

Irish Chemical News

A Journal of the Institute of Chemistry of Ireland

ICI 44th Annual Congress 2019





Institiúid Ceimice na hÉireann **The Institute of Chemistry of Ireland**

ICI Centenary 1922-2022

Patron: Michael D. Higgins, President of Ireland

The Professional Body Representing Chemists in Ireland

Ravensdale Road, Dublin D03 CY66.

Web: www.instituteofchemistry.org

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A message from the President

Dear Fellows, Members, Graduates and Associates,

May I first of all congratulate and thank Mr Patrick Hobbs, ICI former President, current Council member and the editor of the Irish Chemical News for putting together yet another comprehensive and informative ICN issue. In this issue, you will find a description of a number of key events which took place over the last few months in Ireland as well as some important announcements and some dates for your diary.

May I particularly take this opportunity to draw your attention to the EuChemS Congress taking place in Lisbon in August 2020. We have already reached out to our scientific community here in Ireland and we have made a number of speaker nominations to the Lisbon Congress International Scientific Committee. I also had the pleasure of meeting with the chair of this International Scientific Committee, Professor Luisa deCola, at a recent international conference. The Congress in Lisbon promises to be a very exciting one with a broad scientific programme being led by world-class experts, with a particular focus on crossing the interface between chemistry, biology, material and environmental sciences. As I mentioned in the previous ICN issue, the ICI will celebrate its 100th anniversary in 2022 and will mark this impressive milestone by hosting the EuChemS Congress here in Dublin. We have already begun our preparations in this regard and we will be reaching out to our members to support us in our preparations in due course.

We recently also advertised a number of ICI awards, seeking nominations which will be reviewed by independent experts. Specifically, we are requesting nominations for the Boyle Higgins Gold Medal and Lecture Award, the ICI Annual Award for Chemistry (Eva Philbin Public Lecture Series), and the ICI Postgraduate Award. The deadline for receipt of these nominations is fast approaching - Friday, 13th September 2019. On behalf of Council, may I encourage you to nominate your colleagues and PhD students for these highly prestigious ICI awards. Details of these awards and the nomination process may be found in this issue.

May I congratulate Ms Adele Gaba, NUIG, the inaugural recipient of the ICI postgraduate award, on her outstanding award lecture which she delivered during the 71st Irish Universities Chemistry Research Colloquium, which was jointly hosted by TU Dublin and RCSI on the 20th-21st June 2019. Congratulations also to the Colloquium organising committee on hosting this highly successful Colloquium, which was much enjoyed by both students and staff. One particular highlight of the Colloquium was a round table panel discussion with academic funders and industrial experts. Adele also kindly agreed to represent the ICI as its postgraduate ambassador. In this regard, she recently surveyed Chemistry postgraduate students to get their feedback on how the ICI can better support them. The ICI Council is currently analysing the results from this feedback.

A special congratulations also to Adam Kelly from Skerries Community College, Dublin who represented Ireland at the Intel ISEF 2019 in Phoenix, Arizona. Adam claimed the highly prestigious Dudley R. Herschbach SIYSS award for his open source solution to simulating quantum computing. Further details regarding this award and Adam's success are to be found in this issue.

May I wish you all continued success. If you wish to provide any feedback, please do not hesitate to contact me by email at president@instituteofchemistry.org

Yours sincerely,

Celine Moenion



Editorial

It has been an active summer for chemistry in Ireland with lots of conferences and events with two of them reported in this Issue. Our Annual Congress was held in Maynooth University this year with many of our eminent academic presenting very interesting lectures on the rapidly developing field molecular sensing and imaging. The event was organised by one of our young Council members Robert Elmes from Maynooth University.

Trinity College organise the Cocker Lecture biannually in honour of Professor Cocker and this year a mini symposium was organised to coincide with the Cocker Lecture by Professor Isabel Rosas TCD to honour Professors Jacqueline Barton and Peter Dervan from the US. Professor Jacqueline Barton, an expert on DNA chemistry, delivered the Cocker Lecture this year and was the first female professor to do so.

Science Foundation Ireland have been very active over the last few months with numerous announcements of awards, successes and opportunities and six reports are included here. Enterprise Ireland and the IDA are also very active and a number of reports are also included.

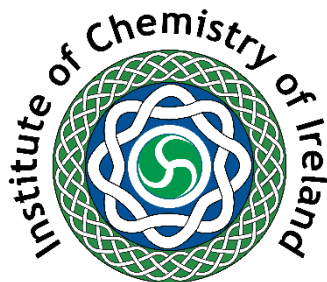
This summer TU Dublin & RCSI jointly hosted the 71st Irish Universities Chemistry Research Colloquium June 20th/21st 2019 on both campuses and a report will follow in the next Issue of Irish Chemical News

Summer is coming to an end and a new academic year looms ahead. Preparations for the European Chemistry Society's (EuChemS) biannual chemistry congress (8ECC) are progressing well for Lisbon, Portugal in August-September next year and the agenda is well now developed. Please watch out for announcements and updates. Now is the time to prepare and budget to attend this growing prestigious international conference. By sending delegations from Ireland in 2020 it will lay the foundations for strong attendance in Dublin in 2022.

Comments and Responses are welcome and can be sent to:-

info@instituteofchemistry.org

Patrick Hobbs MSc, FICI, CChem, CSci, MRSC.
Editor



The Institute of Chemistry of Ireland
is delighted to announce the call for nominations for the following prestigious ICI awards:

The ICI Boyle Higgins Gold Medal and Lecture Award 2020
The ICI Annual Award for Chemistry (Eva Philbin Public Lecture Series) 2019
The ICI Postgraduate Award 2019

Deadline for receipt of nominations: Friday, 13th September, 2019

The Boyle Higgins Gold Medal and Lecture Award 2020

The Boyle Higgins Gold Medal and Lecture Award, instituted in 1985, is an award for research work carried out in chemistry under the headings: (a) Pure Chemistry, (b) Applied and Industrial Chemistry or (c) Chemical Education. The award recognizes a chemist **of any nationality working in Ireland or a chemist who is an Irish citizen working overseas** who has made **an outstanding and internationally recognised research contribution to the advancement of chemistry**. A person nominated for this award must be a member of the Institute at the time of nomination or upon receipt of the award.

Nomination process: The nominator shall indicate in writing to the President of the Institute the category which applies to their nominee and they shall submit by email one electronic copy which will include a brief statement outlining the reasons for the nomination, together with a CV (maximum 3 pages) of the nominee. Nominations will be externally reviewed by two independent referees, who are recognised experts in the category and who are not nominators.

The ICI Annual Award for Chemistry (Eva Philbin Public Lecture Series) 2019

This award is for a practising chemist, who has made a significant contribution to the advancement of chemistry and has considerably raised the profile of chemistry through both the excellence of their work and their ability to communicate in an effective and lucid manner. **The recipient, who may be an Irish or international chemist of repute**, will present lectures in three locations in Ireland (including Dublin), which will be open to the public. A person nominated for this award must be a member of the Institute at the time of nomination or upon receipt of the award.

Nomination process: The nominator shall send one electronic copy of their nomination by email to the President of the Institute, which will include a cover letter providing a brief statement outlining the reasons for the nomination, together with a CV (maximum 3 pages) of the nominee. Nominations for this award will be externally reviewed.

The ICI Postgraduate Award 2019

The nominee must be a **registered PhD student in any Chemistry discipline working in an Irish Higher Education Institution**. They must have demonstrated excellence in research through publications. They must also have demonstrated a commitment to supporting and promoting Chemistry within their Institution (e.g. through active participation in public engagement initiatives). A person nominated for this award must be a member of the Institute at the time of nomination or upon receipt of the award.

Nomination Process: The nominator, who must be the student's PhD supervisor, shall send one electronic copy of their nomination by email to the President of the Institute, which will include a cover letter providing a brief resume of the reasons for the nomination, together with a CV (maximum 2 pages) of the nominee.

ICI website: <http://www.chemistryireland.org/>

Nominations to be sent to the ICI President at: president@instituteofchemistry.org



EuChemS

Chemistry Congress

**30 August to 3 September
2020 • LISBON.PT**

INVITATION TO THE 8th EuChemS Congress

The Portuguese Chemical Society (SPQ), with the support of the Portuguese Electrochemical Society (SPE), has the great pleasure of inviting you to the 8th EuChemS Chemistry Congress (8ECC), to be held in Lisbon, Portugal, from August 30 to September 3, 2020.

The 8ECC will be built under the unifying theme of Chemistry the Central Science, providing an exciting scientific program led by world class experts, and will focus on the central role of chemistry at the interfaces with biology, material and environmental sciences, both for the progress of humankind and for the solution of fundamental problems of modern societies.

This will be an excellent opportunity to enjoy Lisbon, a historic capital full of charm, with more than 800 years of culture blended with modern lifestyle.

The Lisbon Conference Centre, facing the Tagus river, is the perfect place to hold a unique event that will showcase the most recent advances of chemical sciences in Europe and around the world, and will allow fruitful discussions in every area of chemistry.



9th EuChemS European Chemistry Congress to be held in Dublin, Ireland, in 2022

<http://www.euchems.eu>

At the recent meeting of its Executive Council, The European Chemical Society (EuChemS) awarded the 9th EuChemS European Chemistry Congress to Dublin. This prestigious congress is held every two years and brings together the leading researchers and industry partners in all chemistry disciplines from across Europe and the wider international arena.



Ireland Section

The organisers expect up to 3,000 delegates from around the globe to attend the event in The Convention Centre Dublin, in 2022. The five-day programme will consist of plenary and parallel lectures, poster sessions, symposia, networking events, and an industrial exhibition, and will also be part of a wider programme of events in 2022 celebrating the centenary of the Institute of Chemistry of Ireland.

The European Chemical Society, was official announced at ECC7 in Liverpool, August 2018. Formerly (2004–2018) the European Association for Chemical and Molecular Sciences (EuCheMS) and before that (1970–2004) the Federation of European Chemical Societies (FECS).

The European Chemical Society (EuChemS) coordinates the work of almost all the European Chemical Societies. As an organization, it provides an independent and authoritative voice on all matters relating to chemistry, and places chemistry at the heart of policy in Europe. Furthermore, EuChemS seeks to develop its members through various activities, workshops and awards.

Under the new EuChemS the next Congress, ECC8 will be hosted by **The Portuguese Chemical Society** (SPQ), with the support of the **Portuguese Electrochemical Society** (SPE), invites you to attend this must go to series of European chemistry conferences, the 8th EuChemS Chemistry Congress (8ECC), to be held in Lisbon, Portugal, from August 30 to September 3, 2020.



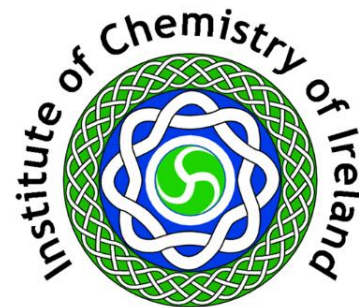
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44th Annual Congress 2019 of the Institute of Chemistry of Ireland Molecular Sensing & Imaging

The 44th Annual Congress of the Institute was held on the 20th May at Maynooth University. Organised by Council member Dr Robert Elms, Maynooth University and brought together a group of renowned participants, invited speakers and poster presentations. The Congress combined the best of chemistry research in Ireland and from abroad covering a broad range of topics relevant to the congress title, opening up lines of communication and collaboration around the world. Introductions were made by Dr Jennifer McManus, Head of Department, MU, Prof Celine Marmion, President ICI, and Dr Rob Elms, MU.



Dr Jennifer McManus, Head of Department



Prof Celine Marmion, RCSI



Dr Robert Elms, Maynooth University

The first speaker was Prof A P De Silva, QUB and his lecture delivered with characteristic humour and flair was titled:

‘Fluorescent Sensing and Logic Systems’



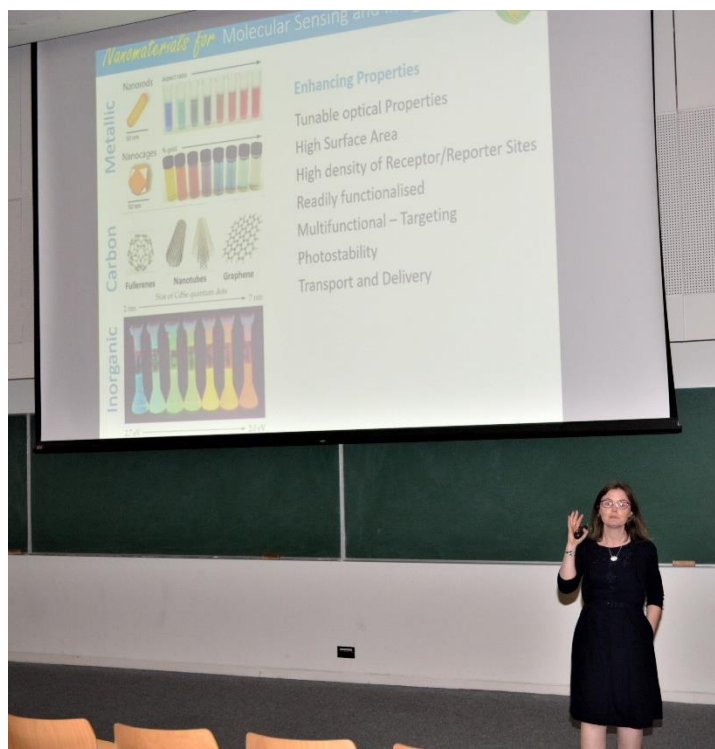
Second speaker was **Prof Frances Heaney** with a lecture titled:

‘Selective Fluorimetric ‘Turn-Off’ Cu(II) Detection by Two Different Mechanisms’



Third speaker was UCD's **Prof Susan Quinn** and her lecture was:

'Controllable Assembly of Gold Nanoparticles Leads to Tuneable Plasmon Coupling and SERS Activity in the Bulk, and for Single Composite Particles'



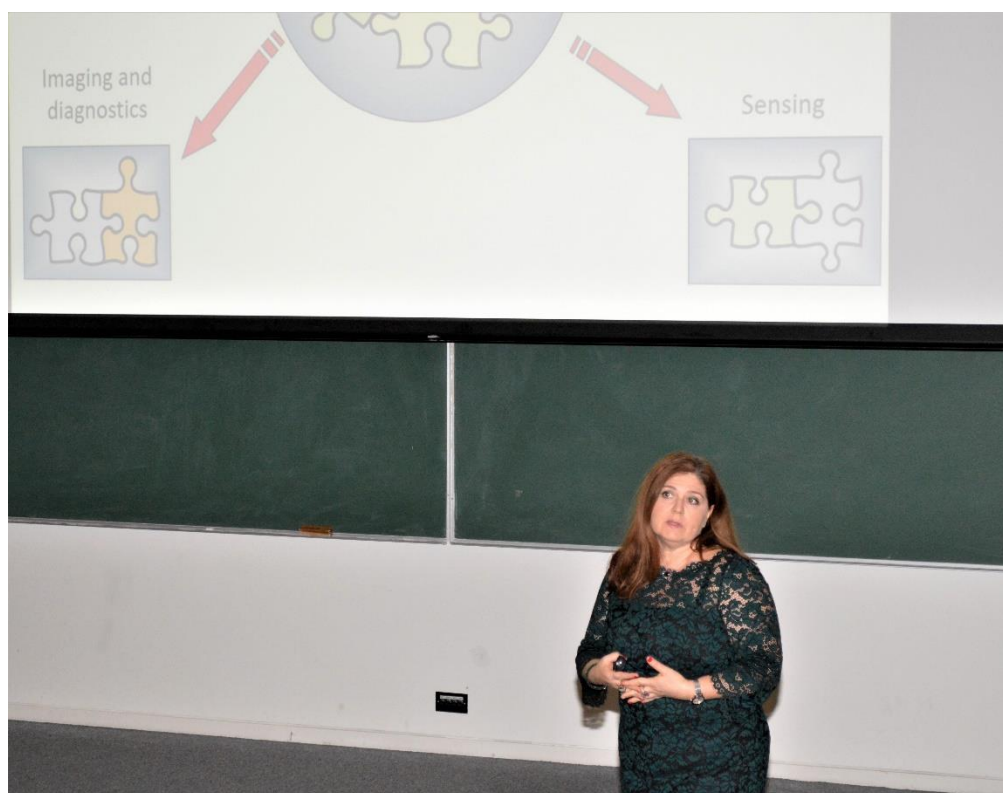
After the coffee break we had **Prof Donal O'Shea** (RCSI):

'Real-Time Near Infrared Fluorescence Imaging: Research Tools with the Potential for Clinical Use'



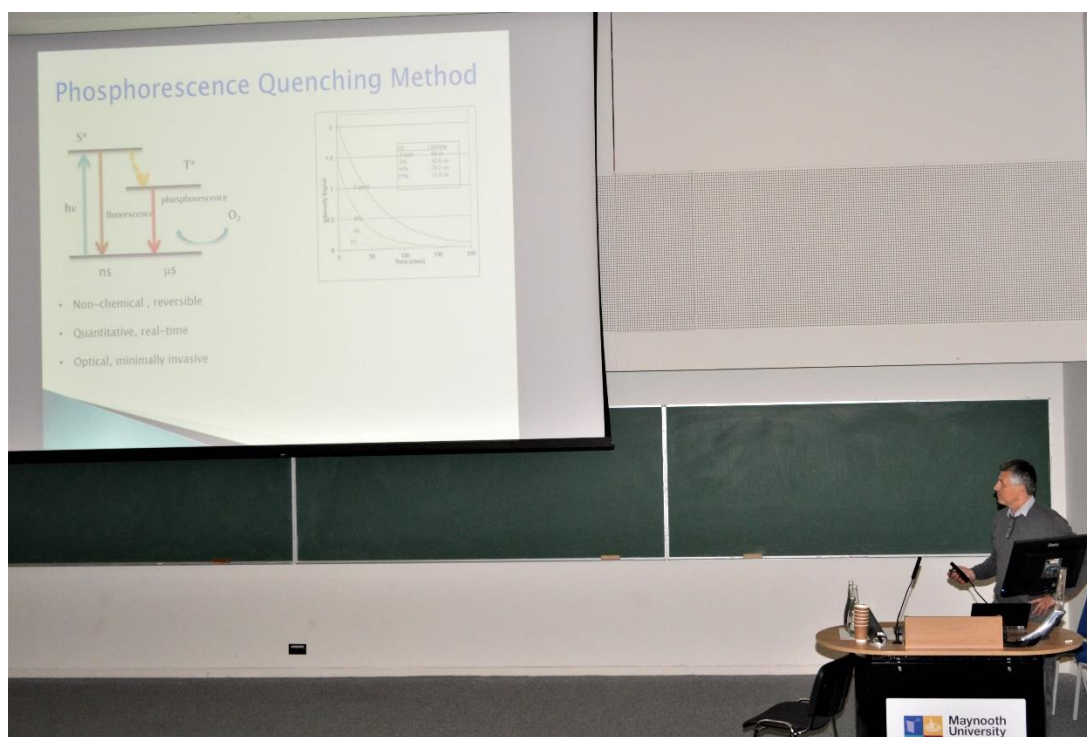
Following lunch first up was **Prof Silvia Giordani**, DCU with her lecture:

