



**A TRADITION OF  
INDEPENDENT  
THINKING**

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**UCC**

**University College Cork, Ireland**  
Coláiste na hOllscoile Corcaigh

# *Leveraging mobility across sectors for success*

Anita Maguire

*2017 Researcher Conference*

25<sup>th</sup> May 2017

# **‘Planning’ a Career in Research**

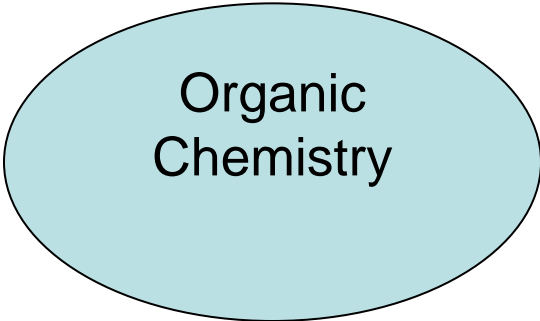
If we knew what it was we were doing, it would  
not be called research, would it?

*Albert Einstein, 1879-1955*

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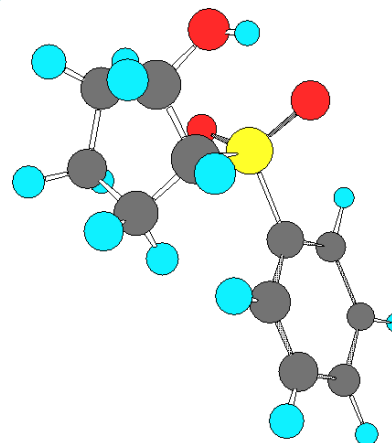
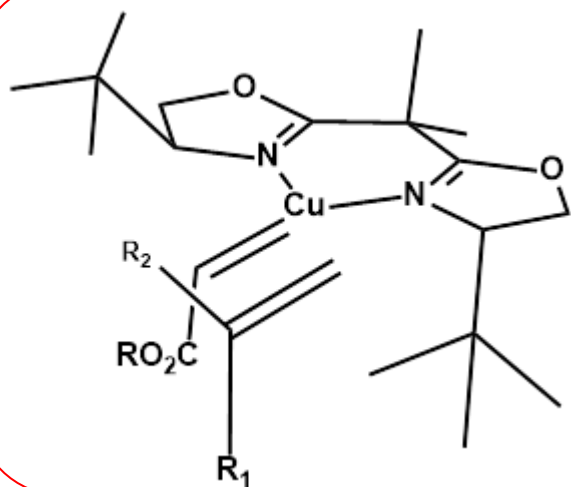
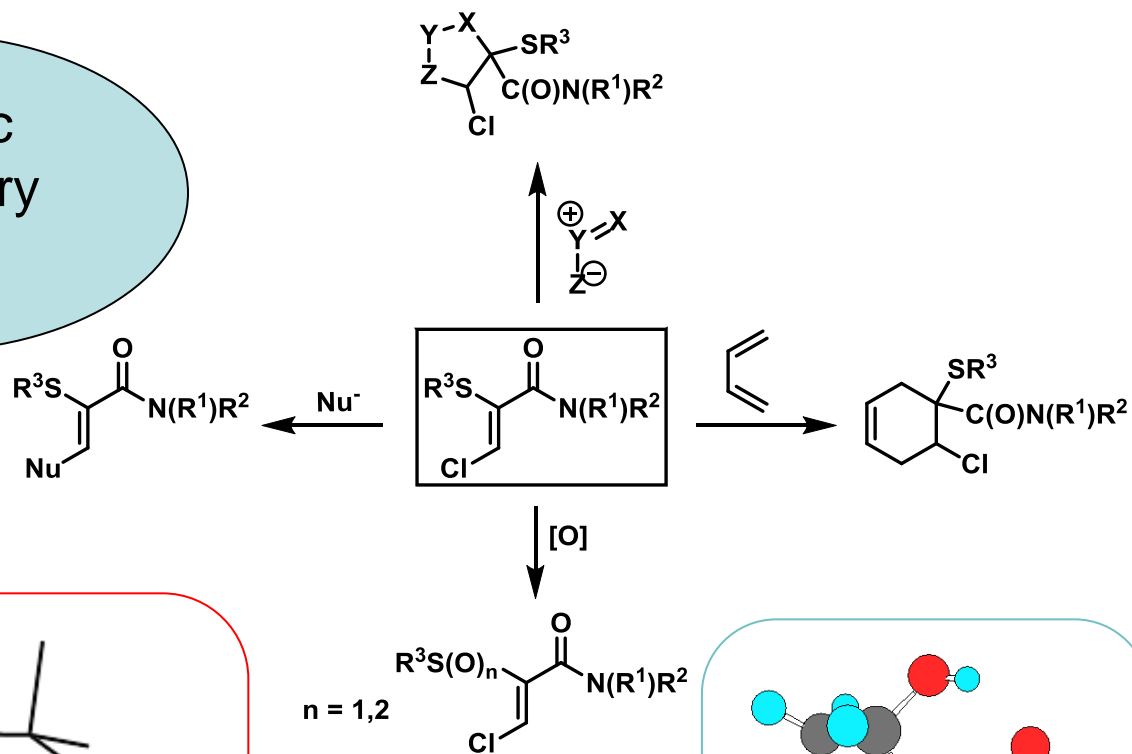
- BSc 1985
- PhD 1989
- Postdoc – Namur, Belgium 1989
- Research Fellow – Exeter 1990
- Lecturer – Jan. 1991

