A Journal of the Institute of Chemistry of Ireland

Boyle Higgins gold Medal Award 2019

Prof Suresh Pillai

Institute of Technology Sligo

Photo credit Suresh's son Hari Pillai

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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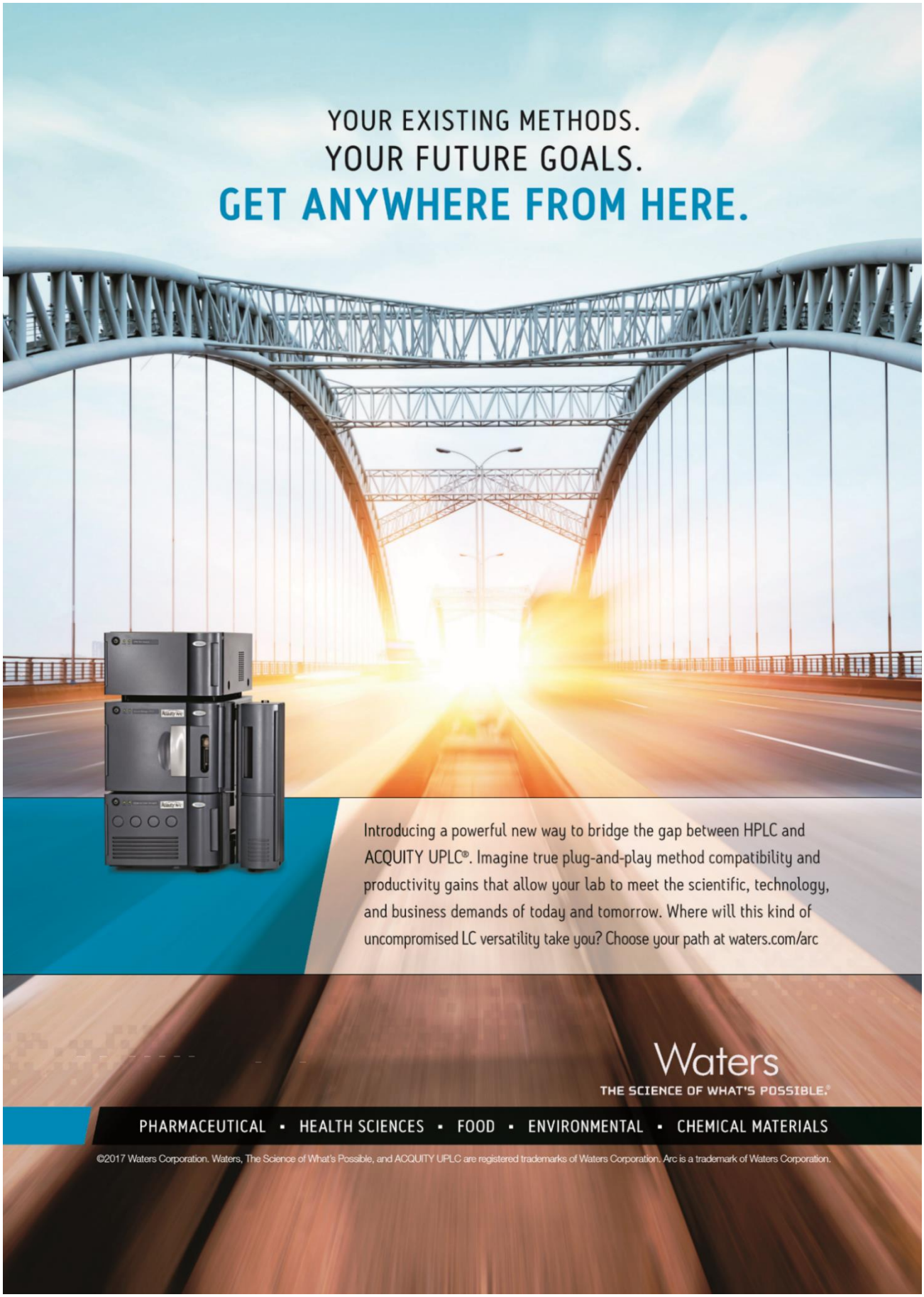

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A message from the outgoing President

May 2019

Dear Colleagues,

The ICI Congress is to be held in National University of Ireland, Maynooth on 20th May with the topic 'Molecular Sensing and Molecular Logic'. It promises to be an exciting event with a variety of engaging talks and internationally recognised speakers.

Preparations are also being made to host the 71st Irish Universities Chemistry Research Colloquium on the 20th and 21st June co-hosted by the Technological University Dublin (City Campus) and Royal College of Surgeons in Ireland. I would like to welcome Prof Celine Marmion as incoming President. The two years in which I was President flew by and I would like to thank the Council for their hard work and support throughout that time.

Preparations are also gearing up to host the EuchemS Congress in August 2022, under the Local Organising Committee lead by Prof Thorri Gunnlaugsson. This promises to be a milestone in the calendar of events and will prove to be a major event in the Centenary Year of the Institute. I would like to wish you all the best.