'Carbon Nano Onions for Imaging and Targeted Delivery'



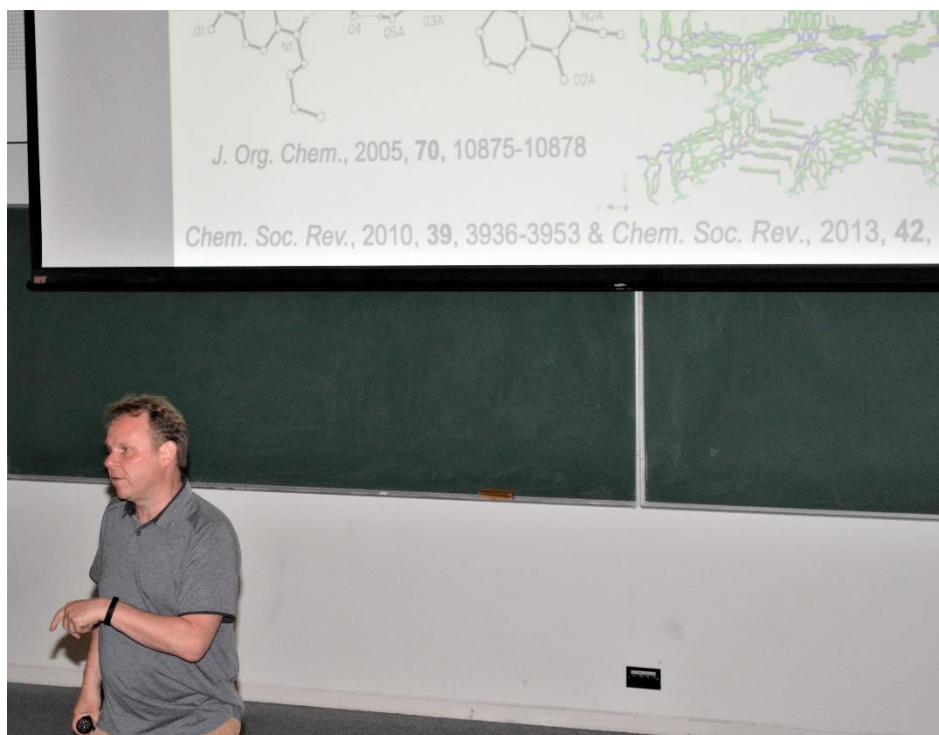
Prof. Dmitri Papkovsky (University College Cork)

'Phosphorescent O₂ Sensors and Imaging Probes for Biomedical and Life Science Research'



Prof. Thorri Gunnlaugsson (Trinity College Dublin)

'Luminescent Supramolecular Architectures as Sensors, Imaging Agents and Molecular Logic Gate Mimics'

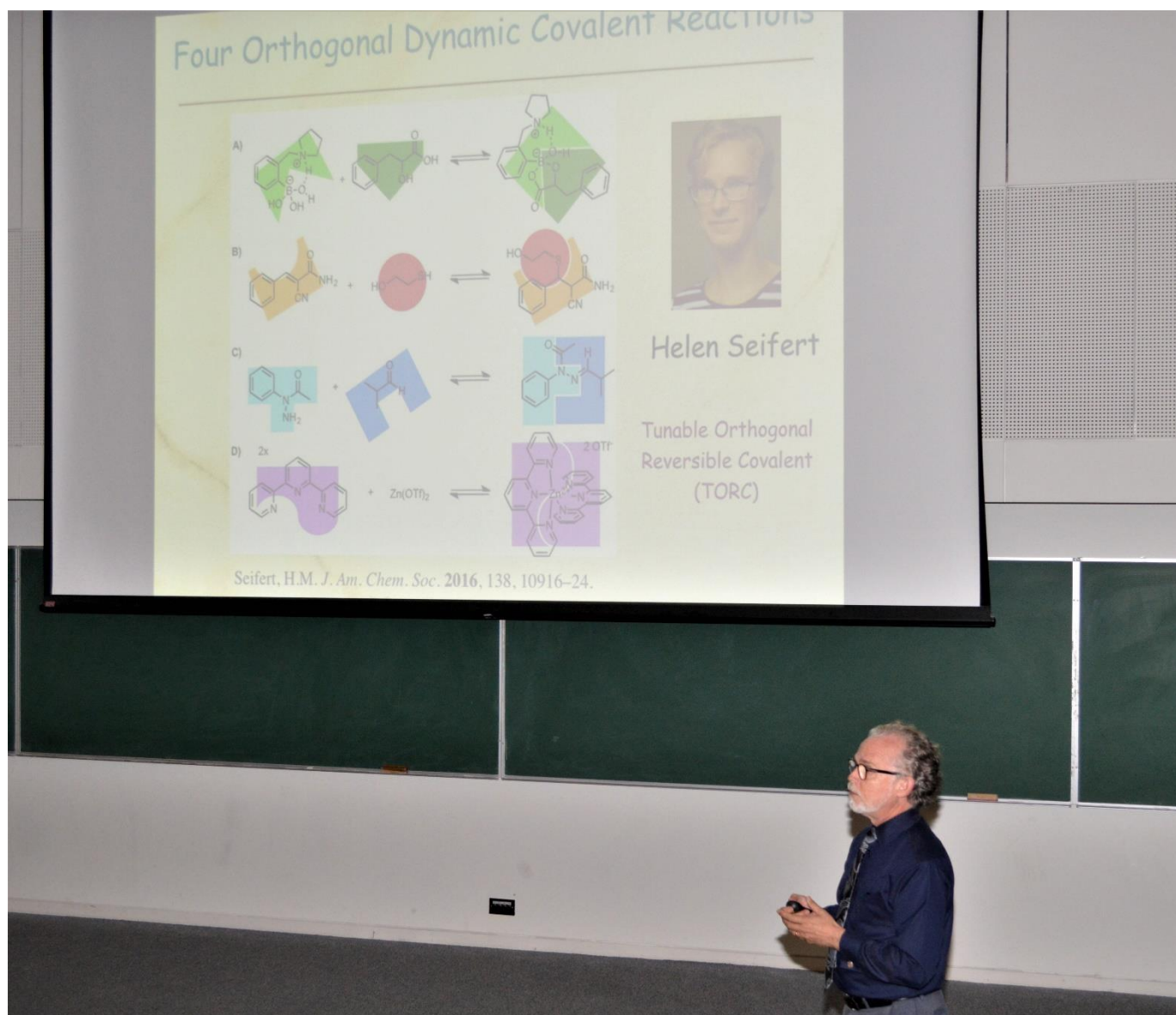


Prof. Tia Keyes (Dublin City University)

'Probing Lipid Structures in Cells and Model Membranes'



Prof. Eric Anslyn (University of Texas at Austin, USA, and QUB)
'Studies in Reversible Covalent Bonding: Assembly, Click/Declick, and Auto-Induction'



Following Prof. Eric Anslyn lecture we had the Closing Remarks followed by a reception in the foyer.

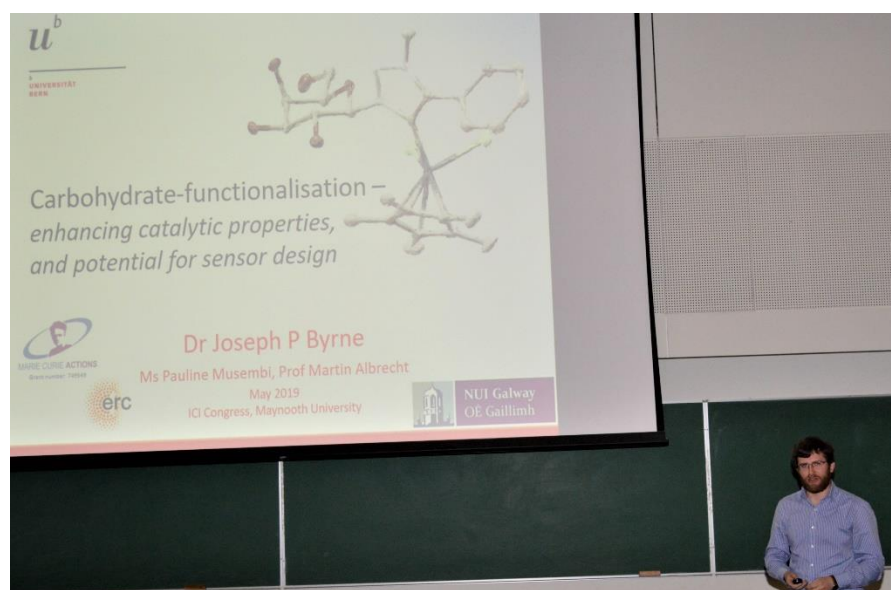
Before lunch we had five Flash Presentations



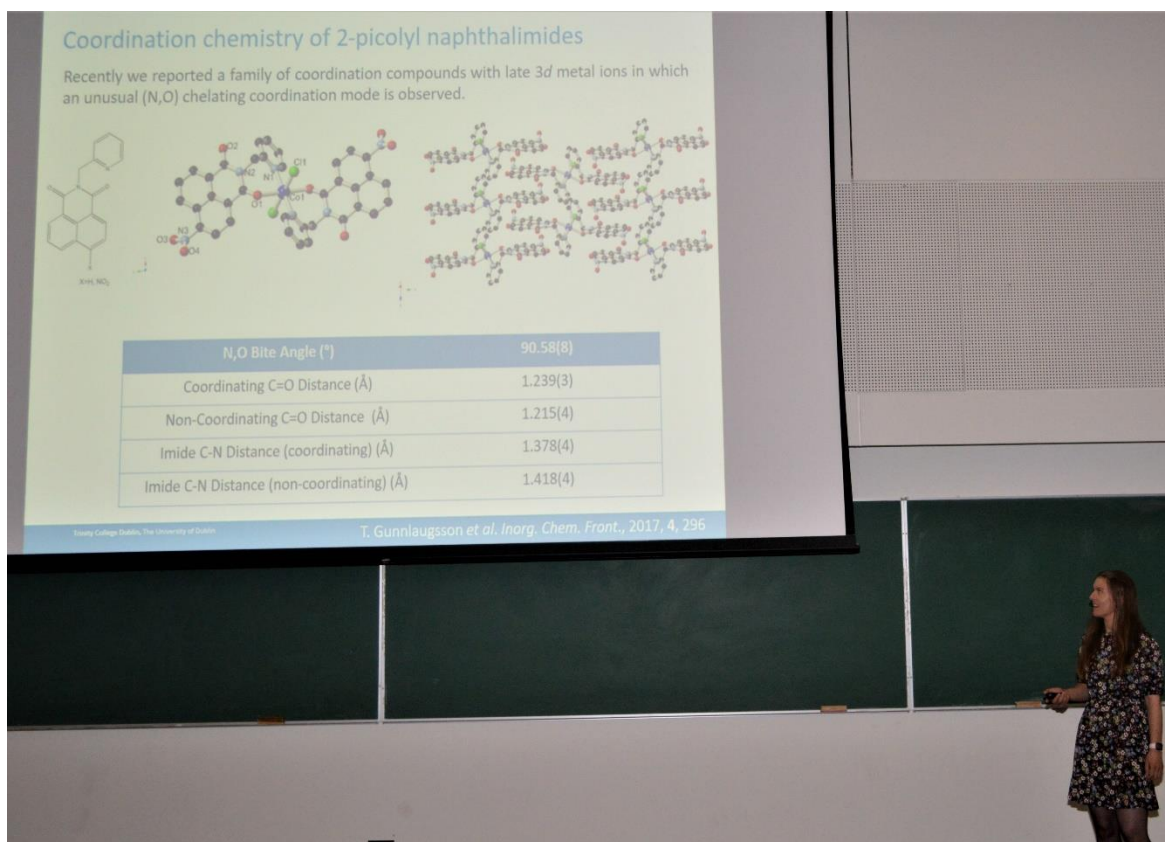
Dr Adalberto Camisasca



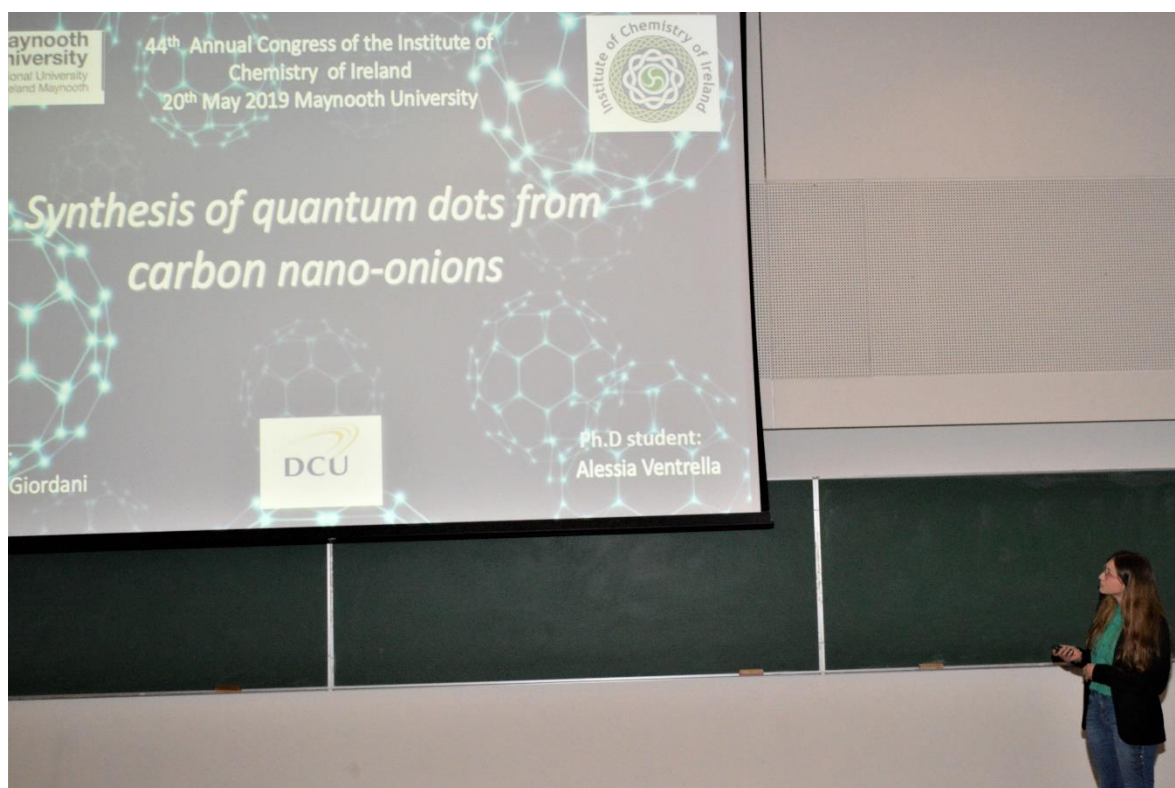
Dr Lokesh Kumar Kumawat Maynooth University



Dr Joseph Byrne NUI Galway



June Lovitt TCD PhD Student



Alesia Ventrella DCU PhD student

Poster Prizes sponsored by Lennox



Rob Elmes with Poster Winner Alesia Ventrella, DCU & ICI Treasurer John Keegan



Rob Elmes with Poster Winner Darragh O'Connor, DCU & ICI Treasurer John Keegan

Runner Up Poster Winners were:

Lokesh Kumar, Maynooth University

Emanurle Caoello, TCD

Networking Opportunities

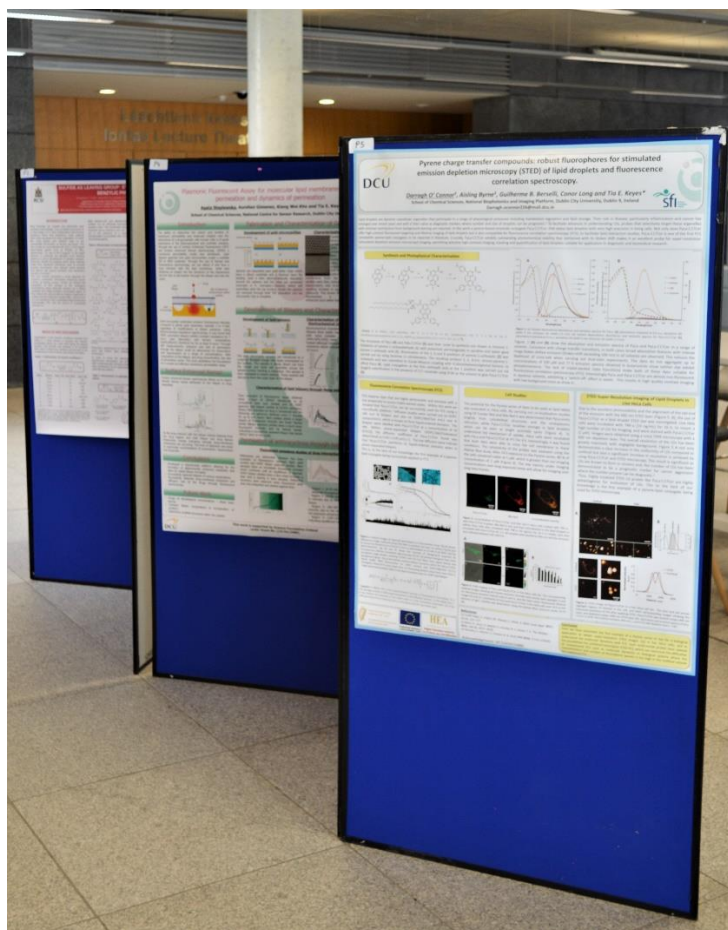


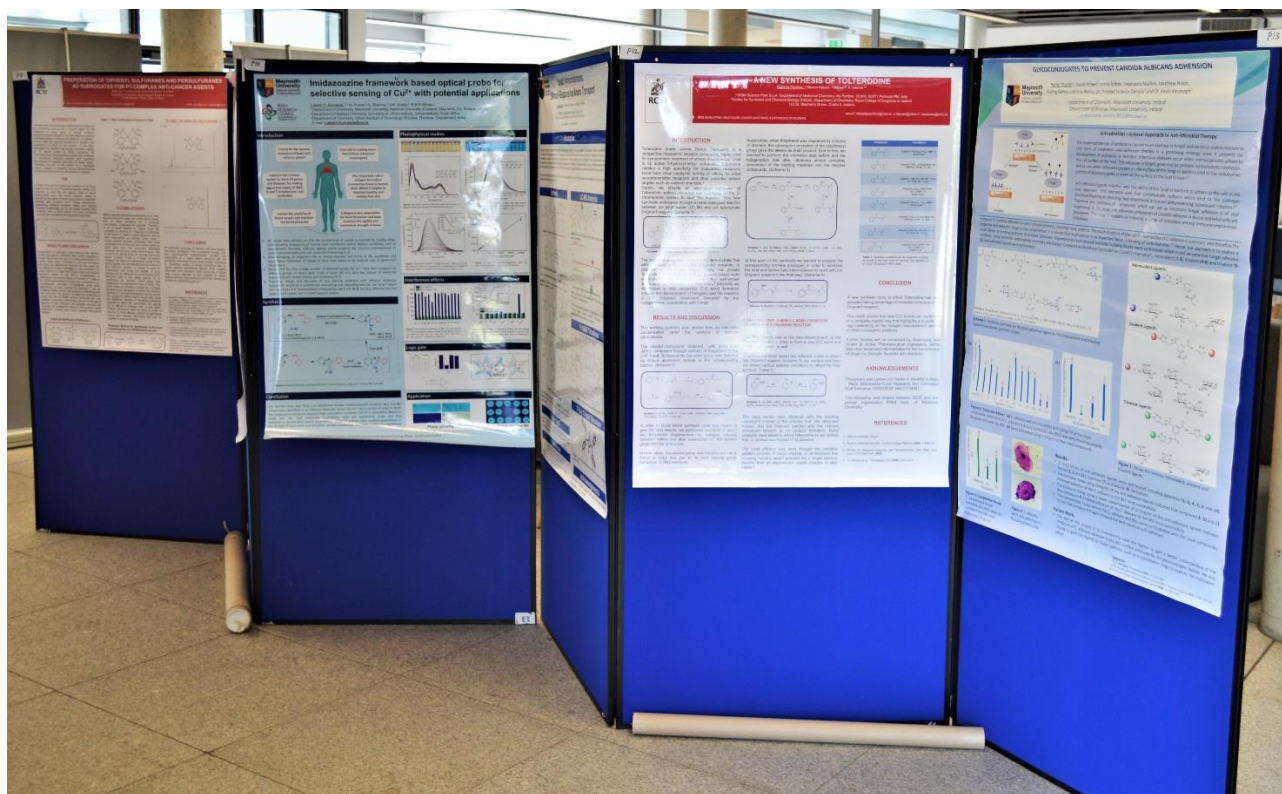
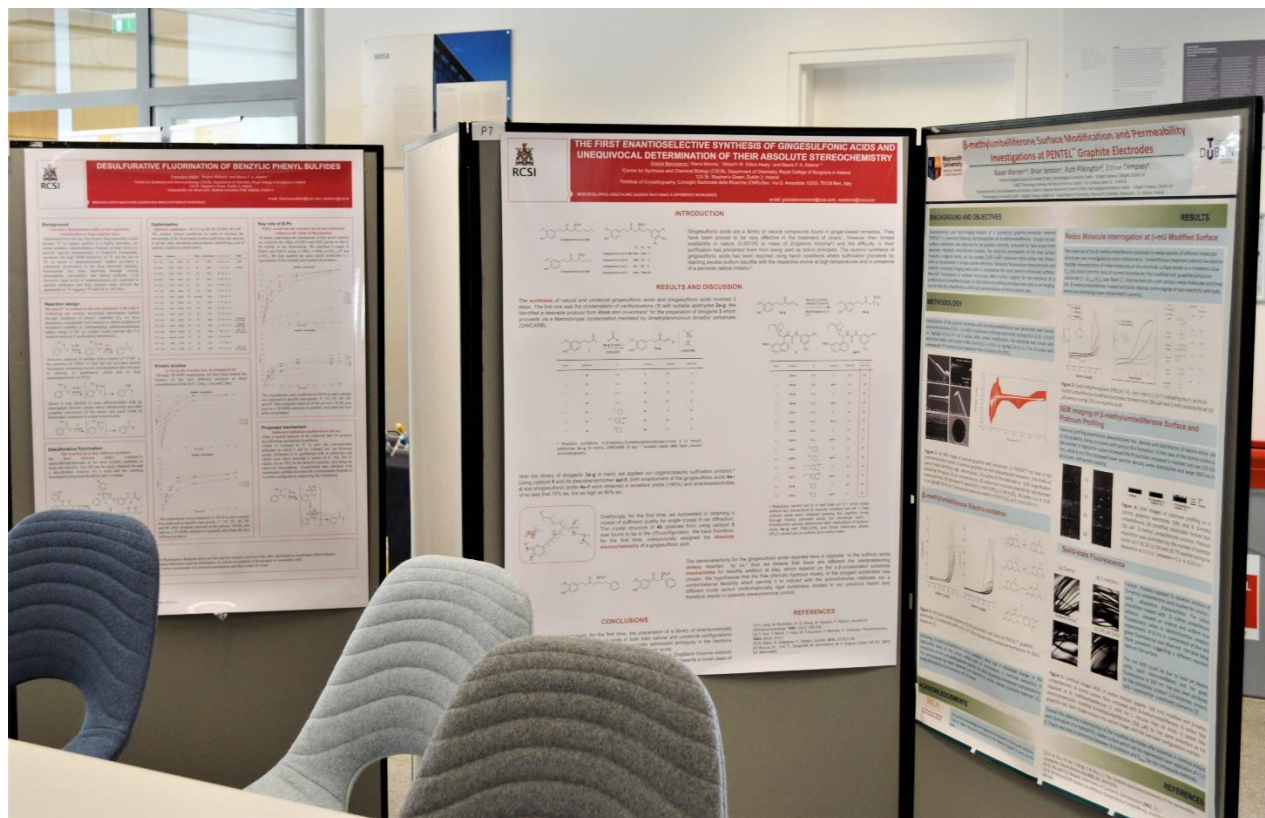




Rob Elmes research group: from left Lokesh Kumawat, Rob Elmes, Hua Tong, Kuke Marcgetti and Ales Grundzi all at Maynooth University

Posters





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TCD Mini Symposium in honour of Professors Jacqueline Barton and Peter Dervan



Professor Jacqueline Barton, an expert in the chemistry of DNA, visited Trinity recently to deliver the Cocker and RSC Centenary Prize Lecture to over 150 students and researchers. She became the first female to present the Cocker Lecture in the [School of Chemistry](#).

Professor Barton's visit coincided with the day the latest cohort of Trinity Chemistry graduates received their results. While here, she and her husband, Professor Peter Dervan, talked to current postgraduate students and attended a mini-symposium showcasing DNA-based research in Ireland, before she delivered her lecture on DNA signalling.

This lecture, held biennially, honours the contribution to Trinity's School of Chemistry by Wesley Cocker, who was the Chair of General Chemistry and University Professor of Chemistry until 1978. In addition the talk formed part of a short lecture series given by Professor Barton and arising from her award of the Royal Society of Chemistry's Centenary Prize in 2018.



Bren Professor of Chemistry, Caltech Division of Chemistry and Chemical Engineering

Professor Dervan's research program addresses a wide range of fundamental problems at the interface of organic chemistry and biology. Elucidating the chemical principles for the molecular recognition of DNA by small molecules and their use in biology, in particular gene modulation and DNA detection, are unifying themes.

<http://dervan.caltech.edu/dervan.html>

Photos



Speakers



Andrew Kellett DCU: Recent Advances in Copper(II) Artificial Metallonuclease Design



Celine Marmion (left), RCSI: Rational Design and Development of Multi-Functional Metallodrugs: Breaking the Cancer Drug Resistance Paradigm?



Aidan McDonald, TCD: Mimicking Class Ib Ribonucleotide Reductases



Susan Quinn, UCD: Good Vibrations: Identifying the DNA Binding Site of the Ruthenium Light Switch Complex in Solution



John Kelly & Thorri Gunnlaugsson, TCD: TAP Keeps Flowing - Ruthenium Complexes and DNA since the 1980s.

Joint presentation (sequential)



Robert Elmes, Maynooth University: 1,8-Naphthalimide Conjugates for DNA Targeting



Isabel Rosas, TCD, event organiser: 'Groovy' Targets: DNA and Guanine Quadruplexes



Joanna McGouran, TCD: Probing DNA Damage Repair



Prof Sylvia Draper, TCD Department Head introducing Prof Jacqueline Barton



Prof Jacqueline Barton delivering the Cocker Lecture



Some of the chemists attending the Cocker Lecture



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UK-Ireland joint initiative to invest €38.6m in training students EPSRC-SFI Centres for Doctoral Training to link world-leading SFI Research Centres and UK Higher Education Institutions

4th February, 2019 Dublin

Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, today announced an investment of approximately €39 million to support the involvement of SFI Research Centres in seven new joint Centres for Doctoral Training (CDTs). The awards have been made under a new partnership between Science Foundation Ireland and Engineering and Physical Sciences Research Council (EPSRC), which is part of UK Research and Innovation (UKRI).

The CDTs represent one of the UK's most significant investments in research skills, supporting over seventy centres that will equip the next generation of doctoral level researchers across engineering and physical sciences. The seven joint awards between Ireland and the UK will enable doctoral students based in Irish institutions to benefit from training opportunities and collaboration with Higher Education Institutions in the UK.

Welcoming the seven awards made to SFI Research Centres, Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, said: *“I am pleased to announce this new collaboration that will provide training opportunities for doctoral students in both the UK and Ireland. These new PhD training initiatives will provide opportunities for talented students in SFI Research Centres across Higher Education Institutions. Cultivating and maintaining positive research and development collaborations between Ireland and the UK, as well as the rest of the world, is a priority for the Irish Government, and the Department of Business, Enterprise and Innovation is thrilled to be working with the EPSRC on this programme.”*

Under the EPSRC-SFI partnership, Science Foundation Ireland will fund students based at an SFI Research Centre who will be integrated into the CDT, with training taking place in both the UK and Ireland. These joint activities will establish and strengthen collaborations at student, supervisor and institutional levels.

The successful Centres will focus on cohort-based doctoral training and cover a wide range of fields, from Advanced Data Storage to Transformative Pharmaceutical Technologies.

The seven UK-Ireland collaborations are:

- IPIC, the SFI Research Centre for Photonics with Queens University Belfast and University of Glasgow: EPSRC CDT in Photonic Integration and Advanced Data Storage
- I-Form, the SFI Research Centre for Advanced Manufacturing with University of Sheffield and University of Manchester: EPSRC CDT in Advanced Metallic Systems: Metallurgical Challenges for the Digital Manufacturing Environment
- CÚRAM, the SFI Research Centre for Medical Devices with University of Glasgow, Aston University and University of Birmingham: EPSRC CDT in Engineered Tissues for Discovery, Industry and Medicine
- SSPC, the SFI Research Centre for Pharmaceuticals with University of Nottingham and University College London: EPSRC CDT in Transformative Pharmaceutical Technologies
- MaREI, the SFI Research Centre for Marine and Renewable Energy with University College London and Loughborough University: EPSRC CDT in Energy Resilience and the Built Environment
- AMBER, the SFI Research Centre for Advanced Materials with Imperial College London and University College London: EPSRC CDT in Advanced Characterisation of Materials
- BEACON, the SFI Research Centre for the Bioeconomy with University of Nottingham: EPSRC CDT: Atoms-to-Products an Integrated Approach to Sustainable Chemistry

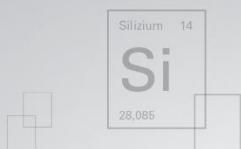
Professor Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland, said: *“Science Foundation Ireland is delighted to collaborate with EPSRC on this excellent programme. Ireland and the UK are key drivers of impactful, world-leading research and it is important that we continue to strengthen our partnerships. The level of investment in the Centres for Doctoral Training is significant and represents our commitment to prepare graduates for careers in research and beyond, and the emphasis we place on progressing international alliances and global opportunities for our researchers. I would like to congratulate the seven SFI Research Centres on their success in this programme and look forward to working with EPSRC over the coming years.”*

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€3.6 Million Invested in Projects to Promote Science, Technology, Engineering and Maths (STEM) in Ireland

41 projects receive funding to improve public understanding of STEM and to support education initiatives for under-represented groups

Dublin, 14th February, 2019

Minister for Training, Skills, Innovation, Research and Development, John Halligan TD, today announced a national investment of €3.6 million through Science Foundation Ireland's Discover Programme, to fund projects dedicated to educating and engaging the public in science, technology, engineering and maths (STEM).

Science Foundation Ireland, through its SFI Discover Programme, aims to develop a highly-engaged and scientifically-informed public. Through the SFI Discover Awards, it provides funding for projects that inspire and guide the best in STEM education and public engagement.

41 diverse initiatives will be supported by this year's programme, with successful awardees being carefully selected through international peer-review. A further 11 projects that were awarded in 2017, will also have their funding continued for a second year.

Speaking at the SFI Discover Awards event, Minister Halligan said: *"Science Foundation Ireland's work in promoting science, technology, engineering and maths to the public stimulates very important public conversations around scientific research and encourages young people to consider pursuing a career path in these areas. To address the many global challenges we face across society and the economy, we must ensure that future generations of problem solvers have the opportunity to be inspired. Ireland continues to act as a hub for excellent research and the initiatives being funded through this year's SFI Discover programme will help to generate enthusiasm for STEM and highlight the individual, societal and economic value of encouraging more people in Ireland to get involved."*

A number of the projects receiving funding are specifically targeted towards engaging girls and women in STEM:

- **SOPHia: Science Outreach to Promote Physics to Female Students (UL)** - a project that aims to encourage female students to take up physics as a Leaving Certificate Subject.
- **STEMChAT – Women as catalysts for change in STEM education (UL)** – looks at the recruitment of female undergraduate STEM Champions and industry mentors who will facilitate informal workshops with school students and parents, predominantly in disadvantaged areas.
- **Strength in Science (NUIG)** – The development of cross-curricular resources for science and PE teachers that are linked with the Biology, Physics and PE curricula that will increase girls’ interest in both learning science and participating in exercise
- **Engaging Girls in CS - Code Plus (TCD)** – Female-only coding workshops facilitating a cohort of female speakers working in computing, to deliver career talks in girls’ schools. Tech companies will host visits for teenage females.
- **Girls in DEIS Schools: Changing Attitudes /Impacting Futures in STEM (UCD)** - Students will engage with STEM by exploring the lives and impact of several female STEM pioneers, both historical and contemporary.
- **Let's talk about STEM: supports for girls' early science engagement (DCU)** - Parents and educators will participate in workshops to consider evidence on the role of language in differentially motivating girls’ and boys’ interest in and persistence with scientific learning

Speaking about the Programme, Interim Director of Science for Society at Science Foundation Ireland, Margie McCarthy, said: *“The SFI Discover Programme encourages people from all walks of life to become informed about, and engaged with, STEM. Through SFI Discover we harness the creativity of diverse engagement initiatives to motivate more people to explore STEM in meaningful ways, and we aspire to create a brighter future for Ireland together. The projects being announced today are very exciting and I look forward to working with them to inspire our future scientists, engineers and innovators.”*

Science Foundation Ireland has invested in over 240 public engagement projects through the Discover Programme since 2013. This year's funded initiatives are estimated to reach over two million people.

A full list of SFI Discover Programme 2018 funded projects can be viewed [here](#).

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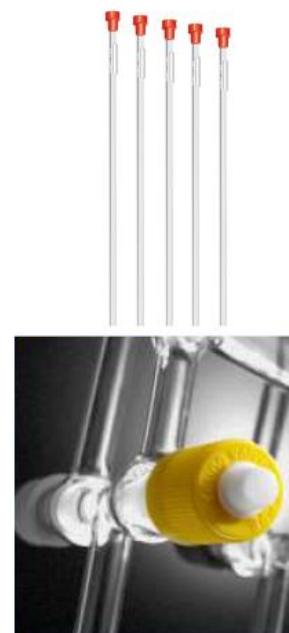
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Ministers Humphreys and Halligan announce 12 teams competing for €1 million SFI Future Innovator Prize

Multidisciplinary teams compete for €1 million prize in Science Foundation Ireland challenge to develop disruptive solutions to societal issues.

25 February, 2019

Minister for Business, Enterprise and Innovation, Heather Humphreys TD, and Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, today announced the twelve teams in the running for the SFI Future Innovator Prize, a new challenge-based prize programme calling on researchers to develop innovative approaches to societal challenges facing Ireland. With five teams to be shortlisted in April of this year, an overall winning team will be announced in December and receive a prize award of €1 million, providing the opportunity to implement an innovative solution with potential to deliver significant impact to Irish society.

