Faculty of Health Sciences

Faculty Forum on Industry Engagement

Audrey Crosbie, Industry Liaison Manager
Trinity Research & Innovation

19th November 2015
Agenda

Audrey Crosbie  Overview of Trinity Research & Innovation (TR&I)
Chris Keely    Supports available for working with Industry
Gordon Elliott How to commercialise your research
& Trinity's partnership with RCSI for Technology
Transfer & Industry Engagement

Fionnuala Healy Start-up company supports
Case studies

Examples of spin-outs from Trinity

**John Gilmer**  
Solvotrin Therapeutics - Spin out from School of Pharmacy & Pharmaceutical Science

**Emily Vereker**  
SelfSense Technologies - Spin out from Dental School + the SFI Amber Centre  
(Padraig McAuliffe)

Success Stories of Trinity's Engagement with Industry

**John Dinsmore**  
School of Nursing and Midwifery

**Barry McMahon**  
School of Medicine & The Innovation Academy

**Adriele Prina Mello**  
School of Medicine
Trinity Research & Innovation

Who are we?

Research Development Office (RDO)
Supports Trinity researchers by providing information and advice on sources of research funding and calls for proposals. All research funding applications from Trinity are signed off by the RDO prior to submission to the funding agency.

Contracts Office (CO)
Advises on, and negotiates, the terms of all research contracts awarded to Trinity and all collaboration and partnership agreements entered into by Trinity. The CO executes all research funding contracts on behalf of the university.

Office of Corporate Partnership and Knowledge Exchange (OCPKE)
Encompasses the technology transfer and industry engagement functions of TR&I. Manages intellectual property, supports Campus Co. formation and builds external relationships to facilitate academic-industry research collaborations.
Trinity Research & Innovation
What we do

Trinity PI is at the core of everything we do
Trinity Research & Innovation

What we do

Idea Generation
- Ireland’s leading University
- Unique infrastructure
- International students
- Track record of industry engagement
- World class research

Proposal Development
- Identify funding opportunities
- Relationship building
- Identify collaborators
- Training

Proposal Submission
- Review funder terms and conditions
- Budget preparation
- IP review
- Impact statement
- Overheads
- Manage the governance - sign-off processes

Proposal Funded
- Terms and conditions
- Intellectual property
- Governance
- Reporting
- Interface with FSD for A/C set-up

Project Running
- NDA
- MTA
- IP training
- Entrepreneur training
- Invention disclosure
- Patent application
- Comms support

IMPACT
- Licensing
- Campus company
- Industry interaction
- New funding opportunity
- Communication of impacts
- Showcase opportunity
Trinity – A year of ideas and impacts

- **400** Applications to Irish Funding Agencies
- **1st** Trinity ranked for EU funding & SFI PI Funding
- **€100M** Research funding won per annum
- **1300** Research Proposals Submitted Annually
- **74 MTAs signed**
- **54 INVENTIONS disclosed**
- **200 FP7 Programmes**
- **350 IRC GRANTS**
- **600 CONTRACTS SIGNED**
- **4 National Centres**
- **1002 NDAS signed**
- **15 LICENCE AGREEMENTS**
- **50 Companies supported/ enabled by Trinity
- **24 Student Startup companies incubated**

LAUNCHBOX.ie
Research to Impact to Opportunity

Dr. Chris Keely
Senior Business Development Manager, Trinity Research & Innovation, chris.keely@tcd.ie
Trinity College Dublin
A research intensive University in the heart of Dublin City

No. 1
University in Ireland

Top 1%
of research institutions in the World in 17 Essential Science Indicator Fields

Physics, Chemistry, Engineering, Social Sciences (General), Immunology, Neurosciences, Nanosciences, Materials Science, Pharmacy and Toxicology, Molecular Biology and Genetics, Biology and Biochemistry, Microbiology, Plant and Animal Science, Clinical Medicine, Agriculture, Psychiatry/Psychology, Environment/Ecology.
Office of Corporate Partnership and Knowledge Exchange – guiding industry through the complicated maze of academic partnership.
The Office of Corporate Partnership & Knowledge Exchange
Why Engage with Trinity....