John Cassidy

RCSI
ROYAL COLLEGE OF SURGEONS IN IRELAND
COLÁISTE RÍOGA NA MÁINLEÁ IN ÉIRINN

A message from our new President, Prof Celine Marmion, RCSI

Dear Fellows, Members, Graduates and Associates,

I am delighted to introduce myself to you as the newly elected President of the Institute of Chemistry of Ireland. I feel very privileged and honoured to be afforded this wonderful opportunity and I will endeavour to represent all Chemists in Ireland to the best of my ability during my term of office. I would also like to congratulate Professor Pat Guiry (UCD), on being elected Vice-President of the Institute. May I also take this opportunity to thank Professor John Cassidy for his enormous contribution to the Institute in his role as President over the past two years (Apr2017-Apr 2019). My thanks also to Ms. Mary Mullaghy, Dr John Keegan, Dr Eoghan McGarrigle, Dr Odilla Finlayson and Mr. Pat Hobbs for continuing in their roles as honorary secretary, honorary treasurer, assistant honorary treasurer, registrar and ICN editor respectively and to all Council members for their ongoing support.

As you know, the Institute of Chemistry of Ireland is the national professional body representing Chemists in Ireland. Its members are chemists who have satisfied the requirements of the Institute with regard to their qualifications and experience. If you know of colleagues who are not members, I would urge you to reach out to them and encourage them to join our thriving community of chemists. Application forms can be downloaded directly from the ICI website (http://www.chemistryireland.org/index.html). The Institute also has responsibility for promoting the study of chemistry, sets professional standards and offers advice and comment to Government in areas relevant to the profession. A highlight of the Institute each year is the awarding of several honours, some of which I would like to draw your attention to below.

First, one of the most prestigious honours that can only be bestowed on a member of the Institute is the Boyle Higgins gold medal and lecture award. This award, which was established in 1985, recognises a chemist who has made an exceptional contribution, nationally and internationally, to chemistry research. Congratulations to Professor Suresh Pillai (Sligo IT) on being the most recent recipient. He received his gold medal and delivered an outstanding award lecture entitled ‘Materials in the Nanoscale; From the Laboratory to Industries’ at a special ICI award ceremony held in RCSI on 11th April of this year.

The ICI Annual Award for Chemistry (Eva Philbin Public Lecture Series), which was inaugurated in 2005, recognises an outstanding chemist of repute who may be employed in academia, industry or in the state sector. The purpose of this award is to promote the benefits of chemistry to the widest possible audience. The recipient is expected to present their award lecture in Dublin and in two other locations in Ireland and the lectures must be open to the general public. Congratulations to Professor Anita Maguire (UCC) on being the most recent recipient. The title of her award lecture was on ‘Using Hazardous Reagents Safely - Go with the flow!’ I had the pleasure of attending her fascinating and very enjoyable lecture in TU Dublin on the 12th November 2018.

The ICI postgraduate award, established in 2018, is the most recent award of the Institute. The recipient 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 and outside their University. Congratulations to Ms Adele Gabba, working under the supervision of Professor Paul Murphy (NUIG), on being a most worthy recipient of this inaugural postgraduate award. We look forward to hearing her ICI award lecture at the forthcoming 71st Irish Universities Chemistry Research Colloquium, which is being jointly hosted by TU Dublin and RCSI on the 20th-21st June 2019.

The Second Level Education Award recognises a student who has achieved the highest grade in Ireland in their Leaving Certificate Honours Chemistry course. These students are presented with an ICI medal and their respective schools and teachers are provided with a Certificate from the Institute. Congratulations to Ms Jessica Murphy (Mount Mercy College, Model Farm Road, Co. Cork) and Mr Corey Kissane (St. Brendan's College, Killarney, Co. Kerry) on being the most recent recipients and to their schools and teachers. Both Jessica and Corey, together with their school principals, Chemistry teachers and proud parents attended the special ICI award ceremony in RCSI in April where they were awarded their medals which I have no doubt they will treasure.

There are other ICI awards, the details of which may be found on the ICI website:
http://www.chemistryireland.org

On behalf of Council, may I also take this opportunity to congratulate Dr Robert Elmes who hosted the 44th ICI Annual Congress in his home Institution, Maynooth University on 20th May 2019. The programme brought together a host of world-renowned participants from across Ireland and abroad including invited speakers and poster presentations covering a broad range of topics under the general theme 'Molecular Sensing and Imaging'. Further details in relation to this highly successful Congress will be available in the next ICN issue.

May I conclude by highlighting that this is an exciting time to be part of the Institute and the chemistry community here in Ireland. The ICI is fortunate in having records of all its meetings dating back to the very first meeting, which was held on 15th May 1922. In 2022, the ICI will celebrate its 100th anniversary and will mark this impressive milestone by hosting the European Chemical Society (EuChemS) Congress here in Dublin. This Society, as you know, is an umbrella organisation representing national Chemical Societies and other chemistry-related organisations in Europe (https://www.euchems.eu/). Their Congresses typical attract over 2000 delegates from around the world. What a wonderful opportunity for us to showcase all that is best about chemistry here in Ireland.

Last, but by no means least, may I especially acknowledge and thank Mr. Pat Hobbs in his role as editor of the ICN. I hope you enjoy reading this issue.