Congratulating the competing teams, **Minister for Business, Enterprise and Innovation, Heather Humphreys TD**, said: *“The Department of Business, Enterprise and Innovation launched the SFI Future Innovator Prize with Science Foundation Ireland to encourage bright minds across the country to work together to identify major challenges facing Ireland’s society, and to propose creative and impactful solutions to them. It is very exciting to enter into the next phase of the competition with twelve teams of diverse and interdisciplinary individuals. Their innovative ideas are of a superb standard and I am confident that ultimately, the prize award of €1 million will support research that will provide Ireland with positive, tangible impact.”*

The SFI Future Innovator Prize, funded by the Department of Business, Enterprise and Innovation through Science Foundation Ireland, is part of an overall government plan to cultivate challenge-based funding in Ireland. Challenge-based funding is a solution focused

approach to funding research that uses prizes and other incentives to direct innovation activities at specific problems. The SFI Future Innovator Prize challenges the country's best and brightest unconventional thinkers and innovators to create novel, potentially disruptive technologies in collaboration with societal stakeholders and end-users.

Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, said: *“The excellent standard of the projects demonstrates the importance of continuing to implement competitive and challenge-based funding in the Irish ecosystem, which will ensure that obstacles which impact the everyday lives and the future of our citizens are addressed in novel ways. I want to congratulate each of the teams for succeeding to this phase of the competition, and to wish them all the very best of luck with the next stage.”*

The 12 proposed projects aim to address problems across a number of strategic challenge areas such as sustainable manufacturing, reducing the impact of packaging, novel technologies for life sciences and medicine, improved outcome for patients of such illnesses as cataracts, osteoarthritis, cancer, Epidermolysis bullosa (EB) and sepsis, minimisation of mining emissions and the cost of electric vehicles, pain management, and improved healthcare delivery.

The challenge areas and issues to be addressed are as follows:

- **Challenge area: Reducing the Environmental Impact of High-Tech Surfaces Manufacturing**

Team: Dr Eoin Flynn (Materials Chemistry, UCC); Dr Paul Young (Biochemistry and Cell Biology, UCC); Dr Keith Alden (AMBER SFI Research Centre, TCD)

Project: *Designed Environmentally Sustainable Thin-Films Utilising Renewable Biopolymers (DESTURB)*

- **Challenge area: Creating Next Generation Personalised Orthopaedic Implants**

Team: Prof Rocco Lupoi (Mechanical and Manufacturing Engineering, TCD); Prof David Hoey (Biomedical Engineering, TCD); Patrick Byrnes (Research and Development Manager, Croom Precision Medical)

Project: *Genetic algorithm aided optimisation of the mechanical structure of orthopaedic implants for revision-free life cycles*

- **Challenge area: Reducing the Burden of Sepsis**

Team: Dr Elaine Spain (Analytical Chemistry, DCU); Dr Kellie Adamson (Diagnostics and Therapeutics and Biomaterials Science, DCU); Prof Gerald Curley (Sepsis Lead, RCSI Network of Hospitals, Beaumont Hospital)

Project: *SepTec: Improving Outcomes for Sepsis Patients*

- **Challenge area: Harnessing Gene Editing to Treat Rare Diseases such as Epidermolysis bullosa (EB)**

Team: Prof Wenxin Wang, Dr Irene-Lara Sáez and Mr Jonathan O’Keeffe-Ahern (Charles Institute of Dermatology, UCD); Dr Nan Zhang (Mechanical and Materials Engineering, UCD); Dr Sinead Hickey (Research Manager, DEBRA Ireland)

Project: *A disruptive, non-viral gene editing platform technology for treating genetic conditions*

- **Challenge area: Reducing the Environmental Impact of Packaging**

Team: Dr Adriana Cunha Neves (Biochemistry, IT Carlow); Dr Brian Casey (Biomaterials, IT Carlow); Martina Moyne (Product Design, IT Carlow)

Project: *Developing bioplastic packaging that improves user convenience using human-centred design engineering processes*

- **Challenge area: Enabling Next Generation Biological Imaging**

Team: Prof Dominic Zerulla (Physics and Plasmonics, UCD); Dr Dimitri Scholz (Biology and Director of the Conway Imaging facilities, UCD); Peter Doyle (consulting the European Commission with the Brussels Photonics Team on strategic innovation and business development)

Project: *Real-time imaging of nanoscale biological processes via plasmonically enabled nanopixel arrays*

- **Challenge area: Enabling Better Breast Cancer Diagnosis**

Team: Dr Eric Moore (Analytical Chemistry, TNI/UCC); Mr Martin O'Sullivan (Lead Surgeon, BreastCheck Southern Unit and UCC); Liosa O'Sullivan (Patient Advocate)

Project: *Development of a technology for clinicians to improve the breast cancer diagnostic pathway through real time point of care detection of breast disease.*

- **Challenge area: Reducing the Environmental Impact of Mining Emissions**

Team: Prof Igor Shvets (Physics, TCD); Sebastian Harenbrock (Research Fellow, TCD); John Guven (Senior Geologist, iCRAG SFI Research Centre, UCD)

Project: *Reducing mining industry emissions through spectroscopic-based sorting of mineral ores and machine-learning algorithms*

- **Challenge area: Creating Eco-Friendly and Cost-Effective Super Magnets for Electric Vehicles**

Team: Dr Ansar Masood (Physics and Material Science, TNI); Dr Paul McCloskey (Material Science, Microelectronics and Chemical Engineering, TNI); Wassim Derguech (Senior Software Engineer, Jaguar Land Rovers)

Project: *A novel sustainable electric motor using high-grade permanent magnets based on common metallic elements*

- **Challenge area: Reducing the Burden of Chronic Pain**

Team: Dr Alison Liddy (Biomedical Engineer and Chemist, NUIG); Dr Martin O'Halloran (Senior Lecturer in Medical Electronics, NUIG); Dr Chris Maharaj (Consultant Anaesthetist & Pain Specialist, University Hospital Galway); Dr Barry McDermott (Pharmacist, Veterinarian and Medical Device Engineer, NUIG); Dr Conor Judge (M.D., Electronic Engineer and ICAT Research Fellow).

Project: *A novel hydrogel to address chronic pain in Irish patients*

- **Challenge: Minimising Hospital Waiting-lists and Optimising Healthcare Capacity**

Team: Prof Barry O'Sullivan and Helmut Simonis (School of Computer Science and Insight Centre for Data Analytics, UCC); Dr Jane Bourke (Economics, Technology Adoption and Health Care Innovation, UCC); Prof Martin Curley (Director, HSE Digital Academy)

Project: *An artificial intelligence and data analytics system for minimising hospital waiting-lists and optimising healthcare capacity in Ireland*

- **Challenge area: Enhancing Visual Acuity through Disruptive Customized IOL Design**

Team: Prof Fengzhou Fang (Centre of Micro/Nano Manufacturing Technology, UCD); Dr Jufan Zhang (Engineering, UCD); Barry Walsh (Technical Transfer, Alcon Ltd)

Project: *Disruptive customized design and production of accommodative intraocular lenses (IOLs)*

Professor Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland, said: *"I am pleased to congratulate the twelve teams who have made it to this stage of the SFI Future Innovator Prize competition.*

Challenge-based funding is of strategic importance to Ireland, ensuring that publicly-funded research can address significant national and global issues including environmental protection, disease diagnosis and treatment, optimal healthcare, and developing methods of sustainable manufacturing. Competitive funding strategies empower innovators to collaborate in unconventional ways on creative ideas that can ultimately be put into practice, and the proposed projects which we are announcing today are an excellent reflection of that. I would like to commend each team on their hard work and dedication, and to wish them every success in the rest of the competition.”

The competing teams are led by academic researchers and “Societal Impact Champions” drawn from a range of disciplines and stakeholder groups such as industry and civil society in an effort to support convergent and collaborative problem-solving. Competing teams come from Trinity College Dublin (TCD), University College Dublin (UCD), Dublin City University (DCU), NUI Galway (NUIG), University College Cork (UCC), Institute of Technology Carlow (IT Carlow), and Tyndall National Institute (TNI), as well as a number of world-leading SFI Research Centres.

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Minister Humphreys and Minister Halligan announce investment of over €100 million in six new SFI Centres for Research Training

700 students to be trained in digital, data and ICT skills for the future

5th March, 2019

Minister for Business, Enterprise and Innovation, Heather Humphreys TD and Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, today announced an investment of over €100 million in six new [SFI Centres for Research Training](#). The SFI Centres for Research Training programme, the first postgraduate training programme run by Science Foundation Ireland, will provide training for 700 postgraduate students in areas of nationally and internationally identified future skills needs of digital, data and ICT.

The SFI Centres for Research Training are now open for recruitment, and postgraduate students across the country are encouraged to apply for this innovative programme which will build on research excellence in Ireland.

Welcoming the announcement of the SFI Centres for Research Training, Minister for Business, Enterprise, and Innovation, Heather Humphreys TD said: *“In Project 2040, the Government has set objectives that will ensure a strong economic future for Ireland. Delivering on these will require continued investment in skills and talent in research and development, equipping the champions of this future economy with the tools and expertise necessary to build it.*

“The six new SFI Centres for Research Training will bring together the higher education sector and industry to develop and deliver innovative programmes of research and training for postgraduate students in Ireland.

“In line the Government’s new Future Jobs initiative, which we will launch in the coming days, these programmes will allow students to develop and learn about critical technologies for the future in areas like machine learning, artificial intelligence and more. This is all part of our wider effort to ensure that we are preparing now for tomorrow’s economy.

“I want to congratulate the teams involved in forming the centres and encourage postgraduate students across the country to apply to them.”

Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD said: *“It is a government priority to develop and maintain a pipeline of highly trained, well networked research talent in areas of strategic importance for Ireland. Through the SFI Centres for Research Training we will take a cohort-based approach to research training, allowing for better integration and collaboration across disciplines, and ultimately, individuals who are well-rounded, well-equipped, and confident to guide Ireland to a strong economy. The cohort approach will expose students to the wider scientific relevance of their research, encourage peer-to-peer learning and facilitate the establishment of networks, empowering them to take on positions of leadership.”*

The SFI Centres for Research Training will generate strong collaborations between research and industry. They will involve partnerships across multiple Higher Education Institutions including University College Dublin (UCD), Technological University of Dublin (TUD), Dublin City University (DCU), Trinity College Dublin (TCD), Cork Institute of Technology (CIT), University College Cork (UCC), Maynooth University (MU), University of Limerick (UL), NUI Galway (NUIG), Tyndall National Institute (TNI) and Royal College of Surgeons Ireland (RCSI).

A number of SFI Research Centres and approximately 90 major industry partners will also support the SFI Centres for Research Training.

The six SFI Centres for Research Training are:

- [SFI Centre for Research Training in Machine Learning](#)

Dr Brian McNamee (UCD), Dr Georgiana Ifrim (UCD), Prof Sarah Jane Delany (TU Dublin), Prof Noel O'Connor (DCU)

- [SFI Centre for Research Training in Digitally Enhanced Reality](#)

Prof Carol O'Sullivan (TCD), Prof Vincent Wade (TCD), Prof John Kelleher (TU Dublin), Prof Alan Smeaton (DCU), Prof Peter Corcoran (NUIG), Prof Julie Berndsen (UCD)

- [SFI Centre for Research Training in Advanced Networks for Sustainable Societies](#)

Prof Dirk Pesch (UCC), Prof John Barrett (CIT), Dr Deirdre Desmond (MU), Prof Siobhán Clarke (TCD), Prof Max Ammann (TU Dublin), Prof Cormac Sreenan (UCC)

- [SFI Centre for Research Training in Foundations of Data Science](#)

Prof James Gleeson (UL), Dr Claire Gormley (UCD), Prof Ken Duffy (MU)

- [SFI Centre for Research Training in Artificial Intelligence](#)

Prof Barry O'Sullivan (UCC), Prof Tiziana Margaria (UL), Dr Ivana Dusparic (TCD), Dr Derek Bridge (UCC), Dr Suzanne Little (DCU), Dr Paul Buitelaar (NUIG)

- [SFI Centre for Research Training in Genomics Data Science](#)

Prof Cathal Seoighe (NUIG), Dr Eva Szegezdi (NUIG), Prof Denis Shields (UCD), Prof Gianpiero Cavalleri (RCSI), Prof Pavel Baranov (UCC), Prof Aoife McLysaght (TCD)

Professor Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland, said: *"I am very pleased to announce the six new SFI Centres for Research Training. The level of investment in this programme is significant, and demonstrates SFI's commitment to ensuring that future generations of Irish PhD students are well trained in the important field of data analytics and its application to business, health, agriculture etc. Teams of excellent researchers in Irish higher education institutions have teamed up with industrial collaborators and international partners to develop outstanding national programmes of research and training in digital,*

data and ICT skills - the future of both the economy and society .SFI aims for this to be the best programme in the world providing major opportunities for PhD students in Ireland and a rich source of outstanding graduates who will be sought after by employers from both the private and public sectors.”

Operating on a thematic basis in terms of skills needs, the first SFI Centres for Research Training will focus on the area of ‘Data and ICT Skills for the Future’. This area highlighted in particular by the Government’s Future Jobs initiative, which prepares for the future economy by investing in innovative, disruptive technologies. The scope of this thematic area includes innovative software and hardware-based information and communications technologies (ICT) as well as the diffusion of ICT in other application areas of science and technology. With ICT playing a role as a key enabling technology in other application areas of science and technology, the development and adoption of disruptive technologies will also be a focus for this round of funding.

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Minister Bruton Presents Prestigious SFI St. Patrick's Day Science Medal to Leading Gastroenterologist Prof Eamonn Quigley and Boston Scientific Chairman and Chief Executive Officer Mr Michael Mahoney

MIT, Boston, USA, 12th March, 2019

Minister for Communications, Climate Action and Environment, Richard Bruton T.D., has today presented Science Foundation Ireland's (SFI) prestigious St. Patrick's Day Science Medal to Prof Eamonn Quigley, Chief of Gastroenterology and Hepatology, at Houston Methodist Hospital and Weill Cornell Medical College; and Mr Michael Mahoney, CEO and Chairman of the Board of Directors of Boston Scientific, for their significant contributions to academia, research and industry.

Now in its sixth year, the SFI St. Patrick's Day Science Medal also recognises Prof Quigley and Mr Mahoney's significant roles in supporting and engaging with the research ecosystem in Ireland. The medal is awarded annually to US-based scientists, engineers or technology leaders with strong Irish connections. This is the fourth successive year that the medal will be awarded to two recipients, with an eminent recipient chosen by an independent selection committee, from academia and another from industry.

Congratulating the recipients at a presentation event at Massachusetts Institute of Technology, Boston, Minister Bruton said: *"I am very pleased to present the SFI St. Patrick's Day Science Medal on behalf of the Government of Ireland and Science Foundation Ireland, to both Prof Quigley and Mr Mahoney. Both have demonstrated outstanding leadership in their respective fields and have made extremely positive societal impacts in the United States and Ireland. The recognition of US-based scientists, engineers and technology leaders with an Irish connection further highlights the continued strength and durability of US-Ireland relations that exist across a broad range of sectors. The SFI St. Patrick's Day Science Medal is an opportunity to celebrate the fantastic research and collaboration that our two countries are achieving together."*

Prof Eamonn Quigley, a native of West Cork, is a leading international expert in the field of gastroenterology. His career has spanned over thirty years, working on both sides of the Atlantic. A graduate of University College Cork (UCC), and following clinical training in Glasgow, he spent two years as a Research Fellow at the Mayo Clinic in Minnesota. In 1986, he joined the University of Nebraska Medical Center in Omaha, where he was Chief of Gastroenterology and Hepatology. Prof Quigley returned to Cork in 1998, where he served as Dean of the Medical School at UCC for seven years and was a Principal Investigator at the APC Microbiome SFI Research Centre from its inception. He took up his current post in Houston in 2013 where he holds the David M Underwood Chair of Medicine in Digestive Disorders.

Over the course of his career, Prof Quigley has held influential positions of leadership and influence including with the American College of Gastroenterology as President and Editor-in-Chief of the American Journal of Gastroenterology and with the World Gastroenterology Organization as President. His research relationships with global companies such as Proctor and Gamble have directly benefited Irish research through their partnership in the establishment of the SFI Research Centre APC Microbiome Ireland.

Upon receiving the award, Prof Quigley said: *“I am greatly honoured to receive the SFI St. Patrick’s Day Science Medal, which recognises my work in gastroenterology. Working between Ireland and the United States has given me a valuable international perspective that I have brought to my research, clinical practice and teaching. It is important that we recognise, and continue to nurture, the innovative and transformational research taking place between both countries, benefiting our collective societies. I hope this important link between our scientific communities continues to grow in the coming years.”*

Mr Michael Mahoney has nearly thirty years’ experience working with medical devices organisations. Prior to joining Boston Scientific in 2011, he served as Worldwide Chairman of the Medical Device and Diagnostics Group (MD&D) at Johnson & Johnson. US-born, Mr Mahoney has always felt strongly connected to his Irish heritage, with family linking back to Cork and Mayo. Boston Scientific has a long-standing relationship with Ireland, since establishing there in 1994 with the support of IDA Ireland and is now one of the country’s largest employers with 5,000 employees at its sites in Clonmel, Cork and Galway. The company produces devices that help treat more than 30 million patients worldwide annually, including treatments for disorders of the heart and circulatory systems, chronic pain, Parkinson’s Disease,

gastrointestinal and urological conditions. The Irish manufacturing operation is an integral part of the corporations manufacturing strategy and capability.

Speaking of his award, Mr Mahoney said: *“The SFI St. Patrick’s Day Science Medal is a wonderful recognition of the important R&D programs and our strong connection to Ireland at Boston Scientific. Our presence in Ireland has grown over time thanks to the success of our hard-working Irish teams and a strong business ecosystem that is conducive to medtech and R&D. It is exciting to see the best and brightest minds from research institutions, clinical practice, manufacturing companies and government collaborating so that together we can address the most pressing healthcare needs.”*

Congratulating the recipients, Prof Mark Ferguson, Director General, Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland, said: “The outstanding work of both Eamonn and Mike is a fantastic example of the global reach of Irish science, engineering and technology. We continue to go from strength to strength, building on our international reputation for world-leading transformational research with impact. The SFI St. Patrick’s Day Science Medal not only recognizes their special contributions but also highlights the importance of our diaspora and our transatlantic collaborations.”