# Crossing disciplinary borders



Organic  
Chemistry

# Organic Chemistry





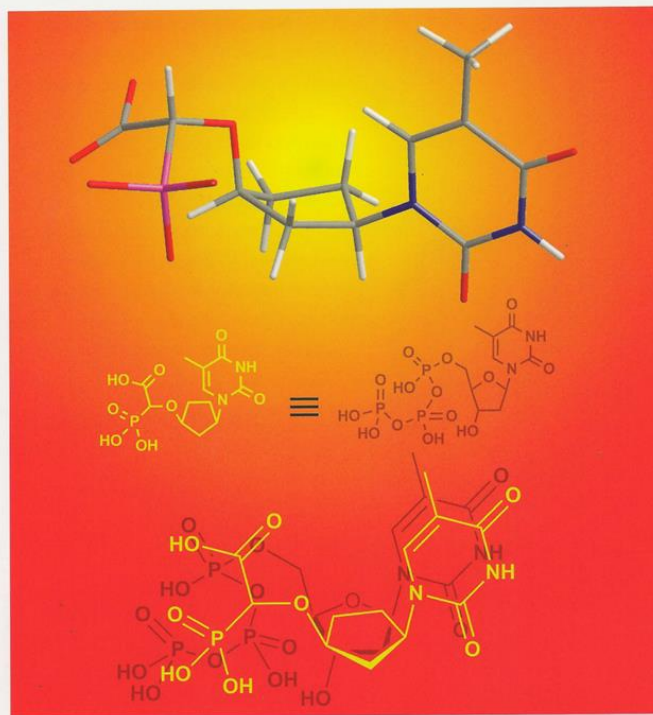
Chemistry

Biology

# JOC

*The Journal of Organic Chemistry*

MARCH 6, 2015 VOLUME 80, NUMBER 5 [pubs.acs.org/joc](http://pubs.acs.org/joc)