I look forward to engaging with you during my term as President over the coming months. If you wish to provide any feedback, please do not hesitate to contact me by email at cmarmion@rcsi.com

Yours sincerely,

Celine Marmion

Professor Celine J. Marmion FICI
President, Institute of Chemistry of Ireland
30th May 2019

Editorial

This the first Issue of 2019 is later than I had planned for reasons beyond my control. Issue 2 should follow very soon. You may notice our Logo has been upgraded to a sharper more intensely coloured image for documentation and for projection on large screens.

As ever a lot of chemistry activity and events have taken place up to this month. The cover shows our Boyle Higgins Gold Medal Award winner Professor Suresh Pillai from the Institute of Technology Sligo.

After the Gold Medal Lecture the inaugural Post Graduate Award 2018 winner for excellence in chemistry, Ms. Adele Gabba, National University of Ireland, Galway was presented with her certificate.

This was followed by the presentations of the ICI Leaving Certificate Medals to two winning students for the highest Chemistry marks in Leaving Certificate exam.

The 3rd Inorganic Ireland Symposium was held QUB on December 17th. At that event the winner of the David Brown Award, Prof Sylvia Draper, TCD was announced.

The 20th National Eurachem Analytical Measurement Competition was held at the Institute of Technology, Carlow and this year Carlow were the winners.

This year is the 150th anniversary of the periodic table. 1869 is considered as the year of discovery of the Periodic System by Dmitri Mendeleev. UNESCO hosted the opening ceremony in Paris. I attended on behalf of the Institute. This Issue has an article with active links and the whole ceremony can be viewed online (link in article) and I included the programme content so you can select items of particular interest to you.

Chemistry Ireland, inaugural volume is still in gestation and hopefully will be ready in the autumn. I have a number of our award winners preparing papers and when I receive a sufficient number, Volume 1 No. 1 will appear.

Our AGM was held after the Boyle Higgins Award and Prof John Cassidy, TU Dublin, completed his term of office and handed over the Presidency to Prof Celine Marmion, RSCI. I thank John for his successful tenure and being part of the team making the winning bid for EuChemS ECC9 in Dublin in 2022. Welcome to Celine as our new President and I wish her every success as President and in progressing preparations for ECC9. Prof Pat Guiry, UCD was elected Vice president. A presentation was made to Margaret Franklin former President, after many years' service to the Institute.

The EU have made changes to extend intellectual property rights (SPCs) for five and a half years on medical products and this is of interest to chemists in the pharmaceutical industry. Permission to republish this article was given by Kilburn & Strode.

News items and reports from Industry & Business SFI, IDA, and EI make up the rest of this issue.

Preparation work continues for EuChemS ECC8 - Lisbon 2020. Prof John Cassidy is a member of the Scientific Committee and will be a resource during our own preparations for 2022.

Heads of Chemistry Schools and Principal Investigators you need to be planning to send teams to Portugal in 2020 in anticipation of our hosting (ECC in Dublin in 2022). A very strong attendance from Irish researchers is essential in Lisbon. It seems to be that Irish researchers are behind the curve when it comes to attending this growing international chemistry congress compared to other European countries. Let's change this image.

I urge qualified readers and researchers to encourage your colleagues to join the Institute and engage in promoting chemistry. Membership forms are available on our website.

Comments and Responses are welcome and can be sent to:- **info@instituteofchemistry.org**

Patrick Hobbs MSc, FICI, CChem, CSci, MRSC. May 2019
Editor

INORGANIC IRELAND SYMPOSIUM 2018

The 3rd Inorganic Ireland Symposium was held in QUB on December 17th. The Symposium was a one-day event and well attended and supported by the inorganic community in Ireland. The winner of the 2018 David Brown Award was announced. Prof Sylvia Draper, Trinity College was the winner of this award. Sylvia is the 3rd person of note to win this award.

Prof Sylvia Draper delivering her lecture at the Symposium
(A report and presentation should be available in a later Issue)

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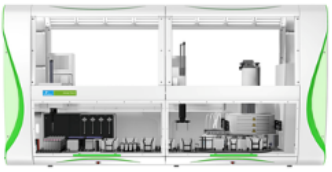