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Irish student achieves global success at international science fair!



20 May, 2019

SciFest national champion, Adam Kelly from Skerries Community College, Dublin represented Ireland at Intel ISEF 2019 in Phoenix, Arizona this week where he has claimed the Dudley R. Herschbach SIYSS Award, which is considered one of the competition's top 5 most prestigious accolades. This means he will be one of 25 students who will attend the week-long Stockholm International Youth Science Seminar (SIYSS) and will get the chance to meet Nobel prize winning scientists. His success did not stop there, he also received a first prize in his category, Systems Software. Adam earns \$3,000 in prize money and will have an asteroid named after him as a result. Adam also achieved a Best in Category Award, earning \$5,000 for himself and \$1,000 for his school.

Intel ISEF is the world's largest international pre-college science competition, involving some 1,800 students from over 80 countries competing for a prize fund totalling \$5million. The SciFest programme is funded primarily by Science Foundation Ireland (SFI), Boston Scientific, Intel Ireland and Specsavers.

Adam secured his place at the international competition when he won the top award, the Science Foundation Ireland Intel ISEF award, at the SciFest 2018 National Final last November. Adam claimed first prize for his open source solution to simulating quantum computing.

Adam's work is a combination of physics, computing and maths, and has huge potential. Unlike a traditional computer that uses bits represented either by one or zero, a quantum computer works off 'qubits', meaning an action can be a one, zero or both at the same time. This means a quantum computer can work at an unprecedented speed on vast calculations with applications in fields such as astronomy and climatology.

Large-scale quantum computers are set to be the next frontier in advanced computing, but they are not yet widely available, which is why Adam developed an open source solution to simulating quantum computing that is up to 15 times faster than conventional simulations. His solution can be used by anyone in their own experiments – the software has direct applications in the verification of quantum devices, quantum algorithm design and investigations of quantum supremacy.

Speaking about attending ISEF, Adam said: *"I was very excited to have the opportunity to travel to Phoenix and to present my work to some of the top STEM professionals in the world. I really enjoyed meeting young people from all over the world and seeing the different projects that they are working on. This was a wonderful opportunity to share ideas and to learn, and I am so thankful to my family, friends, teachers and everyone at SciFest who have supported me up to now."*

Sheila Porter, SciFest Founder and CEO, commented: *"We are all very proud of Adam and his achievement in receiving a first prize finish in his category, Systems Software. Participating in Intel ISEF is a wonderful opportunity and I know Adam has really enjoyed the experience. SciFest is all about encouraging a love of science, technology, engineering and maths among young people. Adam has developed a truly innovative project and we are delighted that he has had the opportunity to bring it to an international audience. We wish him every success for the future."*

Science Foundation Ireland supports SciFest in its programme of encouraging and engaging young people in STEM.

Speaking about Adam's award, Dr Ruth Freeman, Director of Science for Society at Science Foundation Ireland said: *"I want to congratulate Adam on his fantastic achievement in finish first prize in his category, Systems Software. It is wonderful to see a young Irish innovator competing at a global level. Science Foundation Ireland is delighted to support SciFest, as it is such an effective programme in*

enabling young people to use science, technology, engineering and maths to create solutions to today's and tomorrow's challenges. I congratulate all the students who take part for the passion and creativity they show, and the work they put into their projects. Hopefully, we'll see many of them consider STEM careers in the future."

SciFest is an all-island STEM (science, technology, engineering and maths) initiative which fosters active, collaborative and inquiry-based learning among second level students. It is free to enter and being locally and regionally based it is both accessible and inclusive.

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AMBER Researcher announced as first Irish Researcher to receive 6 ERC awards

This award brings Professor Valeria Nicolosi's total research funding to over €20 million



Thursday 2nd May, 2019

Professor Valeria Nicolosi from AMBER, the SFI Research Centre for Advanced Materials and BioEngineering, at Trinity College Dublin, has been announced as a recipient of the European Research Council's (ERC) Proof of Concept grant, worth €150,000. This is a top-up for her ERC Consolidator grant of €2.5 million awarded in 2016 and brings her total research funding awarded in the last 10 years to over €20 million. Professor Valeria Nicolosi is Ireland's only six-time ERC awardee.

The award will be used to explore the commercial applications of Professor Nicolosi's research into 3D printed, nanotechnology enabled, energy storage devices in the wearable technology sector.

Proof of Concept grants are awarded to ERC grant holders as top-up funding to explore the commercial or innovation potential of the results of their ERC-funded research. Professor Nicolosi, Professor of Nanomaterials & Advanced Microscopy at Trinity's School of Chemistry, was awarded an ERC Starting grant of €1.5 million in 2011, a Consolidator grant of €2.5 million in 2016 and 4 additional Proof of Concept grants. Her work examines the processing and characterising of nanomaterials for the development of novel energy storage devices. This grant, her most recent Proof of Concept award, will

examine the economic and technical feasibility of using nanotechnology enabled micro-supercapacitors in the wearable device market.

Professor Valeria Nicolosi, said, *“I am delighted to be awarded my 4th ERC Proof of Concept grant which will allow me to take my technology from prototype into product. Through my ERC Consolidator grant we have demonstrated that we can manufacture inexpensive and high-performance energy storage devices (supercapacitors) using a nanomaterial based on MXenes inks. These energy storage devices can easily be 3D printed on virtually any substance and on any shape or pattern. With my Proof of Concept grant I want my research to power the next generation of smart wearables and textile-electronics.”*

Smart wearable devices refer to items that can perform electronic functions and are perceived as a way to add features into common wearable devices. New smart wearable electronics come to the market with functionalities such as: heat regulation, luminescence, touch, and sensitivity. These functionalities are useful for several applications in different fields such as: healthcare, sports, space exploration, and gaming. The smart wearable market has seen significant growth of late and is due to grow to \$51 Billion by 2022. However, the development of such e-wearables has so far been greatly overshadowed by the power supply issue, as a traditional battery is unsustainable and not convenient.

Professor Michael Morris, Director of AMBER, commented on the announcement, saying, *“The awarding of this Proof of Concept grant to Professor Nicolosi is an excellent acknowledgement of the research work she and her team are currently undergoing. She is at the forefront of Irish science with 6 ERC awards, and her work will bring economic and societal benefits to Ireland in developing more efficient ways to deal with energy consumption. She is an exceptional asset to the AMBER team and this funding also reaffirms how competitive Ireland is as a place for research.”*

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Ministers Humphreys and Halligan announce €230 million funding of six world-leading SFI Research Centres

- Industry partners to contribute further €230 million bringing the total investment to €460m
- Funding will directly support approximately 850 researchers
- SFI Research Centres will focus on integrated photonics, marine renewable energy, gut health and the microbiome, data analytics, advanced pharmaceutical manufacturing and advanced materials.

Dublin, 9th May 2019

Minister for Business, Enterprise and Innovation, Heather Humphreys TD, and Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, announced an investment of €230 million in six SFI Research Centres as part of Project Ireland 2040. The €230 million investment made by the Department of Business, Enterprise and Innovation through Science Foundation Ireland, will directly benefit approximately 850 researchers employed by the centres, while also supporting the Government's Future Jobs Ireland initiative. The investment is buoyed by industry support with 170 industry partners committing to investing over €230 million in cash and in-kind contributions over the next six years.

Commenting on the announcement, **Minister for Business, Enterprise and Innovation, Heather Humphreys TD**, said: *"This investment by my Department in the six SFI Research Centres is part of the Government's strategy to prepare now for tomorrow's world, through plans like Future Jobs Ireland and Project Ireland 2040. The work that has been done to date has positioned Ireland as a world leader in research, further strengthening our global credibility across a number of different sectors. The economic impact of this research is clear, not only through direct and in-direct employment levels, but also through increased foreign direct investment. Our Research Centres not only act as magnets to attract and retain investment; they also encourage companies, both Irish and foreign-owned, to develop their R&D activities here. This will continue to benefit Ireland and the world for years to come."*

The investment is set to benefit the whole country with third level institutions located across Ireland partnering with the Centres. The six SFI Research Centres will address the following:

- **AMBER, the SFI Research Centre for Advanced Materials and Bioengineering Research, led by Trinity College Dublin** AMBER's research programme continues to build on core expertise delivering world-class materials innovations, in partnership with industry, and translating these into impacts with environmental, clinical, economic and societal benefits. The Centre's research will enable faster computing and communications, revolutionise the treatment of damaged tissues, improve materials for energy efficiency and enable the next generation of manufactured products, maximising resource use for a more sustainable environment, and enabling a circular economy. AMBER's fundamental research in materials characterisation, synthesis and modelling in world-class facilities is a key enabler of AMBER's excellence in materials science research; positioning Ireland as a vibrant hub of research and development, industrial engagement and commercialisation.
- **APC Microbiome Ireland, led by University College Cork** APC Microbiome Ireland strives to understand the complex relationship between diet, the microbiome, and our health status through our four themes - Microbes to Molecules, Diet and Microbes at the Extremes of Life, Brain-Gut-Microbiota Axis, and Host-Microbe Dialogue. Working with industry and other international research teams, the Centre aims to develop microbiome-based therapeutics, functional food ingredients, and diagnostics that can prevent or improve symptoms relating to infections, inflammation, cardiovascular disease, stress, neurodevelopmental disorders, diseases of age and cancer.
- **The Insight Centre for Data Analytics, co-led by NUI Galway, Dublin City University, University College Cork and University College Dublin** Every scientific discipline, industry, and leisure activity generates data in ever-increasing amounts. Navigating and sifting this immense ocean of information, through data analytics, poses challenges. Unlocking the potential of this data offers unprecedented socio-economic benefits.
- **IPIIC, the Irish Photonic Integration Centre, led by Tyndall National Institute** Photonics - the generation, manipulation and utilisation of light - underpins a global €600 billion market with an annual growth forecast of 8.4% and employs around 300,000 people in Europe alone. To realise its full potential, major advances in photonic integration are required, similar to the development of electronic integrated circuits some fifty years ago, enabling higher levels of functionality and new applications,

from autonomous vehicles to microdisplays and medical devices. IPIC is at the forefront of global scientific advances in this area and works closely with the ICT and MedTech industries.

- **The MaREI Centre, led by University College Cork** MaREI undertakes research related to the energy transition, climate action, and blue economy and uses this research to empowers business, shift policy and support society. MaREI helps small energy and marine companies to develop new technologies and provides strategic guidance to large energy companies, thereby harnessing the economic opportunities of the low carbon energy transition. MaREI research increasingly underpins energy and climate policies of the Irish Government and the European Union. Through engaged research and dialogue with communities, MaREI also supports the human and societal dimensions of climate action and marine conservation.
- **SSPC, the SFI Research Centre for Pharmaceuticals, led by University of Limerick** SSPC comprises a critical mass of accomplished researchers and an infrastructure that are second-to-none from a global perspective. The Centre will create impact for Ireland in the pharmaceutical sector by creating economic growth through spin-out companies and patent licences with innovative pharmaceutical companies, enabling next generation medicines to reach the market more quickly, and providing highly qualified scientists and engineers to support and grow the Irish pharmaceutical sector.

Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, said: *“This is an extremely positive announcement, SFI Research Centres are a huge draw for high quality sustainable jobs both directly and indirectly. They are agents of change, providing new ways of thinking and offering alternative solutions to issues and challenges that we face in many sectors. This is one of the positive examples of Project Ireland 2040 which has been rolled out to ensure that, as a nation, we are prepared for the changes and disruption that we face going forward. With the current strong economic outlook, it is important that we look to the future and our investments in excellent research allow us to do exactly that.”*

The 170 industry collaborators include both multinational companies and SMEs based in Ireland and international. They include companies such as AuriGen Medical, Raydiant Oximetry Inc., DePuy Ireland, Johnson & Johnson, Merck, Intel, Nokia Bell Labs, DuPont, Nutricia, Danone, Janssen, Abbvie, Cremo, Alimentary Health, DSM, Kerry, Pepsico, Tate & Lyle, Integra LifeSciences, ESB, Gas Networks Ireland, Brookfield Renewables, DP Energy, and OceanEnergy.

Under the new funding model, these six SFI Research Centres are successfully scaling up to secure 66% of the funding from other sources, so only 34% of their funding over the six years will now come from Science Foundation Ireland.

Professor Mark Ferguson, Director General Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland, said: *“SFI Research Centres support both basic and applied research, which I believe is one of the reasons they have been so successful to date. The research across the centres spans a wide range of sectors at varying levels and stages – the holistic approach we are taking to our research is fundamental to its success. In only a very short period the SFI Research Centres have made incredible progress, in terms of increased academic and industrial collaboration, training PhD students for industry, winning competitive funding from the EU, producing excellent scientific results and public engagement. We look forward to continued support from the Government and industry as we move forward, increasing our ability to positively impact both society and the economy through excellent scientific research.”*

The SFI Research Centres network involves strong collaborative partnerships between research bodies in Ireland, including Trinity College Dublin, Royal College of Surgeons in Ireland, University College Cork, Teagasc, Cork Institute of Technology, University College Dublin, National Institute for Bioprocessing Research and Training (NIBRT), NUI Galway, Dublin City University, Tyndall National Institute, Maynooth University, University of Limerick, Technological University of Dublin, ESRI, Dundalk Institute of Technology, Dublin Institute for Advanced Studies, Athlone Institute of Technology, Limerick Institute of Technology, Institute of Technology Sligo, Institute of Technology Tralee, and Waterford Institute of Technology.

Awards of funding to SFI Research Centres are made following rigorous international expert peer reviews. For more information visit [SFI Research Centres](#).

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08 APR, 2019



Barry O'Sullivan, Global Manufacturing Lead, J&J Vision Care Ireland, Martin Shanahan CEO IDA Ireland, Minister of State Pat Breen and John Lynch, Plant Leader, J&J Vision Care Ireland.

Approximately 200 jobs to be created during the construction phase

April 8th 2019. Limerick. Minister of State for Trade, Employment and Business, Pat Breen TD today announced that Johnson & Johnson Vision Care (Ireland) will be adding approximately 100 new roles as part of about a €100M expansion of its manufacturing operations at its site in the National Technology Park, Plassey, Limerick.

The project is supported by the Irish Government through IDA Ireland.

Approximately 200 additional workers are expected to be employed in the construction phase of the expansion to the company's Vision Care facility.

Speaking at today's announcement, **Minister of State for Trade, Employment & Business Pat Breen TD** said: "I very much welcome Johnson and Johnson Vision Care's expansion of its operations in Limerick and of course the approximately 100 jobs that will be created. It is a huge vote of confidence in the Mid-West region. The expansion, supported by the Government through the IDA, reflects the commitment of the Government and its agencies to pursue balanced and sustainable regional development."

John Lynch, Plant Leader, Johnson & Johnson Vision Care (Ireland) said: "Our aspiration at Johnson

& Johnson Vision is to bring improved eyesight to people around the world and the most important way we accomplish that is through the research, development and manufacturing of new medical device technologies. We believe that the new manufacturing roles being introduced in Limerick in 2019 will be foundational in helping us bring new, innovative contact lens products to our patients and customers around the world at an industry-leading pace.”

IDA Ireland CEO Martin Shanahan said: “This is a significant announcement. Already the world’s largest contact lenses manufacturing plant, this expansion by Johnson & Johnson Vision Care of the Limerick facility represents not just a substantial financial investment but a considerable commitment to its Limerick operations. The approximately 100 jobs being added, along with those being created in the construction phase, will greatly benefit the economy of the Mid West region. Having a company of this stature continue to expand its operations enhances Ireland’s global reputation as a Medical Technologies centre of excellence and demonstrates how global companies can successfully operate in regional locations. I wish John and his team continued success.”

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Greenfield Global Inc. to establish European manufacturing facility in Ireland

09 Apr, 2019



Investment set to create 75 jobs in Portlaoise

Greenfield Global Inc., Canada's largest producer of alcohol and fuel ethanol, and one of the largest alcohols and solvents companies in North America, today announced plans to establish a new EU manufacturing headquarters in Portlaoise, Ireland.

The project is supported by the Irish Government through IDA Ireland and is expected to create 75 high-quality jobs over the next five years. The new roles will be in a range of operations; production, quality, supply chain, and sales functions.

Greenfield, which has its headquarters in Toronto, Canada, has operations in 12 locations across North America. The company's extensive portfolio of products is trusted by hundreds of customers in pharmaceutical, nutraceutical, life science, personal care, and food, flavor and fragrance markets in over 50 countries.

The new 3,800 sq. metre manufacturing HQ in Portlaoise will be constructed on the IDA Ireland Business and Technology Park and is expected to be operational in Q2, 2020. An estimated 100 jobs are expected to be created during the construction and fit-out phase of the project.

“Our commitment to building a world-class GMP manufacturing facility in Portlaoise is our first foray into manufacturing outside of North America,” said **Greenfield President and CEO Howard Field**. “This facility will ensure we have the capacity to meet increased demand from our life science customers throughout Europe and the region. Greenfield is an ambitious company, focused on continually investing in innovation, our people, and our products. We are proud to have this opportunity to expand our operations and become a part of Ireland’s economic success.

Minister for Justice and Equality Charlie Flanagan, who attended today’s announcement, said: “This is an important day for Portlaoise and the Midlands. The economic growth of our regions through the creation of sustainable jobs is a priority for Government and I am delighted to see this level of investment. The significant number of jobs being created here today is a very welcome boost to the economy of Portlaoise and I want to thank the IDA for all they did to secure them. Most of all however, I want to congratulate Greenfield Global. I look forward to their success, and indeed growth, here in Portlaoise.”

Martin Shanahan, CEO of IDA Ireland, said: “This is a most welcome announcement for Portlaoise and the entire Midlands region and one which will considerably benefit the economy of the region. Greenfield Global is a welcome addition to the EIT sector here and will be an important support to the strong and growing life sciences ecosystem in Ireland, providing locally sourced, critical raw materials. I wish Greenfield Global every success with their plans. It is great to see further investment coming into Portlaoise.”

