

Irish experiences of development of a new framework for PhD Education

**Prof Alan Kelly, Dean of Graduate Studies
University College Cork, Ireland**



UCC

Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland

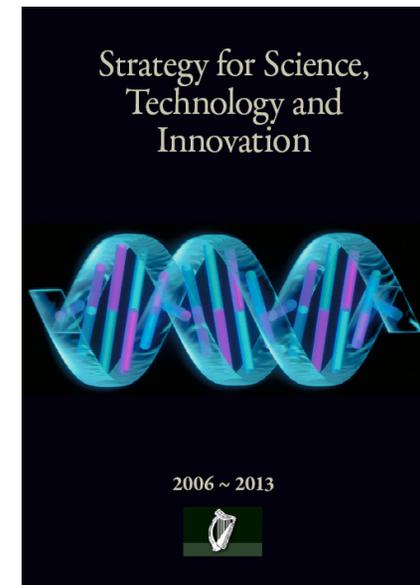
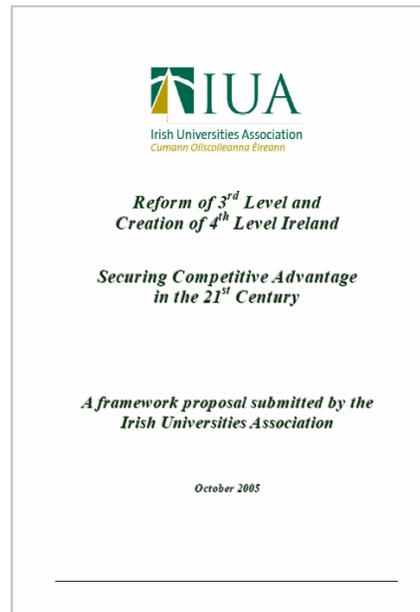
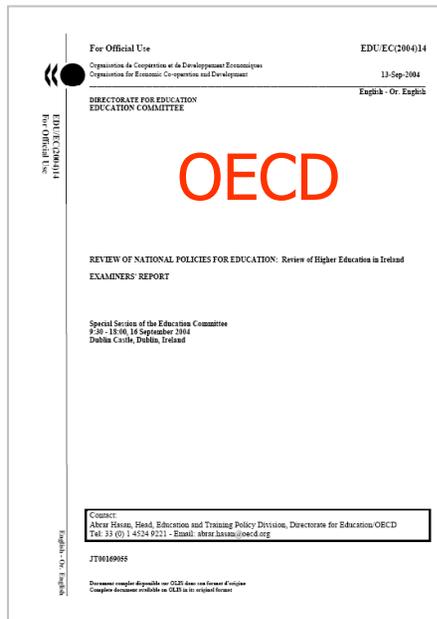


The national ambition: A new model for PhD training in Ireland

Key policy demands:

- Double PhD numbers
- Establish Graduate School system
- Change from apprenticeship to structured PhD
- Nationally co-ordinate training provision
- Put new emphasis on career paths

'4th
Level
Ireland'



How did the Irish system react?

- National definition of a structured PhD
- National funding provided for collaborative structured PhD programmes
- National guidelines for PhD education
- National agreement on PhD skill development agenda
- Inter-institutional policy coordination (4th-Level Network)