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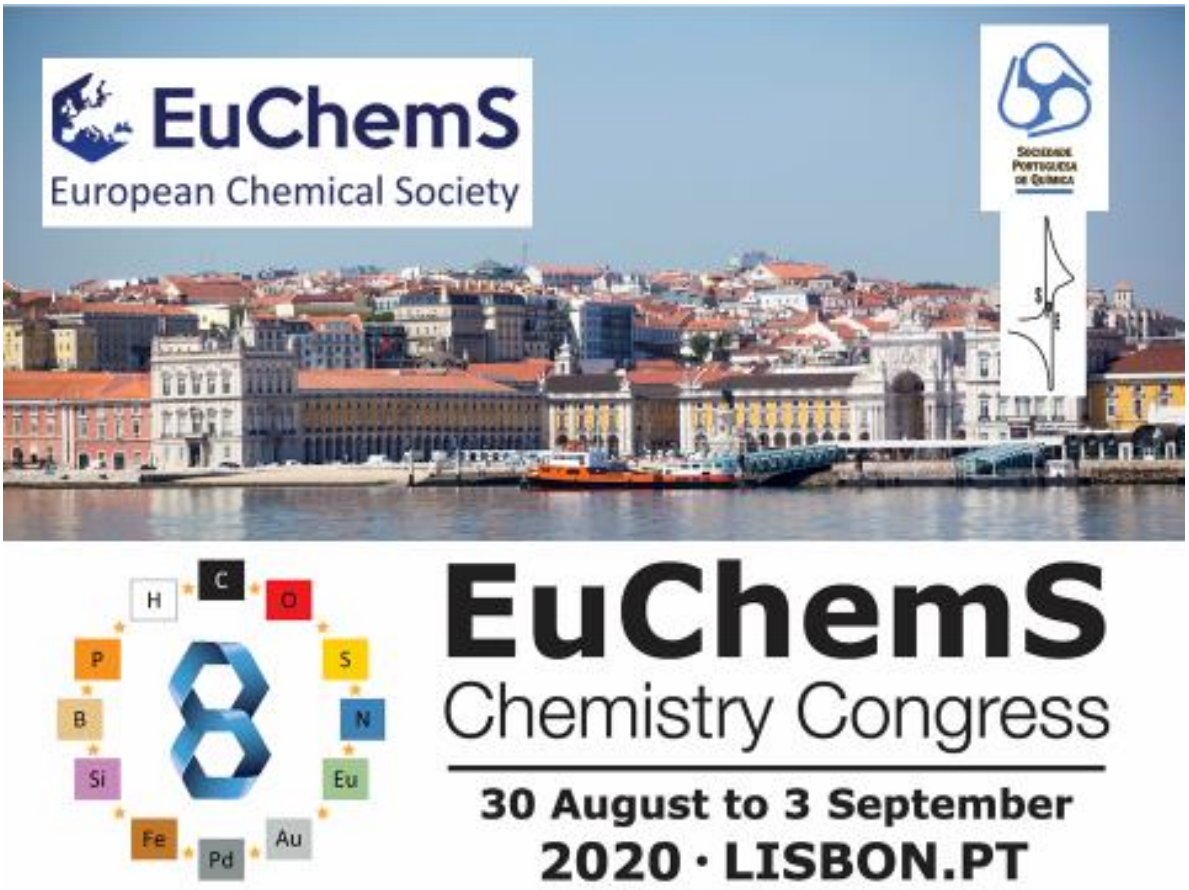

INVITATION TO THE 8th EuChemS Congress

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.

EuChemS
European Chemical Society

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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Boyle Higgins Gold Medal Award 2019

Prof Suresh Pillai

Institute of Technology Sligo

Photo credits: Mr. Eric Clarke, RCSI

Outgoing President Prof John Cassidy, Prof Suresh Pillai and Dr Jeremy Bird, Head of School of Science, ITSligo

Boyle Higgins Gold Medal Award 2019

Thursday, 11th April, 2019 Royal College of Surgeons in Ireland

Prof Suresh Pillai

Suresh C. Pillai obtained his PhD in the area of Nanotechnology from Trinity College Dublin and then performed his postdoctoral research at California Institute of Technology (Caltech), USA. Upon completion of this appointment he returned to Trinity College Dublin as a Research Fellow before joining CREST-DIT as a Senior Scientist in April 2004. He has joined IT Sligo in 2013 as a senior lecturer in nanotechnology and currently leads the Nanotechnology and Bio-Engineering Research Group. He is an elected fellow of the UK's Royal Microscopical Society (FRMS) and the Institute of Materials, Minerals and Mining (FIMMM). He has also completed an executive MBA from Dublin City University, in 2009. Suresh was responsible for acquiring more than €4 million direct R&D funding.

He has published several scientific articles in leading peer reviewed journals has contributed to several book chapters, has presented in more than forty international conferences and has delivered over forty international invited talks. Suresh has also been invited to deliver keynote/plenary speeches at various international conferences including the IWA Symposium on Environmental Nanotechnology in Nanjing, China (2013), the International Green technology conference, India (2013) and the European Photocatalysis conference in Slovenia (2013).

He is the lead inventor in two granted US patents (awarded in 2013 and 2015) and one UK patent (awarded in 2015). He was also one of the three co-founders of DIT start-up company Radical Coatings. His research work was featured in the investigators programme (RTE TV), BBC London, BBC world Radio, the Times UK, RTE-1 TV, Aljazeera TV, Ocean FM radio and in a number of national and international news media. Suresh is a recipient of the Industrial Technologies Award 2011 for licensing functional coatings to Irish companies. He was also the recipient of the 'Hothouse Commercialisation Award 2009' from the Minister of Science, Technology and Innovation and also the recipient of the 'Enterprise Ireland Research Commercialization Award' 2009'. He has also been nominated for the 'One to Watch' award 2009 for commercialising R&D work (Enterprise Ireland).