About the company

Greenfield Global provides high-value, mission-critical raw materials, ingredients and additives that are vital to businesses, improve people’s lives, and preserve the health of the planet. Greenfield is the largest ethanol producer in Canada and owns and operates four ethanol distilleries, three specialty chemical manufacturing and packaging plants, and three next-generation biofuel and renewable energy R&D centers across North America. Since its beginning in 1989, Greenfield continually develops more efficient and sustainable technologies and products while shrinking its own carbon footprint. From start-ups to the largest brands in the world, customers trust Greenfield’s extensive portfolio of premium products, regulatory expertise, and industry-leading service. Under its Pharmco and Commercial Alcohols brands, Greenfield delivers hundreds of products to thousands of Life Science, Food, Flavor, Fragrance, and Beverage customers in more than 50 countries worldwide. To learn more, visit www.greenfield.com.

29 APR, 2019

<https://www.idaireland.com>

-- EXPANSION SOLIDIFIES IRELAND'S STRATEGIC POSITION IN ALLERGAN'S GLOBAL NETWORK

-- NEW EY DKM ECONOMIC IMPACT ASSESSMENT SHOWS ALLERGAN OPERATIONS GENERATED €308 MILLION IN GDP AND SUPPORTED 3,485 JOBS IN IRELAND'S ECONOMY IN 2018

Global life-science innovation leader, Allergan, which is headquartered in Ireland and operates four facilities here, has announced a €65 million capital investment programme for 2019 to facilitate the continued expansion of the company's state-of-the art laboratories and manufacturing campuses at Westport in County Mayo and Clonshaugh in north Dublin. The Westport facility has created 63 new highly skilled jobs, bringing total employment in Ireland to more than 2,000 across the country. One in ten employees in Allergan's global workforce is based in Ireland.

An EY DKM Economic Impact Assessment of Allergan's operations in Ireland indicates that this 2019 capital investment programme will contribute €23 million to Ireland's GDP this year and deliver €7 million in exchequer revenue. In 2018, Allergan generated a GDP impact of €308 million and supported 3,485 jobs in Ireland's economy, generating exchequer revenue of €76 million.

Welcoming the announcement, An Taoiseach, Leo Varadkar, said: *"This is great news for Westport and for Mayo and reinforces the region's deserved reputation as a location for investment and innovation. It is further evidence of the confidence international companies like Allergan continue to have in Ireland."*

Welcoming the investment, Heather Humphreys T.D., Minister for Business, Enterprise & Innovation, said: *"Allergan has a long proud history in Ireland stretching back over 40 years and employ over 2,000 staff here at their 4 sites. This latest investment reaffirms their commitment to Westport, and it enhances Ireland's reputation at the forefront of the Lifesciences sector. Allergan's decision to grow their operations in the West of Ireland shows that we are succeeding in attracting high calibre companies and highly skilled jobs to our regions, which is a key priority of the Government."*

Allergan's Westport campus is the largest and most complex in Allergan's global network. Encompassing a pharmaceuticals facility, two biologics plants and an ocular implant facility, it is responsible for the global supply of flagship Allergan product BOTOX and manufactures a range of eye care products.

Announcing the investment, Mr. Paul Coffey, Vice President & Plant General Manager, Allergan Westport, said: *“This €65 million investment further cements Ireland’s strategic role in Allergan’s global network. Continued investment of this scale builds on the €50 million investment programme in 2018 and €42 million in 2017 which allows us to apply world-class technology to Allergan’s leading innovation and product development strategy. We are expanding capacity to meet global demand and we are advancing our R&D capabilities to meet the needs of the future for our business. We are proud that 40 years on we are still growing and offering valuable employment opportunities in key regions of Ireland and we thank the communities around us for their continued support.”*

The investment in Westport focuses on four key areas; two new manufacturing suites in its biologics facility to provide the capability to introduce new product formats for one of Allergan’s flagship products and the launch of a new product currently in development, as well as the completion of a new state-of-the-art microbiology and cell-based laboratory. The completion of the new Biologics facility – which represents a total investment of more than €140 million – is in the final stages of qualification and regulatory approval before commencing commercial production.

At its ocular implant facility in Westport, Allergan is introducing automated manufacturing processes using high-end robotics. This new technology could be used to produce products that have the potential to revolutionise the treatment of common eye conditions such as glaucoma. The company is also upgrading its existing manufacturing capabilities and capacity for the introduction of new eye care products due to launch in the coming years.

Investment at the Clonsaugh facility in Dublin, which encompasses two manufacturing facilities and the plc head office, will focus on expanding specialised manufacturing capability for new product development and the launch of new solid dose products currently in development. This facility plays a pivotal role in the delivery of Allergan’s global “Open Science” strategy by providing the critical small-scale pilot and manufacturing capability for Allergan’s important oral solid dosage product pipeline. It currently manufactures products for the treatment of conditions including depression, irritable bowel syndrome, Alzheimer’s disease and hypertension.

Minister for Rural & Community Development, Mr. Michael Ring T.D., said: *“This is a real vote of confidence in the Western region. Allergan is a fantastic employer and it’s great to see it further cement its presence here in Ireland. Speaking as someone from Westport, Allergan has had a remarkably positive impact on the town and on the region. This announcement is further evidence of how the West can provide a wonderful environment for investors and employers. I commend Allergan for putting their trust in the*

West of Ireland.”

Welcoming the investment, Mr. Martin Shanahan, CEO of IDA Ireland, said: *“Allergan’s commitment to Ireland has been exemplary and we warmly welcome this continued growth and expansion in Westport and Dublin. This latest €65 million investment brings Allergan’s total investment in Ireland to in excess of €670 million, which is a considerable vote of confidence in Ireland as a place to do business and in the IDA’s regional development strategy. With a 40-year heritage in Ireland, Allergan’s broad geographical footprint in Ireland is a great example for other pharmaceutical firms considering locating here. We wish Allergan continued success as a visionary leader delivering innovative and breakthrough treatments to the world from their strategic operations in Ireland.”*

Commenting on the Company’s announcement, former Taoiseach Mr. Enda Kenny, said: *“I want to thank Allergan’s leadership team and its Board of Directors for their commitment to continued growth in Westport and Ireland, and to express confidence in their continued strong strategic leadership to grow Allergan as an innovative biopharmaceutical company in Ireland and around the world.”*

Allergan operates four facilities in Ireland - two manufacturing operations, one at Clonshaugh, Dublin and one in Westport, Co. Mayo - as well as an international supply chain office in Earlsfort Terrace, Dublin and a facility in Galway on foot of the acquisition of Zeltiq in April 2017. Zeltiq is a global leader in proprietary controlled-cooling technology for non-invasive fat reduction. The Westport and Clonshaugh facilities develop and manufacture a range of branded medicines primarily for the export market.

About Allergan

Allergan plc (NYSE: AGN), headquartered in Dublin, Ireland, is a global integrated speciality pharmaceutical leader. Allergan is focused on developing, manufacturing and commercializing branded pharmaceutical, device, biologic, surgical and regenerative medicine products for patients around the world.

Allergan is an industry leader in Open Science, a model of research and development, which defines our approach to identifying and developing game-changing ideas and innovation for better patient care. With this approach, Allergan has built one of the broadest development pipelines in the pharmaceutical industry.

Allergan's success is powered by our global colleagues' commitment to being Bold for Life. Together, we build bridges, power ideas, act fast and drive results for our customers and patients around the world by

always doing what is right.

With commercial operations in approximately 100 countries, Allergan is committed to working with physicians, healthcare providers and patients to deliver innovative and meaningful treatments that help people around the world live longer, healthier lives every day.

For more information, visit www.Allergan.com.

About Allergan in Ireland:

- Allergan is headquartered in Ireland and employs 2,055 in Ireland, where its roots stem back over 40 years.
- Allergan's operations in Ireland have grown significantly since it first developed and opened its Westport plant on a greenfield site in Westport, Co. Mayo in 1977, with just 25 employees.
- Allergan operates four facilities in Ireland - two manufacturing operations, one at Clonsaugh, Dublin and one in Westport, Co. Mayo - as well as an international supply chain office in Earlsfort Terrace, Dublin and a facility in Galway, on foot of the acquisition of Zeltiq in April 2017. Zeltiq is a global leader in proprietary controlled-cooling technology for non-invasive fat reduction.
- The Westport and Clonsaugh facilities develop and manufacture a range of branded medicines, primarily for the export market.
- Ireland plays a critical role in the manufacturing of BOTOX, which is Allergan's leading product globally, in terms of sales. Allergan's Westport facility is a strategic part of the global Allergan network and is responsible for manufacturing the global supply of BOTOX.
- Marking 40 years in Ireland in 2017, Allergan announced a €42 million investment across its Clonsaugh and Westport manufacturing operations to support increased manufacturing capabilities for some of its key current and future products.
- The investment in Westport funded additional capacity for Allergan's state-of-the-art eye care manufacturing operations and the expansion of its ocular implant manufacturing facility, accommodating both a capacity increase for existing products and the capability

to accommodate new products, using the world class technology platforms available at Westport.

- In 2018, Allergan invested a further €50 million in its Irish business. This capital investment facilitated an expansion of its laboratory operations and manufacturing operations, for new products currently in development. This brings Allergan's total investment in Ireland, to-date, to €675 million.
- As part of Allergan's 40th anniversary celebrations in 2017, Allergan Ireland also introduced a new €50,000 Allergan Innovation Award Programme, in partnership with six Irish colleges and universities (Trinity, UCD, NUI Galway, IT Sligo, DCU and Galway-Mayo IT) around the country, aimed at encouraging research and innovation in the life sciences field.
- Allergan is currently Official Sponsor of the prestigious Dubai Duty Free Irish Open, hosted by the Rory Foundation, as part of a three-year sponsorship.

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SIGMA-ALDRICH®

About Sigma-Aldrich: Sigma-Aldrich is a leading Life Science and High Technology company whose biochemical, organic chemical products, kits and services are used in scientific research, including genomic and proteomic research, biotechnology, pharmaceutical development, the diagnosis of disease and as key components in pharmaceutical, diagnostics and high technology manufacturing.

Sigma-Aldrich customers include more than 1.3 million scientists and technologists in life science companies, university and government institutions, hospitals and industry. The Company operates in 35 countries and has nearly 9,000 employees whose objective is to provide excellent service worldwide.

Sigma-Aldrich is committed to accelerating customer success through innovation and leadership in Life Science and High Technology.

For more information about Sigma-Aldrich, please visit its website at **www.sigma-aldrich.com**

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Collaborate on R&D with other companies and/or research institutes

Working with other like-minded companies or exploring what knowledge exists in Higher Education Institutes could work wonders for your business. Let us help by introducing you to collaborative research partners and industry networks.

Working with other companies

Instead of going it alone, we can help you find other companies with similar research agendas and help you to collaborate to share resources and knowledge. The programmes we offer to support collaborative research with other companies include:

- **Technology Centres:** The investment in Technology Centres is a joint initiative between Enterprise Ireland and IDA Ireland allowing Irish companies and multinationals to work together on research projects in collaboration with research institutions. Technology Centres are collaborative entities established and led by industry. They are resourced by highly-qualified researchers associated with research institutions who are empowered to undertake market focussed strategic R&D for the benefit of industry. For more information, go to [Technology Centres Initiative](#).
- **Enterprise Ireland R&D Fund:** Under the R&D Fund companies can get a collaboration bonus of up to 15% where there is collaboration between two companies on an R&D project. For more information, go to [R&D Funding](#).
- **Knowledge Transfer Ireland:** KTI enables business to leverage the commercial potential of Irish research and innovation. Using the KTI web portal, companies can more easily find technology, expertise, IP and facilities available in Ireland's higher education institutions and State research organisations. And can find information about how to engage with these institutions including access to resources such as Practical Guides and Model Agreements. For more information, go to [Knowledge Transfer Ireland \(KTI\)](#).

Working with research teams in Irish Higher Education Institutes

- **Innovation Vouchers:** All small companies, in every sector of the Irish economy, can apply for a €5,000 to pay a registered knowledge provider to solve a technical or business challenge. For more information, go to [Innovation Vouchers](#).

- **Innovation Partnership Programme** offers financial support to companies who engage in collaborative research projects with Irish universities and Institutes of Technology. For more information, go to [Innovation Partnership Programme](#).
- **Technology Gateways Programme:** Facilitates collaboration between Industry and industry led researchers in the Gateway centres located in the Institutes of Technology around Ireland. For more information, go to [Technology Gateways Programme](#).
- **Technology Centres Programme:** Technology Centres are market focussed, industry collaborative research centres serving markets of scale, identified by industry and validated by Enterprise Ireland and IDA Ireland. For more information, go to [Technology Centres Initiative](#).

Collaborating with companies/researchers in other countries

To learn about the programmes that support international collaborations, go to [Access EU and ESA Supports](#) section.

R & D Innovation Supports for Companies

Use our expertise and contacts to increase the levels and value of R&D and innovation in your company. Through a mix of funding, advice and expertise, we can help you to undertake R&D and increase the amount of innovation in your business. [See our RD&I funding pages for information](#). We can also help you source and license new technologies that could potentially transform your company.

SOURCE / LICENCE NEW TECHNOLOGIES

We have access to technology suppliers and customers from around the world and can connect you to the people behind them.

ACCESS EU AND ESA RESEARCH SUPPORTS

We offer assistance with identifying the right programmes and help you to access these competitive EU funds and ESA programmes

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Serving Science Since 1780

National IP Protocol 2019 to Drive Commercialisation of Irish Research and Boost Economic Growth



March 29, 2019

The Government has launched the National IP Protocol 2019. The Protocol, which is in its third edition, is produced and managed by Knowledge Transfer Ireland on behalf of the Department of Business, Enterprise & Innovation. It provides a practical, best practice framework for businesses, from start-ups and SMEs to large multi-nationals and entrepreneurs to access and utilise Irish research to drive economic growth.

The Protocol sets a benchmark for good practice in the commercialisation of valuable intellectual property all around the country, on terms that are fair to researchers and business alike, and in ways that are predictable and consistent from one negotiation to the next.

The IP Protocol has been a reference point for business and research communities since it was first produced by the Department in 2012. This new Protocol is an update to the previous IP Protocol published in 2016. Recognising the significant numbers of spin-out companies coming out of research performing organisations around the country, the new Protocol includes a dedicated section on best practice in the formation of spin-out companies. It also includes a summary of the issues relating to state aid in the commercialisation of research.

John Halligan (pictured right), Minister of State at the Department of Business Enterprise and Innovation and the Department of Education and Skills, said: “The commercialisation of public research to drive innovation and Ireland’s economic competitiveness is a key pillar of the Government’s innovation strategy, Innovation 2020. While investment in research performing organisations the length and breadth of the country is critical, it must go hand in hand with an effective strategy to put that research into the hands of businesses for the benefit of the Irish economy and society. The National IP Protocol is a key element of that strategy. In today’s climate, more than ever, it is vital that we harness the considerable abilities of Ireland’s researchers, so as to give businesses the best possible competitive edge on the European and global stage.”

Alison Campbell (pictured left), Director of Knowledge Transfer Ireland, commented: “I am delighted to welcome the publication of the new IP Protocol. The new section on spin-out company formation developed in consultation with people operating at the coal-face is particularly welcome and was drafted to address a gap in the framework. The range of practical tools produced by Knowledge Transfer Ireland that are referenced throughout the Protocol and its associated Resource Guide have been expanded. The aim of these tools is to provide relevant resources that demystify knowledge transfer and allow commercialisation and collaboration to flourish, while protecting the interests of all parties and freeing up researchers and businesses to get on with the business of innovating.”

The National IP Protocol 2019 comprises two documents:

the policy document which sets out the framework underpinning research collaboration and access to intellectual property from state-funded research.

the resource guide which provides an overview of the national IP management guidelines and links to a wealth of resources and template documents that support these guidelines. It also provides an overview of the knowledge transfer structures in Ireland and the kinds of agreements that can be used to formalise research-industry engagements and spin-out company-related contracts.

The Protocol is the product of an extensive consultative process facilitated by Knowledge Transfer Ireland with representatives from industry, investors, entrepreneurs, agencies and research organisations to ensure that Government policy supports all types of enterprises engaging with publicly-funded research in Ireland.

For more information or to download the National IP Protocol 2019 visit

www.knowledgetransferireland.com/managingIP

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Allergan Accelerates Expansion in Ireland with €65 Million Investment



May 7, 2019

Global life-science innovation leader, Allergan, which is headquartered in Ireland and operates four facilities here, has announced a €65 million capital investment programme for 2019 to facilitate the continued expansion of the company's state-of-the art laboratories and manufacturing campuses at Westport in County Mayo and Clonsaugh in north Dublin. The Westport facility has created 63 new highly skilled jobs, bringing total employment in Ireland to more than 2,000 across the country. One in ten employees in Allergan's global workforce is based in Ireland.

An EY DKM Economic Impact Assessment of Allergan's operations in Ireland indicates that this 2019 capital investment programme will contribute €23 million to Ireland's GDP this year and deliver €7 million in exchequer revenue. In 2018, Allergan generated a GDP impact of €308 million and supported 3,485 jobs in Ireland's economy, generating exchequer revenue of €76 million.

Allergan's Westport campus is the largest and most complex in Allergan's global network. Encompassing a pharmaceuticals facility, two biologics plants and an ocular implant facility, it is responsible for the global supply of flagship Allergan product BOTOX and manufactures a range of eye care products.

Announcing the investment, Paul Coffey, Vice President & Plant General Manager, Allergan Westport, said: "This €65 million investment further cements Ireland's strategic role in Allergan's global network. Continued investment of this scale builds on the €50 million investment programme in 2018 and €42 million

in 2017 which allows us to apply world-class technology to Allergan's leading innovation and product development strategy. We are expanding capacity to meet global demand and we are advancing our R&D capabilities to meet the needs of the future for our business. We are proud that 40 years on we are still growing and offering valuable employment opportunities in key regions of Ireland and we thank the communities around us for their continued support."