GOOD PRACTICE

IN THE ORGANISATION OF PhD PROGRAMMES
IN IRISH HIGHER EDUCATION

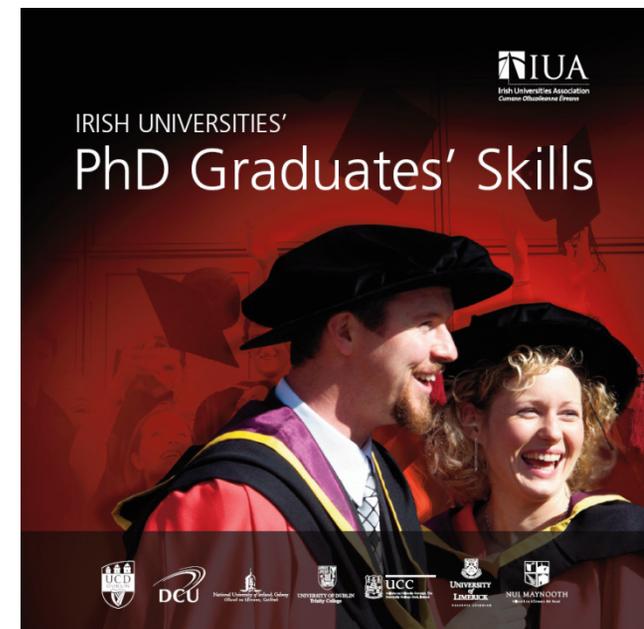
2ND EDITION

A series of booklets produced by
the Irish Universities Quality Board

5



National Guidelines
2009



The Definition of the 'Structured PhD' in Ireland

- ✓ High quality research experience, training and output is key
- ✓ Core and basis of award is the thesis
- ✓ Student normally has primary supervisor with supporting panel
- ✓ Employability beyond academia very important
- ✓ Formalised programme for education and personal and professional development (e.g., discipline-specific knowledge, generic, transferable and research skills) in place
- ✓ Programme depends on student and discipline
- ✓ Progress formal monitored within institutional system
- ✓ Four year registration the norm
- ✓ Inter-institutional operation may be best model in some cases

University College Cork

- 2nd largest in Ireland
- All academic disciplines represented
- Four Colleges (mega-Faculties)
- 18,000 students
- 3,500 postgraduate students
- 1,100 PhD students (500 in 2005)



How did UCC respond to challenges?

Pre 2006:

- o Apprenticeship model of PhD study only model
- o No dedicated structures and offices to manage graduate education
- o Policies not fit for purpose for new type of PhD
- o Small numbers of students do PhD for academic career; non-academic careers not a focus

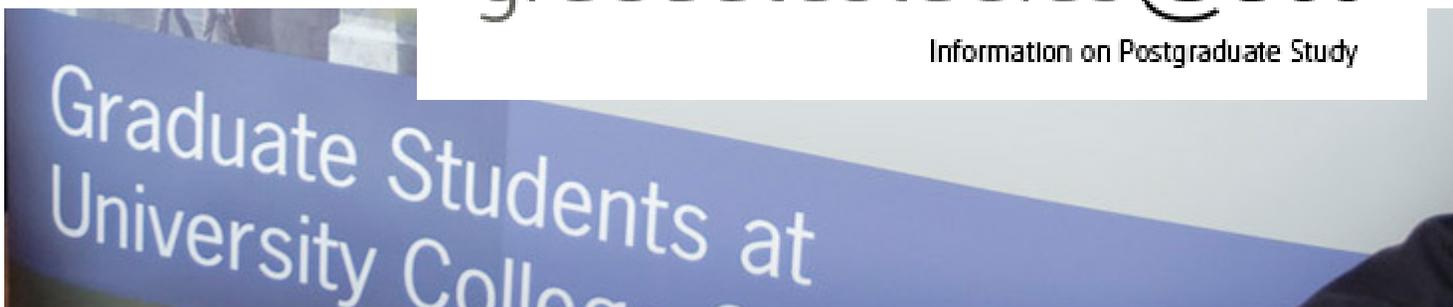
So, what changed?

1. Rebuilding structures

- Establishment of Graduate Studies Office (recruitment, registration, records, examination)
- University-level Officer (Dean) appointed
- University-level Committee established
- Colleges each have a Head of Graduate School for coordination of training and support
- Academic Units all have Graduate Studies Committees

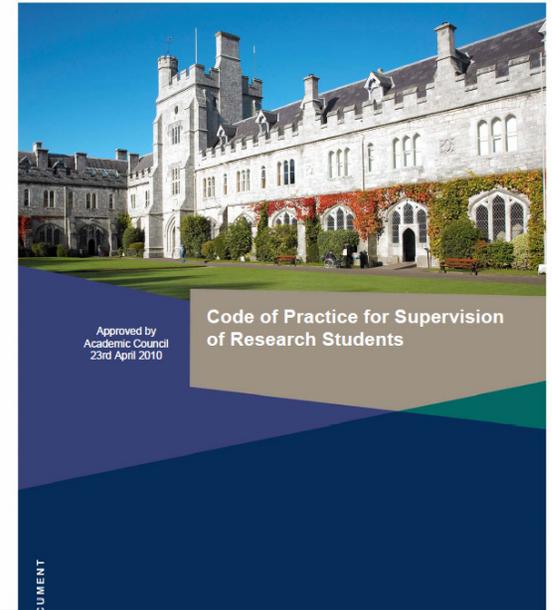
graduatestudies@ucc

Information on Postgraduate Study



2. Rebuilding a policy framework: developments since 2008

- New examination procedures for research degrees
- New Code of Practice for research supervision
- New Dispute resolution policy
- Promotion of team supervision
- Piloting Learning Plans for research students
- Repository of electronic research theses created