One of the nanomaterials based environmental technologies developed by his research team was selected to demonstrate as one of the fifty innovative technologies (selected after screening over 450 nominations from EU) at the first Innovation Convention organised by the European Commission on 5-6th December 2011. He is the national delegate and technical expert for ISO standardization committee and European standardization (CEN) committee on photocatalytic materials. He is an editor for the journal Environmental Science and Pollution Research (ESPR, Springer) and Editorial Board Member for the Chemical Engineering Journal and Applied Catalysis B (Elsevier).
His publications list can be viewed
at http://scholar.google.com/citations?hl=en&user=4zkNK7sAAAAJ&view_op=list_works

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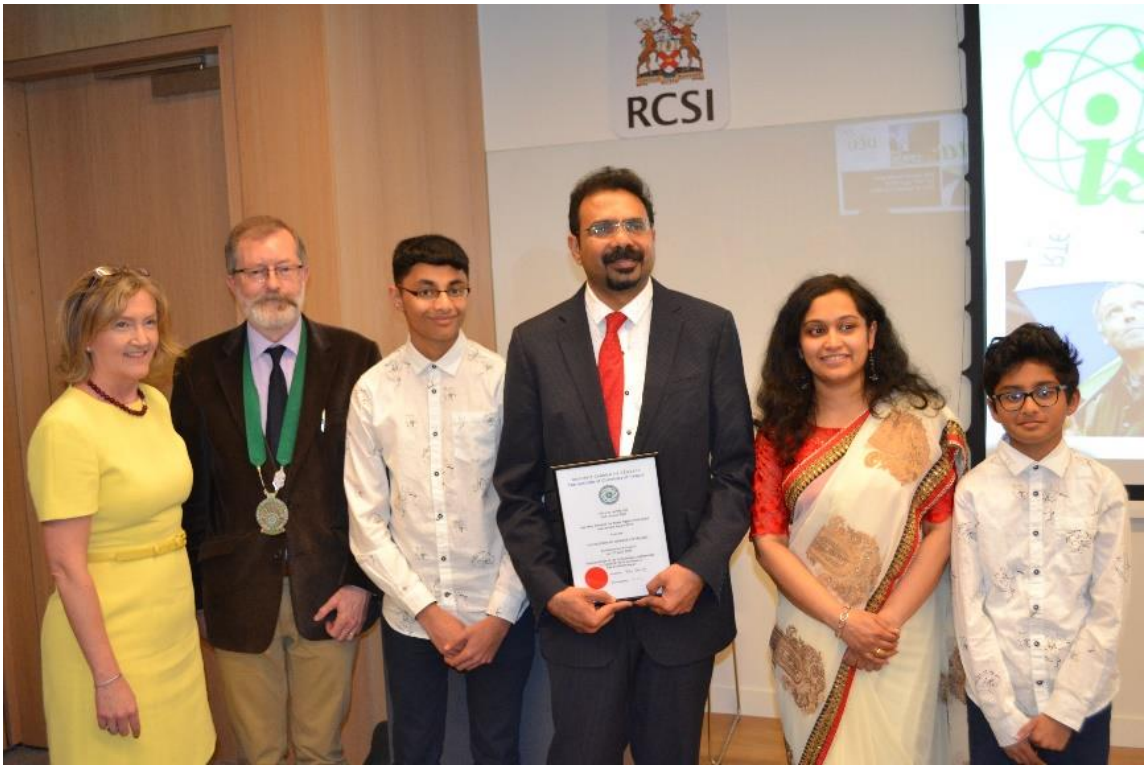
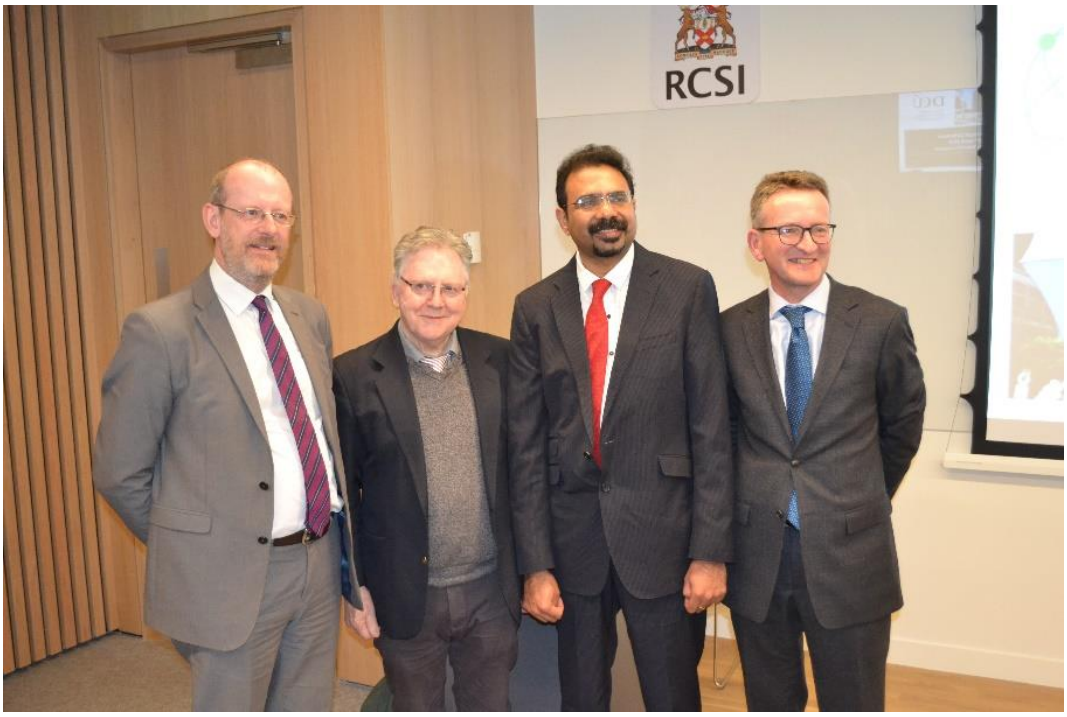


Prof Celine Marmion, Prof John Cassidy, Hari, Suresh, Saritha and Sree



Dr. John Colreavy, Director of CREST, Robert Hickson, CEO of VitrA Ireland/UK with Suresh and Prof Declan McCormack Head of School of Chemical & Pharmaceutical Sciences, TU Dublin.