The investment in Westport focuses on four key areas; two new manufacturing suites in its biologics facility to provide the capability to introduce new product formats for one of Allergan's flagship products and the launch of a new product currently in development, as well as the completion of a new state-of-the-art microbiology and cell-based laboratory. The completion of the new Biologics facility – which represents a total investment of more than €140 million – is in the final stages of qualification and regulatory approval before commencing commercial production.

At its ocular implant facility in Westport, Allergan is introducing automated manufacturing processes using high-end robotics. This new technology could be used to produce products that have the potential to revolutionise the treatment of common eye conditions such as glaucoma. The company is also upgrading its existing manufacturing capabilities and capacity for the introduction of new eye care products due to launch in the coming years.

Investment at the Clonshaugh facility in Dublin, which encompasses two manufacturing facilities and the plc head office, will focus on expanding specialised manufacturing capability for new product development and the launch of new solid dose products currently in development. This facility plays a pivotal role in the delivery of Allergan's global "Open Science" strategy by providing the critical small-scale pilot and manufacturing capability for Allergan's important oral solid dosage product pipeline. It currently manufactures products for the treatment of conditions including depression, irritable bowel syndrome, Alzheimer's disease and hypertension.

Welcoming the investment, Martin Shanahan, CEO of IDA Ireland, said: "Allergan's commitment to Ireland has been exemplary and we warmly welcome this continued growth and expansion in Westport and Dublin. This latest €65 million investment brings Allergan's total investment in Ireland to in excess of €670 million, which is a considerable vote of confidence in Ireland as a place to do business and in the IDA's regional development strategy. With a 40-year heritage in Ireland, Allergan's broad geographical footprint in Ireland is a great example for other pharmaceutical firms considering locating here. We wish Allergan continued success as a visionary leader delivering innovative and breakthrough treatments to the world from their strategic operations in Ireland."

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Teagasc Joint 5th Among Research Organisations in Europe



May 10, 2019

Teagasc secured €6.3 million funding for research from the European Commission's Horizon 2020 programme in 2018. In comparison with all other research organisations and universities across Europe, Teagasc was joint 5th in terms of number of successful projects and 6th overall in terms of money awarded in the agri-food stream of European funding.

Horizon 2020 is the European Commission's research funding programme. It has a total budget of almost €80 billion and runs from 2014 to 2020. In total, Teagasc has secured €19.6 from Horizon 2020 so far. The 19 Teagasc researchers who are leading or participating in the new projects met recently with Teagasc Director, Professor Gerry Boyle in Oak Park Carlow.

In congratulating the successful applicants, Professor Boyle said: "2018 was a particularly successful year for us, with Teagasc securing €6.3 million in new funding from Horizon 2020, through a competitive process. It is really important for us to collaborate with researchers and knowledge transfer professionals from across Europe and this EU funding allows us to achieve that. Teagasc has reached its target of €19 million from

Horizon 2020 with two years still remaining. This is 1.6 times the total funding that we secured during the full duration of FP7 EU research fund (the predecessor of Horizon 2020).”

Horizon 2020 is organised into three main pillars: Excellent Science; Industrial Leadership and Societal Challenges. The Societal Challenges are organised around seven key societal challenges that the EC has identified as needing significant research and innovation input. Societal Challenge 2 focuses on Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy.

In the 2018 call for Societal Challenge 2 – ‘Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy’, Teagasc was joint fifth for the number of projects awarded and sixth overall for total funding secured. Teagasc is the only Irish organisation in the top-20 for agri-food research funding in 2018.

Professor Boyle said: “It is great to see the breadth of activities, from cutting edge research and knowledge transfer activities to science outreach and gender studies. In particular I would like to acknowledge Tom Kelly and Paul Cotter who will lead two large Horizon 2020 projects – FairShare and MASTER.”

The successful research projects that Teagasc will lead or participate in include:

- MASTER – Microbiome Applications for Sustainable food systems through Technologies and Enterprize
- FAIRshare – Farm Advisory digital Innovation tools Realised and Shared
- REFLOW – Phosphorus REcovery for Fertilisers from dairy processing Waste
- SARMENTI – Smart multisensor embedded and secure system for soil nutrient and gaseous emission monitoring
- Gender-SMART Science Management of Agriculture and life sciences, including Research and Teaching
- GenSPaD – Genomic Selection for Pasture Digestibility
- SmartAgriHubs – Connecting the dots to unleash the innovation potential for digital transformation of the European agrifood Sector
- BEST4SOIL – Boosting 4 BEST practices for SOIL health in Europe
- MICROBIOMESUPPORT – Towards coordinated microbiome R&I activities in the food system to support (EU and) international bioeconomy goals
- Legumes Translated – Translating knowledge for legume-based farming for feed and food systems
- Cork Discovers: Learn, Live, Love Research.

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Bord Bia is the Most Highly Regarded Organisation in Ireland



May 13, 2019

The Reputations Agency has announced the results of the annual Ireland RepTrak® 2019 study, the largest and longest running study of reputation in Ireland, now celebrating its tenth year. Based on the perceptions of over 7,000 members of the public who completed the survey across January and February 2019, the survey measures the level of trust, respect, admiration and esteem the public has for 100 of the largest, most familiar, and most important organisations in Ireland, along with 25 other reputation indicators.

Winners

The top 10 companies in the Ireland RepTrak® 2019 study are:

1. Bord Bia – Reputation Pulse score of 83.5
2. Credit Union – 80.3
3. IRFU – 80.2
4. Tourism Ireland- 79.6
5. Aer Lingus- 79.4
6. Samsung – 79.0
7. Kellogg's – 78.9

8. Aldi -77.35
9. Dublin Airport – 77.33
10. An Post – 76.9

Bord Bia took the top spot overall as the most reputable organisation in Ireland with an Excellent Reputation Pulse score of 83.5, for their role in developing international markets for Irish food, drink and horticulture.

Organisations responsible for promoting and building Ireland's reputation on the international stage also proved to have exemplary reputations within Ireland. This is evident with five such organisations dominating the top ten including Bord Bia, IRFU, Tourism Ireland, Aer Lingus and Dublin Airport.

The study also recorded a strong performance by state backed organisations with four placing within the top ten including Bord Bia, Tourism Ireland, Dublin Airport and An Post.

Some of the companies that made the biggest moves in this year's report include the IRFU which jumped 12 places from 15th 2018 to 3rd in 2019 with a score of 80.2. Meanwhile Aer Lingus also made significant gains in 2019 moving from 16th place in 2018 to 5th spot following a significant rebrand earlier this year. Despite seven of the top ten being Irish indigenous organisations, overall the 57 indigenous organisations studied came in 2.5 points below the 43 multinational organisations studied, primarily reflecting a significant gap in perceptions of Innovation (9-point gap), Performance (8-point gap), and Leadership (7-point gap). However Irish firms were on a par on Citizenship and Governance.

The study also measured the public's propensity to support the 100 organisations across a range of scenarios. Aldi, Lidl and Bord Bia took the top three places for *Willingness to Buy Products or Services*, while Lidl, Credit Unions and Aldi took the top three places for *Willingness to Welcome Into My Community*. Google, Apple and Tourism Ireland took the top three places for *Willingness to Work For* the organisations. An Post, BMW, Boots, Google and Kellogg's each received an Outstanding Achievement Award for taking the top five positions when scores were averaged over the ten year period of the study, from 2010 to 2019.

According to Niamh Boyle (pictured left), Managing Director, The Reputations Agency: "A strong reputation increases support and delivers positive business results while helping to win customers, attract the right talent, and gain support from key stakeholders. It's driven by the touchpoints that stakeholders have with organisation – their direct experiences, what organisations communicate and what others say about these organisations.

"From a global perspective, over the last ten years we have seen reputation move markets, with the Top 10 most highly reputed companies outperforming the S&P Index by 2.5 times. In Ireland, our study shows that if an organisation improves its Reputation Pulse score by five points, the number of people willing to buy its products or services goes up by 6.2%, delivering a very positive business outcome."

She added: "Today, organisations are more widely scrutinised based on their alignment with social causes, their behaviour, their organisational values and the internal culture they create. They are no longer solely measured on what they make or how they make it. The public are more attuned to the reputation of an organisation than ever before and, for the public, actions speak louder than words."

"The strong performance this year by organisations representing Ireland and promoting Irish products and services on the international stage, such as Bord Bia, shows that the public holds organisations that contribute to the overall success of Ireland in high regard. The prominence of the state backed bodies in the top ten is also encouraging for the public sector and should be acknowledged as a standout theme of this year's study."

Bord Bia:

This year Bord Bia topped the RepTrak 2019 study of the most highly regarded organisations in Ireland for the second time since joining the study in 2015. Bord Bia took top ten places in six of the seven dimensions of reputation – Products & Services, Innovation, Workplace, Governance, Citizenship, Leadership and Performance. These are the dimensions that are proven to be the pillars of an organisation's reputation.

Speaking on their success to date Tara McCarthy (pictured right), CEO of Bord Bia, commented: "We're very proud to have topped the Ireland RepTrak study for 2019. Bord Bia's reputation is a reflection of the outstanding reputation enjoyed by Irish farmers, food producers and manufacturers. Bord Bia, for its part, will continue to drive the success and reputation of the agri-food industry through our insight-led approach, our commitment to developing talent and through the ongoing development of the Origin Green programme."

Ranking by Sector – Retail Food comes out on top

Of the 17 sectors studied this year, the **Retail Food sector** continued to top the sectoral ranking for the second year in a row with a strong sectoral Pulse score of 71.7, demonstrating the continued investment by the main players in reputation building strategies in a hugely competitive consumer facing sector.

The **Financial Services Banking sector** took the 17th slot with an overall weak score of 59.0. However, this is up 1.5 points from 57.5 in 2018 and up 18 points since its low of 40.9 in 2011, a very significant increase in over an eight-year period but suggesting that much work still needs to be done by this sector to regain the trust and confidence of the public.

Meanwhile the **Financial Services Insurance sector** continued to move up from its 11th sectoral position in 2018 to take the 8th sectoral position, with an average score of 65.7, moving ahead of the Communications Technology and Retail Forecourt sectors.

The seventeen sectors studied in 2019 were ranked as follows:

1. Retail Food (71.7 – Strong Reputation Tier – remaining in first place since 2018)
2. Automotive (71.5 – Strong – remaining in second place)
3. Retail General (70.7 – Strong – up from fourth)
4. Food & Beverage (70.5 – Strong – down from third)
5. Healthcare (68.0 – Average Reputation Tier – remaining in fifth)
6. Public Service Bodies (67.4 – Average – up from ninth)
7. Semi-State Commercial (66.5- Average – down from sixth)
8. Financial Insurance (65.7 – Average – up from 11th)
9. Professional Services (64.2- Average – up from 12th)
10. Communications-Technology (64.4 – Average – remaining in tenth)
11. Infrastructure (64.1 – Average – up from 14th)
12. Retail Forecourt (63.9 – Average – down from 7th)
13. Energy-Retail (63.5 – Average – remains at 13th)
14. Airlines & Aerospace (62.9 – Average – up from 15th)
15. Communications–Media (61.7– Average – down from 8th)
16. Sporting Bodies (59.1 – Weak Reputation Tier – remaining at 16th)
17. Financial – Banks (59.0 – Weak – remaining at 17th)

Ecocem Ireland Appoints Annemarie Harte as Managing Director



May 15, 2019

Ecocem Ireland Ltd, Ireland's premier producer of high performance, low carbon cement, has appointed Annemarie Harte (pictured) as Managing Director of the Irish business. Annemarie is taking over the role from Micheál McKittrick, who is moving to a new post as Ecocem's Managing Director for Northern Europe with responsibility for the Irish, UK and Benelux markets.

Appointed at a time when the company is continuing to expand both domestically and internationally, Annemarie will oversee the day-to-day operations of the Irish cement manufacturers operations in both Ireland and the UK. Annemarie will also be responsible for the launch of new product solutions, being developed by the Ecocem Innovation team, to the marketplace.

Established in Dublin in 2003, Ecocem now has 30 employees in Ireland and the UK. Ecocem Ireland is a subsidiary of Ecocem Materials, who also own and operate plants in France (two) and Holland, as well as having import terminal facilities in the UK and Sweden. The group's annual capacity is 2.5 million tonnes and their cementitious products have been used in prestigious projects all over Europe such as the Tour

Odeon in Monaco and Grand Paris project in France. It has also been used extensively in Ireland in projects such as the Convention Centre Dublin, the Aviva Stadium and the Dún Laoghaire-Rathdown Lexicon.



Annemarie was previously the CEO of Hardware Association Ireland (HAI), the representative body for 370+ hardware and DIY retailers, builders' merchants, and manufacturers / distributors. She has also held a number of other senior roles, including Consultant with the Royal Life Saving Society, CEO of Rotary International and Manager of Dún Laoghaire Rathdown Chamber of Commerce.

Her new position at Ecocem leverages her knowledge and experience of public and private sector operations, gained over a 20-year career. An advocate of sustainable construction, Annemarie is a perfect fit for a firm that has heralded sustainability as a core value since its inception.

Speaking about her appointment, Annemarie Harte said: "Ecocem is a genuinely progressive, customer focused business, on a mission to reduce carbon emissions and I am delighted to take on this role to further drive delivery of these services. I look forward to further expanding Ecocem's business both domestically and internationally while continuing to develop our growth within the Irish market."

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Dublin City Council Approves First Climate Change Action Plan



May 15, 2019

Dublin City Council's elected members have approved the Climate Change Action Plan 2019-2024. Climate change poses significant risks and challenges to the Dublin region. In response to this, each of the four Dublin Local Authorities have worked with Codema – Dublin's Energy Agency and the Dublin Metropolitan Climate Action Regional Office (CARO) in developing individual Draft Climate Change Action Plans, showing how each local authority will act to prevent and adapt to the effects of climate change.

The Plans identify the main climate risks facing Dublin and outline both the Councils' and the region's current levels of greenhouse gas emissions.

They also outline all the actions that are ongoing or planned within the Councils and these are grouped under five key areas – Energy and Buildings, Transport, Flood Resilience, Nature-Based Solutions and Resource Management.

The public consultation for each of the four Draft Climate Change Action Plans was held through a series of events and workshops this year between 11th February and 25th March. Dublin City Council received a

total of 234 submissions during this period. There were 192 actions in Dublin City Council's Draft Climate Change Action Plan; a further 32 have been added to the final document as a result of public submissions, whilst another 25 have been amended.



Speaking about the Plan, the Lord Mayor Nial Ring said: “I welcome the approval of Dublin City Council’s Climate Change Action Plan 2019-2024, which marks a significant step forward in the Council’s efforts in combating the causes and impacts of climate change. The variety of submissions received from Dublin’s citizens, community groups, young people and other stakeholders, is a testament to the need for an all of society approach in making our city tackle climate change in a meaningful way. I look forward to the implementation of the Plan, in collaboration with my colleagues in Dublin City Council and with the co-operation of my fellow citizens.”

Owen Keegan, Chief Executive of Dublin City Council, said: “The approval of the Council’s Climate Change Action Plan marks a key milestone in an on-going partnership between Council staff, elected members, Codema, Dublin CARO, and a range of other stakeholders. The implementation and monitoring of actions included in the Plan, marks the next phase of the Council’s multi-faceted approach to responding to climate change. The ongoing undertaking of a range of climate change actions, will enable Dublin to contribute to reaching national and European climate and energy targets to 2030, 2050 and beyond.”

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Irish-UK Trade Relations to the Fore of Manufacturing Solutions Ireland 2019



May 20, 2019

Irish-UK trade relations are to the fore of this year's Manufacturing Solutions Ireland event, as the manufacturing supply chain roadshow and conference, hosted by GTMA* and LIT, has already confirmed more than 100 exhibitors and participants from both sides of the Irish Sea. Now in its third year, the popular event has grown to include a Meet-the-Manufacturer brokerage event for the very first time.

In collaboration with the Enterprise Europe Network (EEN) Northern Ireland and Enterprise Europe Network Ireland, the brokerage event will be held in LIT in parallel to Manufacturing Solutions 2019. Key manufacturing companies, will have the opportunity to meet suppliers during effective one-to-one meetings in a structured and managed event.

Manufacturing Solutions Ireland 2019 has also expanded to include a special designated zone for Irish SMEs organised by the PTMA ** (Precision Turned Parts Manufacturers Association) who will highlight their members' capabilities, products and services as a collective body.

An Energy Efficiency in Industry Conference will also be co-hosted at the event for the first time.

Manufacturing Solutions Ireland will be held at the Limerick Institute of Technology, Moylish Camps on Wednesday June 12, 2019 from 8.30am.

In the past three years the event has grown to become one of the most significant dates in the calendar for the most advanced providers of metrology, inspection, machine tools, work holding, cutting tools, and Cad/Cam/PLM manufacturing software and ancillary products and services providers on both sides of the Irish Sea.

The importance of this year's event so close to the Brexit deadline of October 31, 2019 is not lost on the organisers or participants as early registration is at an all-time high.

GTMA Chief Executive Officer, Julia Moore, said: “When we brought Manufacturing Solutions to LIT for the first time in 2017 we were very aware of the importance of creating strong working relationships between Irish and UK companies as we approached Brexit, but what we achieved far surpassed those hopes.

“The enthusiastic response we have received from the engineering and technology businesses based in the UK and Ireland, that constitute the exhibitors and visitors alike, highlights the value of this quickly established key event in the industrial calendar.

“Manufacturing Solutions Ireland has earned a strong reputation for bringing together all the leading technology suppliers from Ireland, the UK and indeed Europe. Though this event the GTMA and LIT are providing an ideal conduit for the transfer of technology from the specialist suppliers to the practical industrial landscape, where its take-up and practical application can be used to gain a competitive business advantage.”

President of LIT Professor Vincent Cunnane said: “LIT is delighted to host the GTMA conference and trade show – Manufacturing Solutions – for the third consecutive year.

“Limerick Institute of Technology is a higher education institution which plays a leading role in ensuring that manufacturing in the Mid-West region of Ireland continues to have the ability to adapt, change and remain at the cutting edge when it comes to technology. GTMA brings all the leading technology suppliers together, so that industry can also benefit from our collective knowledge, products and technology.