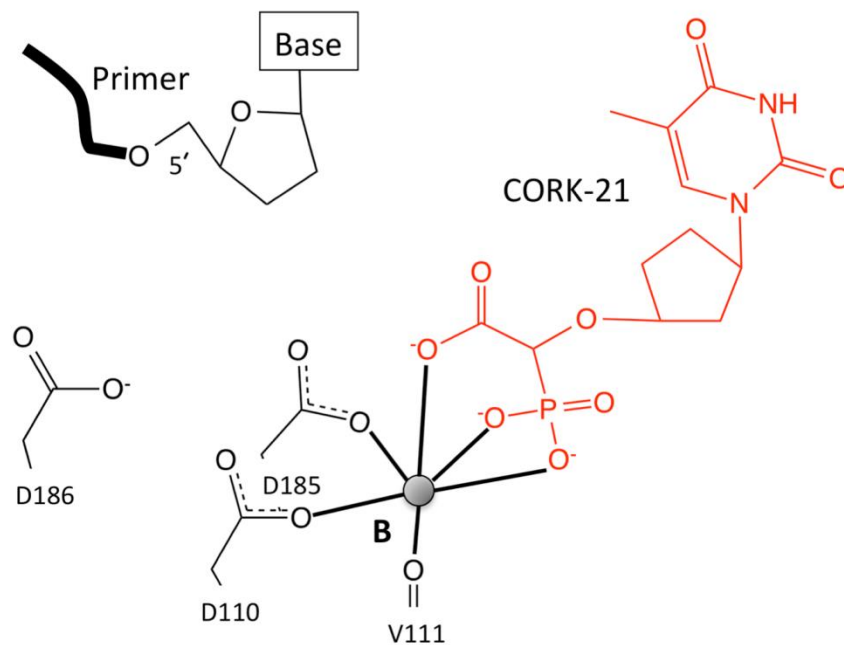
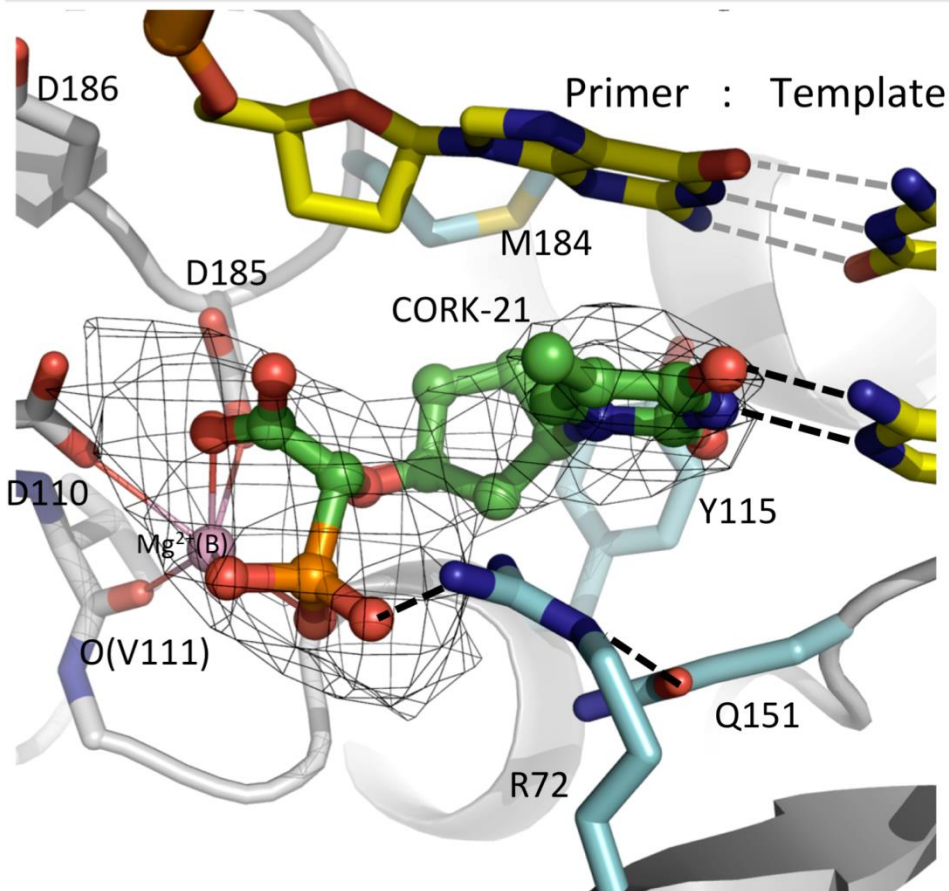


ACS Publications  
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[www.acs.org](http://www.acs.org)