The title of the Lecture was ***'Materials in the Nanoscale; From the Laboratory to Industries'***

Dr Jeremy Bird introduces Suresh

Suresh delivers his lecture

An attentive audience while Suresh delivers his lecture with gusto

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Institute of Chemistry Ireland Post Graduate Award 2018 Inaugural Winner

This year for the first time the Institute has introduced a Post Graduate Award for excellence in chemistry research. A number of excellent researchers were nominated and after some consideration the winner was selected and announced.

The 2018 winner is:

Ms. Adele Gabba
(National University of Ireland, Galway)

Photo credits: Mr. Eric Clarke, RCSI

Professor John Cassidy, President of the Institute of Chemistry of Ireland; NUI Galway PhD Student and recipient of the Institute of Chemistry of Ireland Inaugural Postgraduate Award, Adele Gabba, School of Chemistry, NUI Galway.

Adele Gabba, a PhD student in the School of Chemistry at NUI Galway, has been awarded the Institute of Chemistry of Ireland Inaugural Postgraduate Award in recognition of her outstanding contribution to research.

Originally from Italy, Adele is an Irish Research Council funded PhD scholar, who is currently in the final year of her study. She has been working on synthesis and evaluation of ligands for the macrophage galactose C-type lectin (CLEC10A). CLEC10A is a protein found on the surface of cells of the immune system, and has a role in viral infection, such as infection by the Ebola virus. She has conducted her research mostly at NUI Galway and also travelled for periods to ISAS in Germany to the laboratory of Ulrika Westerlind, supported by an EMBO travel award, and to the Beth Israel Deaconess Medical Centre (affiliated with the Harvard Medical School in Boston) to the laboratory of Gabriel Birrane.

The award from the Institute of Chemistry of Ireland also acknowledged Adele's unwavering commitment to supporting and promoting Chemistry within her University and via her active participation in a wide array of public engagement initiatives. Adele has been very active in Kitchen Chemistry, which contributes to public events, such as the Galway Science and Technology Festival. She has also contributed to other events such as FameLab and Soapbox Science.

Professor John Cassidy, President of the Institute of Chemistry of Ireland praised the excellence of Adele's research as well as recognising the mentorship she provides to younger students. Professor Celine Marmion, incoming President of the Institute, offered her congratulations to Adele, indicating she is a most worthy recipient of this award and wished her continued success and happiness in her current and future endeavours. Professor Marmion also offered congratulations to her PhD supervisor, Professor Paul Murphy, to the School of Chemistry and to NUI Galway.

Professor Paul Murphy, School of Chemistry, NUI Galway, PhD Student and recipient of the Institute of Chemistry of Ireland Inaugural Postgraduate Award, Adele Gabba, with Prof John Cassidy, outgoing President of the Institute of Chemistry of Ireland

Dr Patrick O'Leary, Head of the School of Chemistry at NUI Galway, said: "It's great to see Adele's work being recognised. She has truly embraced all that a PhD can offer in terms of her own research excellence, exposure to other research areas, training as a science communicator and inspiring the next generation of STEM students. Once she finishes in NUI Galway we look forward to seeing bright career ahead for her."

The Institute of Chemistry is the professional body representing chemists in Ireland. The mission of the Institute of Chemistry of Ireland is to promote Chemistry and to represent the profession of Chemistry in Ireland.

Nomination for the 2019 Post Graduate Award will open soon.

Presentation of ICI Medals to Leaving Certificate 2018

Each year the Institute awards a medal to Student(s) who attained the highest grade in Leaving Certificate Chemistry Examination. The presentations for 2018 were made after the Boyle Higgins Gold Medal Award hosted at the RCSI on April 11th 2019. There were two winners:

- Corey Kissane (St. Brendan's College, Killarney, Co. Kerry)
- Jessica Murphy (Mount Mercy College, Model Farm Road, Co. Cork)

Photo credits: Mr. Eric Clarke, RCSI

Winning Students: ***Corey Kissane* & *Jessica Murphy***

Jessica Murphy with her parents & Mary Mullaghy Hon. Sec. & ISTA representative on Council

Corey Kissane with John Cassidy, Mary Mullaghy and his teacher Ms Marie Vaughan

John Cassidy, Jessica Murphy, Mary Mullaghy with her teacher Ms Helen Reidy

Corey Kissane *with parents and Mary Mullaghy*

Long serving Council Member Margaret Franklin Retires from Council

Photo credits: Mr. Eric Clarke, RCSI

John Cassidy outgoing President and Celine Marmion incoming President with Margaret Franklin after the Boyle Higgins Awards and before the AGM

Our longest serving Council member Margaret Franklin has decided to retire after 30 years serving the Institute. Margaret retires as Immediate Past President, President, Vice-President and Registrar. Margaret has been one of the most proactive members of Council, always willing to work to promote the interests of chemistry and the Institute and suggest ideas. Helpful, encouraging and welcoming to new members and great at recruiting new members to join Council.