“We at LIT are therefore delighted to be part of an event that not only allows us to build strong partnerships but facilitates an exchange of ideas,” he added.

Manufacturing Solutions 2019 is also supported by PTMA, Enterprise Ireland, Fáilte Ireland, Limerick Chamber, Shannon Chamber and Regional Skills.

The event will take place in LIT, Moylish Campus on Wednesday June 12, 2019 from 8.30am to 5pm. For more information and to register for the showcase, please visit <http://www.manufacturingsolutions.ie/>.

CAPTION:

Looking forward to Manufacturing Solutions Ireland 2019 at LIT Moylish Campus on June 12, 2019 are (from left to right): Dean of Faculty of Applied Science, Engineering & Technology Maria Kyne; President of LIT, Professor Vincent Cunnane; Chief Executive Officer, GTMA, Julia Moore; and General Manager, GTMA David Beattie.

**The Gauge and Tool Makers Association (GTMA) is a UK-based trade association representing leading companies in precision engineering, rapid product development, toolmaking, tooling technologies, metrology and other critical manufacturing related products and services. It embraces technology, procurement and supply chain initiatives to offer solutions across a full range of business needs. It also has a committed strategy to focus on major market sector opportunities, from aerospace and automotive to medical and marine.*

***The P.T.M.A (Precision Turned Parts Manufacturers Association of Ireland) is a Trade Organisation established over 25 years ago. The P.T.M.A's mission is to further the growth and development of the Precision Turned & Machined Parts industry in Ireland.*

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Construction Works Begin on €325 Million WuXi Biologics Dundalk Facility



May 27, 2019

The new €325 million state-of-the-art WuXi Biologics facility has begun to take structural form as steel erection begins on the company's 52-acre campus site in Dundalk. Work is on schedule for the new contract manufacturing biologics facility which, at 48,000 square metres in size, is set to become the world's largest single-use biologics manufacturing facility.

Planning approval for the facility was confirmed in mid-January. Since then some 200,000 tonnes of earth have been moved and relocated within the site during site-development works while 2,900 cubic metres of concrete have been poured for foundations. In all, over 5,000 tonnes of steel sourced from an Irish supplier have arrived on site to enable steelworks get underway.

"The project is truly moving at 'WuXi speed' and we are delighted with progress to date," said WuXi Biologics Ireland Site Head and VP Manufacturing Brendan McGrath. "Cladding work will commence at the end of July and we are on target to have all of the buildings weather tight by January. This will enable us to move ahead with the installation of the processing plant and equipment to bring us into full commercial production on schedule by 2022."



Erecting structural steel on the Wuxi Ireland DK2 Manufacturing building in Dundalk.

The rapidly advancing schedule will see the number of construction workers on site increase from 120 at present to 500 by year end. Peak construction employment for the project will reach 2,000.

Brendan McGrath paid tribute to the project team. “This rapid progress has been made possible by the excellent standards of our project partners Wills Bros., IPS Engineering, Jacobs Engineering, Kiernan’s Structural Steel Longford and a number of other contractors who are working with us on the Dundalk facility,” he said. “We have also enjoyed tremendous support from IDA Ireland and Louth County Council as well as from the local community and this is greatly appreciated.”

WuXi Biologics is China’s leading end-to-end biologics solutions provider and the Dundalk campus is to be WuXi Biologics first manufacturing facility outside China. Biologics drugs represent a new frontier in medicine. They are developed in bioreactors from genetically engineered microbes, within living cell culture. This is a highly complex process which involves the production of fragile substances at heavy cost. “The production of highly specialised biologics medicines often involves the manufacture of relatively small quantities of highly specialised drugs,” Brendan McGrath explained.

He added: “Generally, it is neither practical nor economic to manufacture small volumes of specialist biologics medicines in traditional large-scale biopharma facilities. Instead, the single use technology and processes which we will create in our new Dundalk campus will allow for cost-efficient scale-out of contract manufacturing biologics production from small to large volumes as required.”

This advanced technology will establish a ‘factory of the future’ in Dundalk and reinforce Ireland’s leading position globally in biologics manufacturing. “The new facility is designed to employ high performance

single-use biologics manufacturing technology and will have the capability to run multiple batches simultaneously, delivering biologics medicines at a significantly lower cost than is possible using traditional systems,” he said.

“This will have profound implications as it will help to reduce the cost of medicines production”, he continued. “As a contract development and manufacturing business, WuXi Biologics currently numbers over 50 per cent of the world’s leading biopharma companies as customers. Reflecting our commitment to breakthrough innovation in supporting the production of new medicines at effective cost, WuXi Biologics is working with about 12 per cent of all the currently known candidate drugs in the global biologics pipeline while also actively pioneering technologies for continuous production processes, laying the foundations for exciting biopharma innovation in Dundalk.”

The new facility also represents a tremendous opportunity for Irish graduates across a range of disciplines to work in a world class environment. “We are inviting talented people to join us on the exciting journey which will see us develop a large-scale integrated facility to produce some of the world’s most innovative biologics medicines,” said Brendan McGrath. “We hope experienced local and international talent will look to the WuXi Biologics operations in Dundalk, or indeed in China, for exciting career opportunities and challenges at the leading edge of biopharma innovation and production. Recruitment for senior roles at the Dundalk facility has already commenced and mainstream recruitment is planned to begin in the second half of this year.”

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Climate Action Plan Launched



June 19, 2019 by Mike

The Government has published the Climate Action Plan, designed to give Irish people a cleaner, safer and more sustainable future. The far-reaching plan sets out over 180 actions, together with hundreds of sub-actions, that need to be taken at a time when the warning signs are growing, and the time for taking action is rapidly reducing.

At a time when we should be radically reducing our reliance on carbon, Ireland's greenhouse gas emissions have been rising rapidly. We are currently 85% dependent on fossil fuels. We have a short window of opportunity to reverse this trend and secure a better, healthier, more resilient future for the country. This means changing the way we heat our homes, the way we travel and the way we power our country.

The plan identifies how Ireland will achieve its 2030 targets for carbon emissions, and puts us on a trajectory to achieve net zero carbon emissions by 2050. It uses the same model as the Action Plan for Jobs.

The Plan embraces every relevant sector: electricity, enterprise, housing, heating, transport, agriculture, waste, and the public sector. It is ambitious but realistic and aims to:

Eliminate non-recyclable plastic and impose higher fees on the production of materials which are difficult to recycle, implement measures to ban single-use plastic plates, cutlery, straws, balloon sticks and cotton buds.

Establish a new Microgeneration Scheme, allowing homeowners to generate their own electricity and sell what they don't use back to the national grid;

Move to 70% renewable electricity by 2030, currently only 30% of our electricity comes from renewable sources;

Bring 950,000 electric vehicles onto our roads, deliver a nationwide charging network, an electric vehicle scrappage scheme and legislation to ban the sale of petrol / diesel cars from 2030;

Expand our network of cycling paths and "Park and Ride" facilities, helping ease congestion;

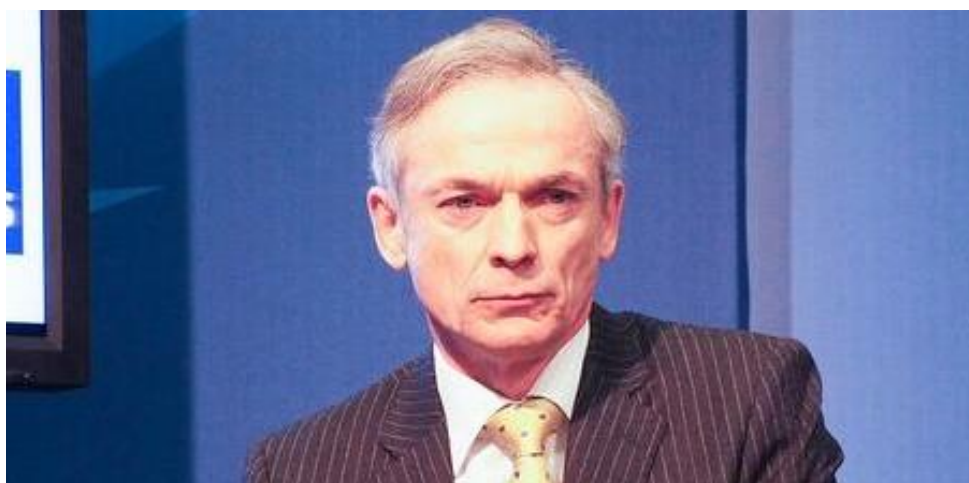
Deliver an intensive programme of retrofitting to install 400,000 heat pumps in homes and businesses, replacing the existing carbon-intensive heating systems;

Establish a system of 5-year carbon budgets and sector targets, with the relevant Minister responsible for delivering on the target, with penalties if they are not met. These targets will be underpinned by a new Climate Action Act. All major government investments and decisions will be carbon-proofed;

Deliver reductions in greenhouse gas emissions in agriculture by creating new, sustainable opportunities for family farms

Deliver a new Retrofit Plan to retrofit 500,000 homes, with large groups of houses being retrofitted by the same contractor to reduce costs, smart finance, and easy pay back methods;

Every public body will be given a climate action mandate by their line Minister to prioritise climate action and new letters of expectation will issue to semi-state bodies on Climate Action.



Minister: Richard Bruton.

The plan also includes actions to ensure that all of us as citizens become engaged and mobilised to take climate action, while ensuring that the necessary societal and economic transition that we must make is fair, both in Ireland and globally.

The Climate Action Plan, like the Action Plan for Jobs, will be annually updated, with actions reported on quarterly. The government has also approved the establishment of the Climate Action Delivery Board to ensure that the delivery of the plan is overseen by the Taoiseach's office.

Failure to implement these policies to meet our legally binding EU targets could result in a cost to the Exchequer of up to €1.75 billion over the next decade as well as locking Ireland into a future high carbon trajectory.

Richard Bruton, TD, Minister for Communications, Climate Action, Environment, Energy and Natural Resources, said: “Every generation wants to leave the world in a better place than they found it for their children. We have a short window of opportunity to act. We must act now and leave a better, healthier, more sustainable Ireland for future generations. This Plan provides our way forward.

“We are currently 85% dependent on fossil fuels. This Plan sets out radical reforms, which will cut our reliance on carbon, making our businesses more competitive, our homes more sustainable and our farms more efficient. We will be doing things in new, innovative ways. Most of the actions set out will actually save money in the long-run. We will now implement this Plan, rolling out the required actions through a sustained effort.

“This is a life changing journey and it is a rapid, transformative adjustment that is required. Nothing less will do. We must all now take up the challenge.”

The Government Climate Plan to tackle climate breakdown has been informed by the work of the Citizens Assembly and the work of the All Party Committee on Climate Action, chaired by Hildegard Naughton.

The Climate Action Plan puts us on a trajectory to meet our 2030 target for carbon emissions, which is consistent with achieving net zero carbon emissions by 2050. The Plan commits to evaluating in detail the changes required to adopt a more ambitious commitment of net zero greenhouse gas emissions by 2050. In the new Climate Action Act, we will include a 2050 target in law.

Summary of key actions

Electricity

Increase reliance on renewables from 30% to 70% adding 12GW of renewable energy capacity (with peat and coal plants closing) with some of this delivered by private contracts

Put in place a coherent support scheme for micro-generation with a price for selling power to the grid

Open up opportunity for community participation in renewable generation as well as community gain arrangements

Streamline the consent system, the connection arrangements and the funding supports for the new technologies on and off shore

Buildings

Introduce stricter requirements for new buildings and substantial refurbishments

Design policy to get circa 500,000 existing homes to upgrade to B2 and 400,000 to install heat pumps

Build a supply chain and a model for aggregation where home retrofits are grouped together to allow this level of activity to be funded and delivered

Delivering two new district heating systems, and identify a roadmap for delivering District Heating potential

Increase attention to Energy and Carbon ratings in all aspects of managing property assets

Transport

Accelerate the penetration of EV into sales of cars and vans on the route to reach 100% by 2030, so that 950,000 electric vehicles will be on the road by 2030. This means approximately one third of all vehicles sold during the decade will be Battery Electric Vehicle (BEV) or Plug-in Hybrid Electric Vehicle (PHEV)

Make growth less transport intensive through better planning, remote working and modal shift

Increase the renewable biofuel content of motor fuels

Set targets for the conversion of public fleets

Agriculture

Deliver substantial verifiable greenhouse gas abatement through adoption of a specified range of improvements in farming practice

Deliver expansion of forestry planting and soil management to ensure that carbon abatement from land-use is delivered in 2021-30 and in the years beyond

Support diversification within Agriculture and land use to develop sustainable and circular value chains and business models for lower carbon intensity farming including organic production and protection and enhancement of biodiversity and water quality; and the production of bio-based products and bioenergy through the Common Agricultural Policy and implementation of the National Policy Statement on the Bioeconomy.

Enterprise and Services

Embed energy efficiency, replacement of fossil fuels, careful management of materials and waste and carbon abatement across all enterprises and public service bodies

Mobilise clusters regionally and sectorally to become centres of excellence for the adoption of low carbon technologies

Plan for the delivery of quality employment and enterprise in the new areas of opportunity being opened up

Waste and the Circular Economy

Develop coherent Reduction Strategies for Plastics, Food Waste and Resource Use

Increase the level and the quality of recycling with less contamination and greater replacement of virgin materials by recycling. Eliminate non-recyclable plastic

Reduce the reliance on landfill with sharp reductions in plastics and compatibles entering landfill

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Takeda Ireland Opens New Innovative Manufacturing Site in Dublin



Pictured (left to right): Takeda Pharmaceutical CEO Christophe Weber; Mary Buckley, Executive Director, IDA Ireland; and Minister for Employment Affairs Regina Doherty.

July 10, 2019 by mike

Takeda Ireland, a subsidiary of Takeda Pharmaceutical Company Ltd, has officially opened a new cutting-edge manufacturing facility at its site at Grange Castle in Dublin. Takeda has created this high containment, state-of-the-art production facility dedicated to the manufacturing of their oncology treatment.

Construction of the plant began in June 2017 and was managed by Project Management Group. A total of 40 jobs will be created at the site. The plant is the first Active Pharmaceutical Ingredient (API) manufacturing operation to be located outside of Japan for Takeda and houses all steps of the production process including API, drug product and primary and secondary packaging for supply to global markets.

The Takeda Grange Castle plant currently employs over 80 people, all of whom are trained in the latest manufacturing techniques, to ensure operational excellence.

Commenting on the opening, Takeda Pharmaceutical CEO Christophe Weber said: “We have built up a strong foundation in Ireland over the past 17 years, and this new plant in Grange Castle is an important strategic site for us, as it is not only the first overseas manufacturing centre for APIs outside of Japan, but it houses all the steps of the production process. We are excited to take this next step and continue to deliver our medicines to patients around the world and concentrate our efforts on breakthrough innovations. I would like to thank our employees and stakeholders, as well as the IDA, for their support throughout the entire process.”

Mary Buckley, Executive Director, IDA Ireland, said: “Manufacturing excellence in pharmaceuticals is a hallmark of Ireland’s success in the sector. This innovative manufacturing site not only highlights Takeda’s commitment to Ireland, it also showcases how competitive Ireland is for global enterprise and investment. I wish Takeda continued success and on behalf of IDA Ireland offer our ongoing support.”

In addition to their oncology treatments, Takeda Ireland produces APIs for the treatment of Diabetes, Oncology, Insomnia, Weight loss, Acid related disease, Bipolar disorder and Hypertension.

In addition to the grand opening, Takeda also used the opportunity to introduce another project in Grange Castle to the public. The company is investing about €30 million into a regenerative medicine facility at its site in Grange Castle, which will be the first commercial scale cell therapy production facility in Ireland. This innovative facility will cover all steps of the cell therapy production process from receipt of donor material to fill finish, packaging and shipment off site to the patient.

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Launch of Ireland's First National Space Strategy for Enterprise 2019-2025



June 24, 2019 by mike

The Government has launched Ireland's first National Space Strategy for Enterprise 2019-2025. The national strategy will provide strategic support to Ireland's expanding space-active industry and research institutes, which work across a range of technological domains and develop technology with both space and non-space applications.

The development of this strategy is extremely timely as the international space sector is currently undergoing a rapid evolution. According to the European Investment Bank (2019), the international space sector has grown by an average of 6.7% per annum between 2005 and 2017, almost twice the 3.5 % average yearly growth of the global economy.

In parallel, the capabilities of space-active enterprises in Ireland have progressed significantly in recent years, with the number of companies engaged in contract work with the European Space Agency (ESA) having grown from 35 in 2008 to 67 in 2018. The development of Ireland's space-active industry is supported by Ireland's membership to international organisations including the ESA, the European Union space programmes and EUMETSAT.

Launching the strategy, Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD said: "Space-active Irish companies have become increasingly successful within European Space Agency and EU programmes in recent years. As the space economy continues to evolve

at an unprecedented rate, there is a growing opportunity for Irish companies to participate. This strategy puts into place a framework for a greater Irish involvement, and enhanced success at a global level.”

The strategy sets out six ambitious goals to achieve by 2025:

Double the space related revenue and employment in space-active Irish companies;

Support 100 companies to benefit from ESA engagement;

Double the value of contracts won through the EU Horizon programmes in space-related activities;

Increase industry, public and international awareness of space and Ireland’s activities in space;

Develop and attracting talent for space-active and related industries; and

Develop a sustainable Earth Observation services sector based on advanced data analytics capability.

The delivery of these goals is underpinned by a target to increase Ireland’s overall public and private investment through ESA. The strategy aims to increase public and private investment in ESA by 50% by 2025, which would see investment grow to an annual level of €32 million.

Tom Kelly, Divisional Manager Innovation and Competitiveness at Enterprise Ireland said “*Last year, 27 companies in Ireland secured European Space Agency contracts valued at €19.3m. Irish companies are at the leading edge of innovation and technological developments within the Space sector in a range of technology areas including development of the next-generation satellites and spacecraft, technologies for human spaceflight, as well as technologies to optimise the use of Earth observation, telecommunications and navigations satellites.*”

The National Space Strategy for Enterprise 2019-2025 can be found [here](#)

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