*J. Org Chem*, **2015**, 80, 5, 2479-2493



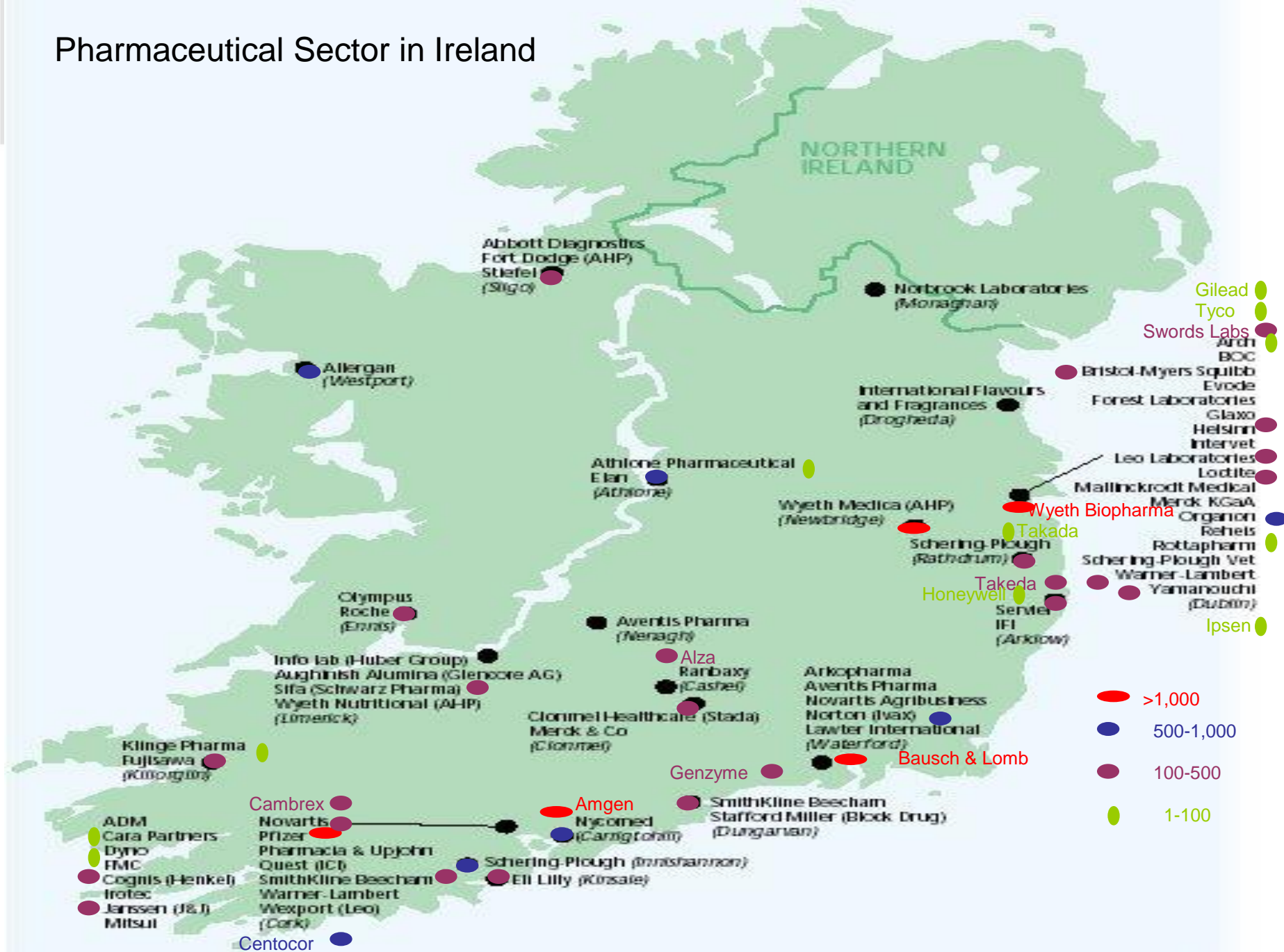


Balzarini, Maguire *et al*, *PNAS*, **2015**, 112(11), 3475-3480

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- 
- 1984 Penn Chemicals (now GSK)
  - 1985 Glaxo Research