Margaret has been most helpful at proof reading and making suggestions to improve Irish Chemical News and she has been a great support to me in producing ICN since 2015. I as editor am very grateful to her for all that unwavering help and support and I will greatly miss her contributions.

Institute to hosts 20th Edition of National Eurachem Analytical Measurement Competition it established in 1999

Institute of Technology Carlow hosted the National Eurachem Analytical Measurement Competition (EAMC 2019) on 12th April, having first initiated the competition in 1999.

A team from Institute of Technology Carlow won the recent Eurachem Analytical Measurement Competition (EAMC) that was recently hosted by the Dept. of Science & Health.

It is timely that the Institute would produce the winning team, having first initiated the competition 20 years ago. A total of 26 teams from 14 academic institutions took part in this year's competition with hosts Institute of Technology Carlow enjoying success as **Zsanett Antal and Valerija Goga** emerged as the winning team. IT Carlow was also represented by Gemma Dempsey and Aleksi Pylkkänen.

Joint runners up in the competition were Cristine Gonzaga and Wiktoria Babiarska from Institute of Technology Sligo, and Osatohanmwen Idelegbagbon and Udochukwu Isiadinso from Dublin City University.

The judges for the competition were Tom Hannigan from Forensic Science Ireland and Shonagh Masterson from the State Laboratory.

This annual event is organised in conjunction with Eurachem Ireland, and hosted by an Irish academic institution.

EuCheMS European Chemical Sciences

United Nations Educational, Scientific and Cultural Organization

International Year of the Periodic Table of Chemical Elements

Opening Ceremony IUPAC IYPY held in UNESCO Paris France 27th Jan 2019

https://iupac.org/event/iypt2019-opening-ceremony

https://www.iypt2019.org/2019/02/01/watch-the-opening-ceremony-again

The Opening Ceremony took place at the 29th of January at the UNESCO HQ in Paris, France.
Missed the Opening Ceremony? Watch it all via these links.

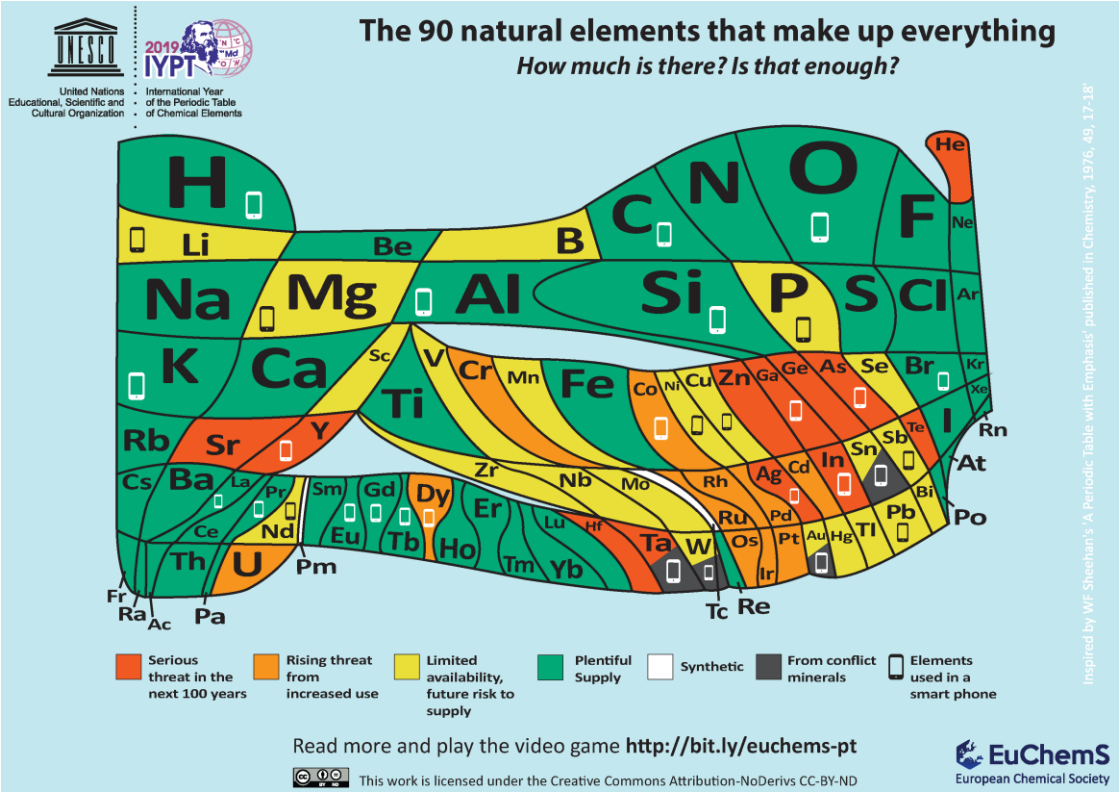
Click the active links for much more information and watch the proceeding on video.