The image is a screenshot of a web browser displaying the CORA Cork Open Research Archive. The browser's address bar shows the URL "http://cora.ucc.ie/handle/10468/164". The page header includes the CORA logo and the UCC logo (University College Cork). The main content area displays a search result for a thesis. The title is "The importance of interaction strength for food web dynamics and ecosystem functioning". The author is "O'Gorman, Eoin J.", the supervisor is "Emmerson, Mark C.", and the date is "1-Feb-2010". The full citation is "O'Gorman, E.J. 2009. The importance of interaction strength for food web dynamics and ecosystem functioning. PhD Thesis, University College Cork." The publisher is "University College Cork" and the type of material is "Doctoral thesis". The abstract is: "Global biodiversity is eroding at an alarming rate, through a combination of anthropogenic disturbance and environmental change. Ecological communities are bewildering in their complexity. Experimental ecologists strive to understand the mechanisms that drive the stability and structure of these complex communities in a bid to inform nature conservation and management. Two fields of research have had high profile success at developing theories related to these stabilising structures and testing them through controlled experimentation. Biodiversity-ecosystem functioning (BEF) research has explored the likely consequences of biodiversity loss on the functioning of natural systems and the provision of important ecosystem services. Empirical tests of BEF theory often consist of simplified laboratory and field experiments, carried out on subsets of ecological communities. Such experiments often overlook key information relating to patterns of interactions, important relationships, and fundamental ecosystem properties. The study of multi-species predator-prey interactions has also contributed much to our understanding of how complex systems are structured, particularly through the importance of indirect effects and predator suppression of prey populations. A growing number of studies describe these complex interactions in detailed food webs, which encompass all the interactions in a community. This has led to recent calls for an integration of BEF research with the comprehensive study of food web properties and patterns, to help elucidate the mechanisms that allow complex communities to persist in nature. This thesis adopts such an approach,". The page also includes a search bar, navigation links, and a sidebar with various options like "Home", "Browse", and "Sign on to".

3. The UCC structured PhD model

- PhD degree recast in ECTS credits
- 3 or 4 years = 270 or 360 credits
allowed 30 or 90 credits non-thesis elements
- Three models for students:
 1. Named thematic programme with prescribed elements (e.g., Education, Cancer Biology)
 2. Local academic requirements
 3. Voluntarily agreed training plan
- PhD internships recognised for credit
- Professional doctorates also developed (e.g., Clinical Dentistry, Social Sciences, Nursing Practice) but differentiated from structured PhDs

Research student training framework

- Wide range of modules specifically designed for research students
- Key themes and bundles of modules include:
 - Generic research skills** (e.g., scientific writing and communication, statistics, project management, information literacy, digital skills)
 - Transferable skills** (e.g., teaching and learning)
 - Business, entrepreneurship and commercialisation**
 - Disciplinary skills** (e.g., food, law, chemistry)
- Most PhD students can voluntarily tailor a personalised training plan by selecting a batch of modules to take