# Pharmaceutical Sector in Ireland

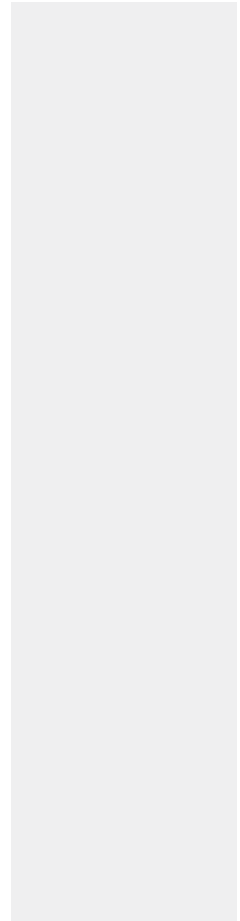




# Academic – Industry Engagement



- Research collaboration
- Placements / internships – UG/PG
- Service provision
- Training & up-skilling (accredited/bespoke)
- Consultancy
- Advisory boards – input to curriculum development and input on strategic development
- Philanthropic support for Research and/or Teaching & Learning





# Team of Investigators



Anita Maguire

2009-15

Humphrey Moynihan

*Lilly*



- Small Molecule Process Development
- Eleven projects investigated over a five year period
  - 2 postdoctoral researchers
- Increasing capacity in Process R&D

US Ireland Research Innovation Awards  
Shortlist – 2015 HEI category



# Lilly- UCC Collaboration Pharma Process Research & Development

- Ultimate target is to make a significant positive contribution to the process R&D capacity in the pharma industry.



Deasy, R. E.; Slattery, C. N.; Kissane, M.; McNamara, O. A.; Lynch, D.; Maguire, A. R.; Moynihan, H. A.; O'Keeffe, S.; Kopach, M. E.; Mitchell, D.; Magnus, N. A.; Kjell, D. P.; Moher, E. D. *Org. Process Res. Dev.* **2015**, *19*, 344-346.

## Organic Process

## Research &

## Development

ARTICLE

pubs.acs.org/OPRD

### A Practical Synthesis of Biaryls via a Thermal Decarboxylative Pd-Catalyzed Cross-Coupling Reaction Operating at Moderate Temperature

David Mitchell\* and David M. Coppert

Chemical Product R&D, Lilly Research Laboratories, Eli Lilly and Company, Indianapolis, Indiana 46285, United States

Humphrey A. Moynihan and Kurt T. Lorenz

Manufacturing Science and Technology Business, Eli Lilly SA, Dunderrow, Kinsale, County Cork, Ireland

Marie Kissane, Orla A. McNamara, and Anita R. Maguire

Department of Chemistry and School of Pharmacy, Analytical and Biological Chemistry Research Facility, University College Cork, Cork, Ireland

 Supporting Information

**ABSTRACT:** The palladium-catalyzed decarboxylative cross-coupling of aminothiophene carboxylate and 1-bromo-4-chlorobenzene to produce 3-amino-2-(4-chlorophenyl)thiophene (2) is described. The cross-coupling proceeds under relatively mild conditions using catalytic Pd(0) and TBAB. Through use of a mixed-solvent system of DMF and NMP, it was possible to operate the cross-coupling system at 80 °C. An assessment of carbon dioxide liberation, which provides insight into the reaction operating parameters, is also discussed.