- Access to **world class research** capability focusing on industry challenges – near-term, medium and long.
- Access to highly trained engineers and scientists
- **State of the art infrastructure**
- Leveraged & access to research funding
- Graduate Employment & Recruitment Pipeline
- Access to **intellectual property**.
- **Leading Edge over competitors** – new and expanded markets
What industry provides.....

Industry Researchers – onsite or at home

Collaboration – builds relationships – Trust – Opportunities

In-kind Contribution – staff, access to materials..

€ to use and/or co-invest to leverage more €
Some Challenges .......

Trinity College Dublin, The University of Dublin
The research eco-system – A busy Campus......
Ireland’s leader in ERC Performance
ERC Grants to date from H2020

Trinity has 16% of academic university faculty nationally – winning 50% of ERCs.
Ireland’s Leader in FP7 & H2020

- Trinity secured more FP7 funding and more ERC grants than any other Irish institution
  - Value of Contracts >€90m
  - Value to Irish SMEs >€4.7m
  - Value to Irish based MNCs >€2m
  - Trinity was awarded the highest proportion of grants over €1m
  - Trinity was successful in 218 awards in FP7, coordinating 27 projects

- In H2020 Trinity has submitted 388 applications.
  - 36 grants to 36 discrete PIs awarded [Value ~ €24.5m]
  - Ambitious institutional target of €155M from H2020
Trinity – SFI Success

Trinity embodies the SFI vision of excellence leading to impact.

In key areas Trinity has won:

- 32% of PI funding
- 28% of Centre funding
- 22% of TIDA funding
- 40% of PIYRA awards
Globally Unique Infrastructure
Industry Engagement

Collaboration Agreements
Trinity signed **516 industry collaboration agreements** between 2008-2014
The Engagement Process
Our roadmap for industry partnership

1. Identify the key business challenges
2. Determine the key scientific challenges and capabilities required to provide solutions.
3. Map onto the competencies of TCD researchers and Networks.
4. Meeting between researchers in company and Trinity.
5. Outline programme - manpower scope, scale and cost.

Sustainable relationship based on Trust & Impact

- Deliver results
- Co-jointly Implement the programme.
- Determine most suitable funding mechanism.
- Identify key business issues – IP, staffing, infrastructure.
How to commercialise your research

Trinity's partnership with RCSI for Technology Transfer & Industry Engagement

Dr Gordon Elliott
Technology Transfer Case Manager
Commercialising your research

Context – Innovation from health research activity at Trinity

Innovation: The process of doing new things successfully

Development

Idea
Creativity
Art
Invention
Research

Consumer
€ $ £
Commercialising your research

Discuss your research with TR&I Case Manager
Identify Commercial Opportunities
Potential Inventions – Invention Disclosure
Evaluate Invention Disclosure – Patentability + Market Opportunity
Utility – Novelty – Inventive Step
Market need / opportunity
Technology Development Road Map
Commercialising your research

Licence or Licence / Spin-out?
Licence – dissemination of the opportunity to potential partners
Spin-out – discussion with business partners / investors
Commercialising your research

50 – 60 IDF

20 – 30 Patent Applications

10 to 15 Licenses

2 to 5 Spin-outs
Commercialising your research

- Patents Abandoned: 131 (46%)
- Active IP (Patents & Software): 152 (54%)
- In negotiation: 17 (22%)
- Licensed: 54 (69%)
- Assigned: 7 (9%)
Commercialising your research

TRINITY’S DEVELOPMENT PIPELINE (2008 – Present)

318 INVENTIONS → 78 LICENCES TO INDUSTRY + 41 CAMPUS COMPANIES
Commercialising your research

Spin-outs 1985 – 90
- ERA-Maptec Ltd.
- Building Technology Applications Ltd.
- Authentik Language Learning Resources Ltd
- Broadcom Eireann Research Ltd
- Numed Research and Development Ltd
- Navan Resources Ltd
- Nutriscan Ltd Irish Centre For European Law Ltd
- SIA Group Majih Ltd