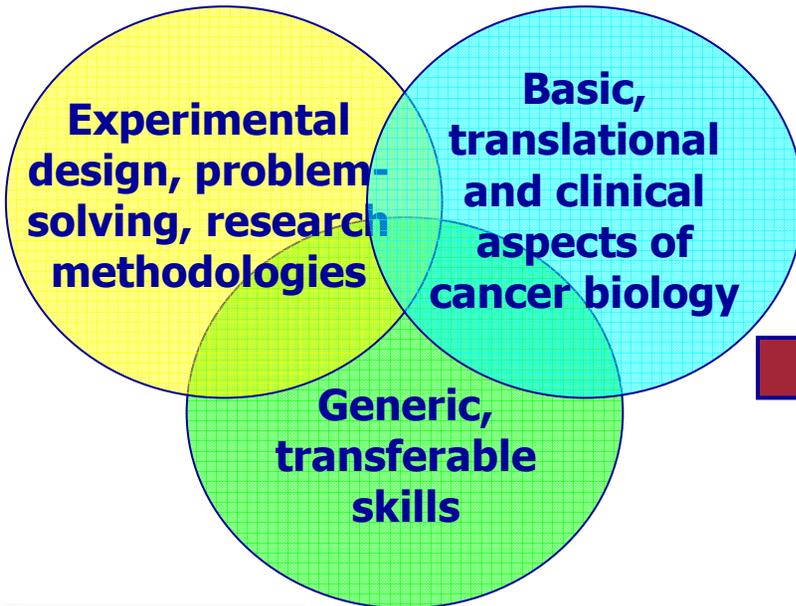


An example of a structured PhD programme at UCC:

- Follows a "1 + 3" training model; first year taught elements and laboratory rotations; years 2 – 4 thesis work
- Programme is led by PI, a dedicated training coordinator, and a steering committee of senior investigators, with industry support
- 22 participating investigators based in several academic and clinical departments at UCC
- Two cohorts of 8-10 PhD students total in training; incoming class of 8 PhD students selected from 620 applicants
- International links with institutions in USA, Cambridge University (UK), EMBL (Germany)



PhD in Cancer Biology at UCC: Training Elements and Outputs



Year 1

Three, twelve-week rotation projects and written thesis proposal and oral defence at end of Year 1

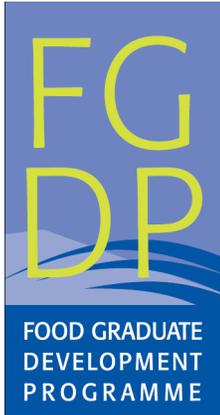
Programme-specific modules and seminars in cancer biology, featuring guest lectures with national experts (open to all PhD-level students in life sciences)

Choice of general/transferable skill modules for post-graduates at UCC

Years 2 - 4

- specialised workshops, cancer biology journal club, seminar programme and progress reviews with thesis committee every six months
- ongoing mentoring and support
- award of PhD based solely on quality of thesis and viva

7 out of 10 PhD Scholars are presenting their work this year at national and international conferences; one award won for "best poster"



An inter-institutional structure: Food Graduate Development Programme



Department of
**Agriculture,
Fisheries and Food**
An Roinn
**Talmhaíochta,
Iascaigh agus Bia**

- Provides specialised skills training to PhD and MSc students
- Inter institutional (UCD, UCC, Teagasc) management structure
- Students awarded ECTS credit for completion
- Input from key stakeholders (Food employers) to identify appropriate module themes through Project Management Group
- Over 250 students on 14 modules to date
- www.foodpostgrad.ie



Modules to date:

- An introduction to the National and Global Food Sector
- Food Regulatory Affairs
- Analysis and Interpretation of Experimental Data with Mathematical and Statistical Tools
- Industrial-scale R&D
- Entrepreneurship and Innovation in the Agri Food Sector
- Food and Nutrition Communication
- Hot Topics in Food and Nutrition Research
- Management and Leadership in the Food Industry
- Science Writing and Presentation Skills for the Agri food Researcher

4. Improving the student experience

University College Cork



Turbocharge your writing

Would you like to know the secret to high output, low stress scholarly writing?

Friday, October 9th 2009

Due to popular demand — Second opportunity to attend
1.30pm to 4.30pm

Brookfield Health Sciences Complex Room 101

Places are limited and will be allocated on a first-come, first-served basis.
Please email m.nelson@ucc.ie to confirm your place.

This workshop will help you to understand:

- ~ why it's hard to get started
- ~ how we deliberately use distractions to slow down writing
- ~ the principles of quick starting
- ~ how to deal with destructive internal beliefs
- ~ how to set a writing plan and stick to it
- ~ how to set achievable goals by writing in a silo
- ~ how to greatly increase the number of actual words you produce
- ~ how to clarify your thinking, and improve the quality of your work

Facilitator: Hugh Kearns, BAgSc, MEd, MMHS

Hugh Kearns is best known as a dynamic speaker, presenter and educator with international expertise in the areas of time management and work-life balance. He draws on almost twenty years of experience as a training and development professional within the corporate, financial, education and health sectors in Ireland, Scotland, New Zealand and Australia. He has consulted to a wide range of organisations in the public and private sectors. Currently he heads the unit providing professional development at Flinders University where he provides strategic guidance and development programs for university staff and students. In addition to his staff development role, Hugh is a regular lecturer and topic coordinator in the Masters of Mental Health (School of Psychiatry) at Flinders University and is an active researcher in the area of psychological wellbeing, and is a consultant to Adelaide to Outback GP Training Program.