Lilly (Indianapolis)  
Lilly (Kinsale)  
UCC

*One of the top ten most read articles in OPR&D during 3rd Quarter 2011.*

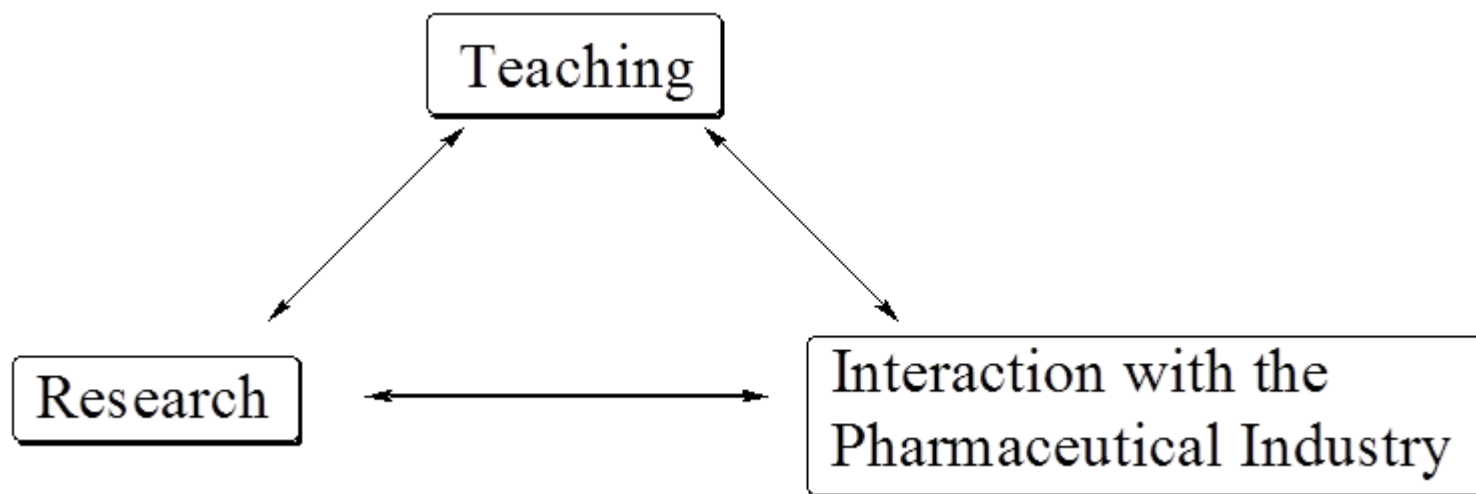


# Destination of researchers from Maguire research team - 1997 to date

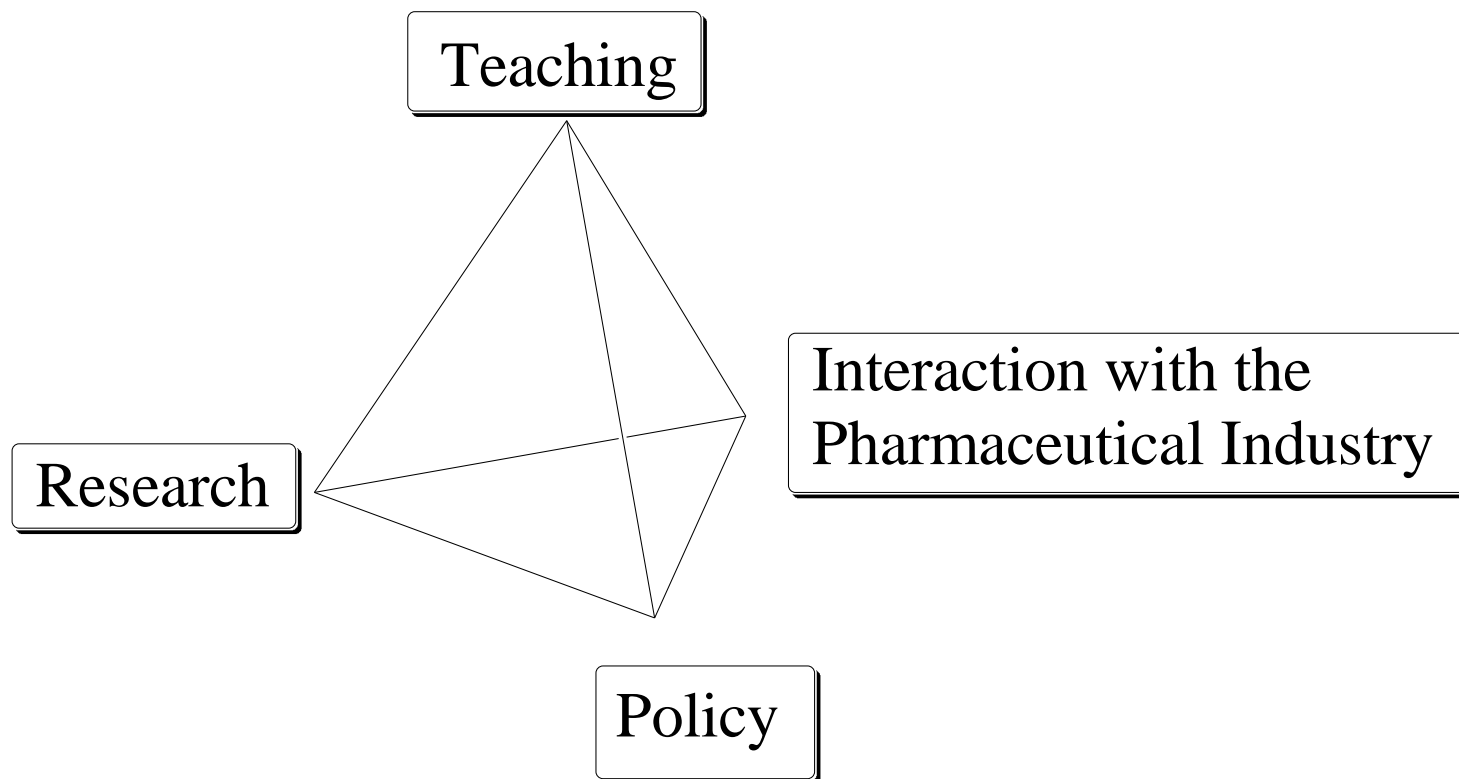
<b>Destination No of Researchers</b>	<b>Industry (Ireland)</b>	<b>Industry (Int'l)</b>	<b>Academia</b>	<b>Other (eg Postdoc)</b>
47 PhD Graduates* (6 of which currently writing)	35	3	7	2
7 MSc Graduates (1 of which writing)	6	-	-	1
42 Postdoctoral Researchers (4 of which current)	13	10	11	8