(re-registered with CRO on 2/4/1997 as Insight Statistical Consulting)

Spin-outs 1990 – 95
- Scientific Resources Ltd.
- Tolsys Ltd
- Unimed Operations Ltd
- Atrium Productions Ltd
- Eigse Ltd
- Iona Technologies Ltd.
- X Communications Ltd.
- Unimed Public Limited Company
- Magnetic Solutions Ltd.

Spin-outs 1995 – 00
- The Institute of European Food Studies Ltd
- Medisolve Ltd ITS-Ireland (Industrial Training & Services)
- Identigen Ltd.
- Simtherg Genable Technologies Ltd.
- Telekinesys Research Ltd. (Trading as Havoc)
- Eneclann Ltd
- Wilde Technologies Ltd.
- NEOS Interactive Trino Therapeutics

Spin-outs 2000 – 05
- Allegro/Deerac Eblana Photonics Ltd.
- Haptica Ltd.
- Emergency Nutrition Network (ENN)
- Integrate Ireland Language and Training Ltd
- Nanotrin Ltd. MV Technology Ltd S3 Group (Silicon & Software Systems)
- Opsona Therapeutics Ltd. Cellix Ltd.

Trinity College Dublin, The University of Dublin
Commercialising your research

These 8 Trinity spin-outs / licensees have attracted a combined total of more than €57.8 million in venture capital investment in the last 3 years.
Commercialising your research

Trinity led a license deal on behalf of multiple institutions to grant a single license to Vitalograph Ltd.

Prof Richard Reilly, Trinity College and Prof Richard Costello, RCSI and Respiratory Consultant Beaumont Hospital developed an acoustic analysis device which can be integrated into inhalers to provide patient compliance and drug efficacy data in major respiratory diseases.

Vitalograph Ltd, who are based in Ennis Co. Clare, are currently engaged in developing a series of new products for their clinical trials group based on this technology.
Trinity's partnership with Royal College of Surgeons

Technology Transfer & Industry Engagement
Consortium Operational activities

**Developing best practice:**
- New opportunity identification and assessment
- Campus company development
- Industry collaboration agreements, IP Commercialisation agreements and campus company related agreements
- Marketing of IP, researcher expertise and infrastructure
- Continuous improvement

**Co-ordinating Activities:**
- Entrepreneur and investor engagement
- Research and Staff training
- Industry engagement

**Leveraging Experience:**
- Transactional advice
- Research and Staff training
- Industry engagement
Trinity RCSI Technology Transfer Consortium
Commercialising Research through a Spin Out Company
From Idea to Campus Company

Fionnuala Healy
Startup Development Manager
Eureka!
What happens after the moment of innovation …
What makes an idea a commercially viable proposition?
The 3 pillars of any successful startup

• Idea/Innovation

• Team

• Product Market Fit
What makes an idea a commercially viable proposition?
The 3 pillars of any successful startup: Idea/Innovation
What makes an idea a commercially viable proposition?
The 3 pillars of any successful startup: Team
What makes an idea a commercially viable proposition?
The 3 pillars of any successful startup: Product Market Fit
Trinity Innovation Model
Commercialisation Through Campus Companies

- Pre-Idea
  - Opportunity
  - Innovation
  - Feasibility
  - Preformation Commercialisation
  - Campus Company Creation

- Business As Usual
Keep In Touch!
Getting to ‘Investor Ready Status’

– It’s never too early to talk to OCKPE!
– Innovation Awards
– Building Your Company through support at all stages of innovation
– Trinity Starts Newsletter
– @trinityresearch
– fionnuala.healy@tcd.ie
– @fionnualahealy
– https://ie.linkedin.com/in/fhealy
Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

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www.tcd.ie/innovation/contact

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