THE BOOLEAN

BROADENING HORIZONS for PhD Students of Arts, Celtic Studies and Social Sciences

Monday 15th June 2009

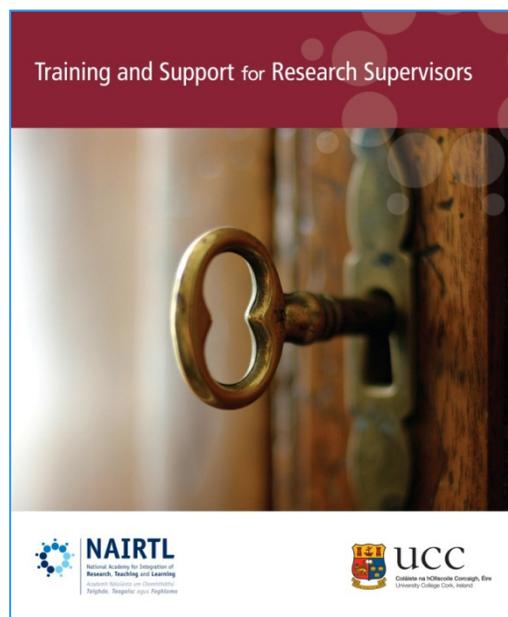
Are you a PhD student with a keen eye on your future? Would you like to benefit from the insights of PhD graduates with thriving, fulfilling careers? This event is an opportunity to hear former PhDs describe their career journeys since graduation. Speakers will include graduates in both academic and non-academic roles.

Reserve your place by contacting Donna McLaughlin at UCC Careers Service at 4903193 or d.mclaughlin@ucc.ie

Venue: Room 225, Brookfield Health and Science Building Duration: 9.30 – 13:00

5. Support for Supervisors

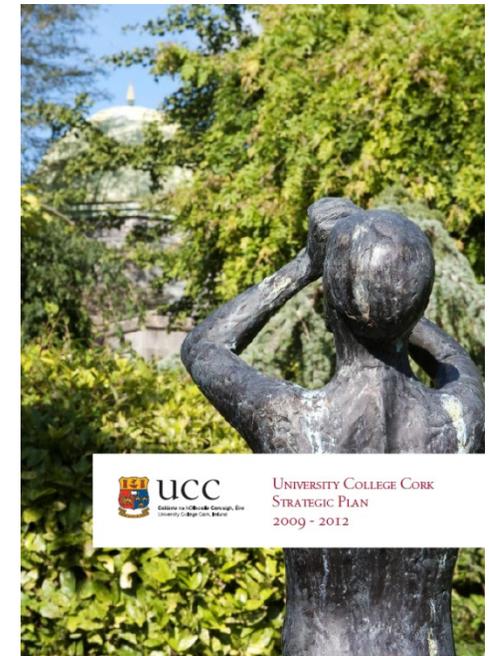
- UCC-led national project to develop training framework
- Development of new staff a key goal
- Three day training curriculum plus information and briefing sessions in UCC
- Training for researchers also introduced
- Accreditation being considered
- Quality assurance for supervision in development



What are our key performance indicators for graduate education?



- Graduate education has to be bought into at all levels of the university and prioritised strategically
- Key areas of monitoring include:
 - Completion times
 - Completion rates
 - Numbers of structured programmes
 - Numbers of structured modules taken
- How do we incentivise completion?
 - Fees changes
 - Annual reviews
 - Supervisor training
 - Student training and support (building a community)
 - Dispute resolution



UCC
Coláiste na hOileáine Corcaigh, Éire
University of Cork, Ireland

UNIVERSITY COLLEGE CORK
STRATEGIC PLAN
2009 - 2012

Summary: some final questions

- How to we build coursework and training into the PhD degree?
- What skill-set does a modern PhD need?
- How do we handle large increases in PhD numbers and where do they go afterwards?
- How do we have best quality assurance of supervision and progression?
- How can universities work together for benefit?