*\*26 IRC Scholarships since 2002, 10 of which Enterprise Partnerships*

# Organic Chemistry



# Strategic Role of Organic Chemistry





- IRCSET
- IRC
- NIBRT
- MMI
- ICSTI
- ASC
- National Forum on Research Integrity





The Role  
Smart E

Decemb

Forfás

To  
for

Forfás

From Challenges to Opportunities:  
Towards a Common Strategic Framework for EU Research  
and Innovation Funding

RESPONSE FROM IRELAND  
TO THE EC GREEN PAPER

May 2011



An Roinn Fiontar, Trádála agus Nuálaíochta  
Department of Enterprise, Trade and Innovation



Advisory Council for Science  
Technology and Innovation  
An Comhairle Eolaíochta

Forfás



# Academic Leadership & Governance

2011- VP Research & Innovation

2009-10 Head of School of Pharmacy

2005-7 Head of Department of Chemistry

2004-6 & 2007-12 Governing Body

# International Engagement

- Member of the Board of Life Sciences Research Network Wales, 2013 to date
- University of Bergen – Adjunct Professor 2011-16

# **‘Planning’ a Career in Research**





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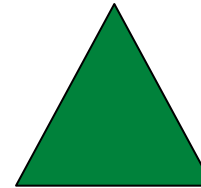
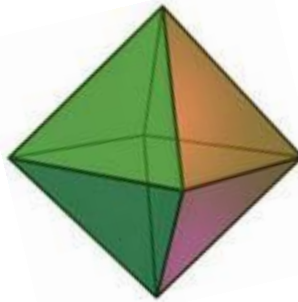
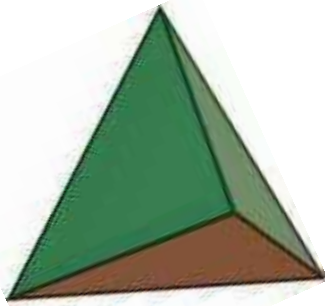
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- Harvest disappointments



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- Identify options and pathways
- Tactics to populate CV(s)
- Collect people
- Maximise time usage
- Discerning in following opportunities
- Be aware and open
- Harvest disappointments
- Plain luck – right place at right time

# Serendipity

*The most exciting phrase to hear in science, the one that heralds new discoveries, is not “Eureka!” (I found it!) but “That’s funny....”*

Isaac Asimov (1920-1992)

# ReactNMR – Equipment Setup

