from Oversight Boards or External Advisory Boards

17.15-18.00   RG private meeting – review key observations/findings

18.00   RG depart

Day 3: Friday, 22nd November 2013
Venue: UCD Research Boardroom

09.00-09.30   Private meeting of RG

09.30-12.30   RG preparing draft RG Report and feedback commendations/recommendations

12.30-13.15   Lunch

13.15—14.00   RG meet with **Institute Directors/VP for Research** to feedback initial outline commendations and recommendations
14.00   Exit presentation to staff of the research Institutes by Review Group extern summarising the principal commendations/recommendations of the Review Group

15.00   Review Group depart