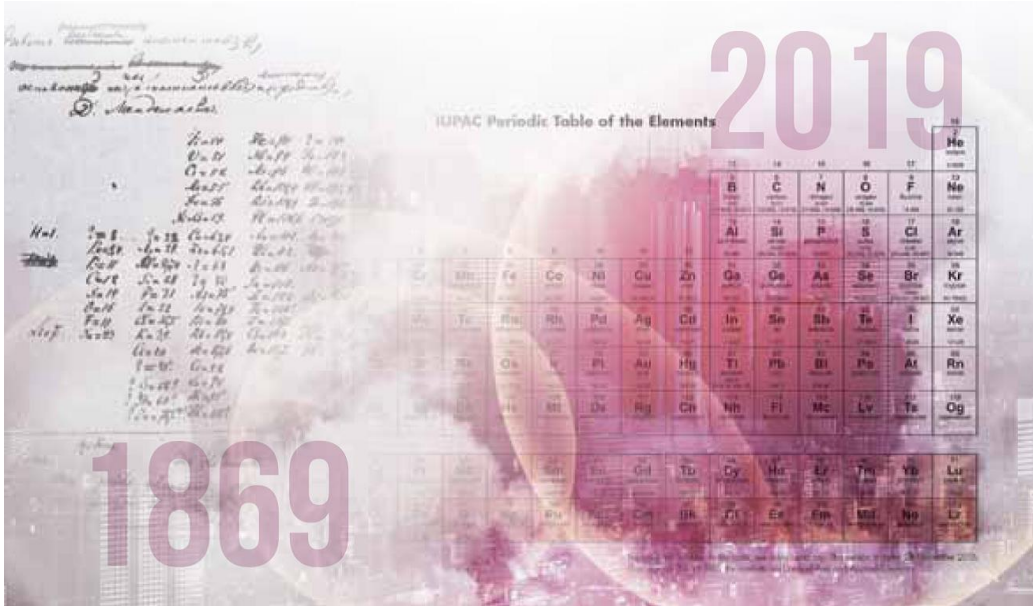
150 years ago, Dmitry Mendeleev has created the periodic table. The United Nations has declared 2019

the International Year of the Periodic Table of the Elements (IYPT 2019). The year should raise global awareness of chemistry and show the diversity of the periodic table and the creative ideas on this topic.

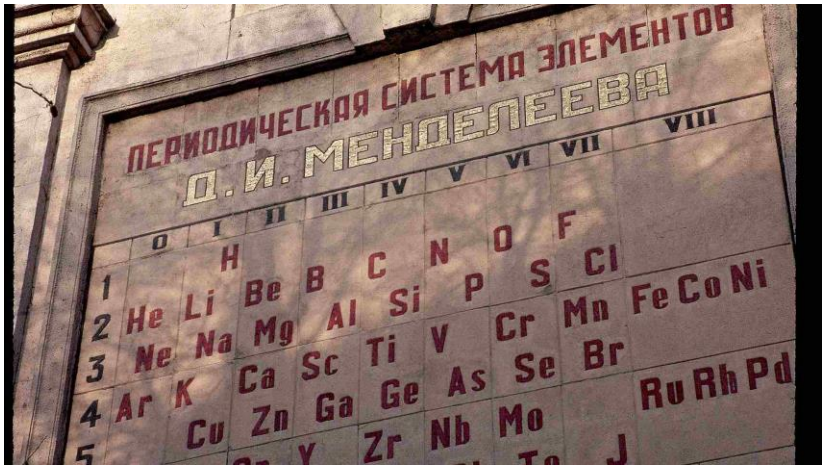
The complete Opening Ceremony can be watched via the links at www.iypt2019.org/opening-ceremony. There is over 7 hours of video material available. You can also find the programme on that page to see what you have missed.

If you just want a quick impression of the day, you can take a look at the slide show of ChemistryViews provided by the German Chemical Society (GDCh) via this link.

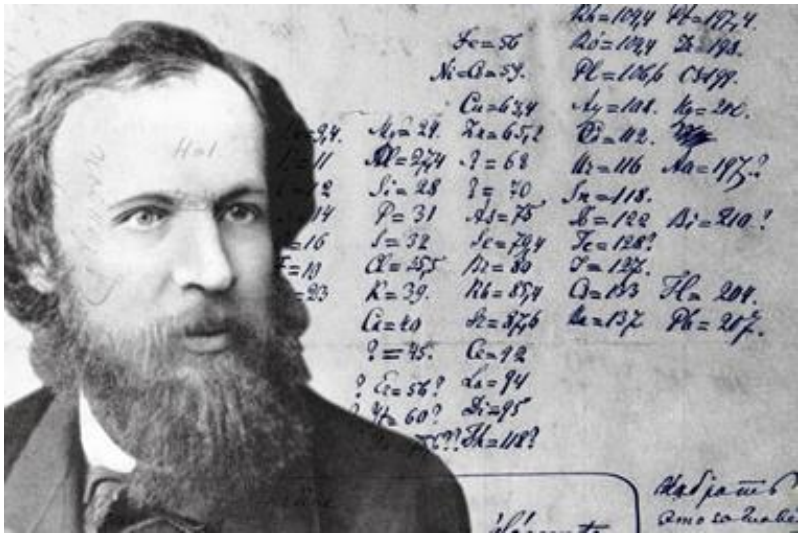




Full story of this find at the University of St Andrew, Scotland can be read at https://www.chemistryworld.com/opinion/is-this-the-worlds-oldest-classroom-periodic-table/3009960.article



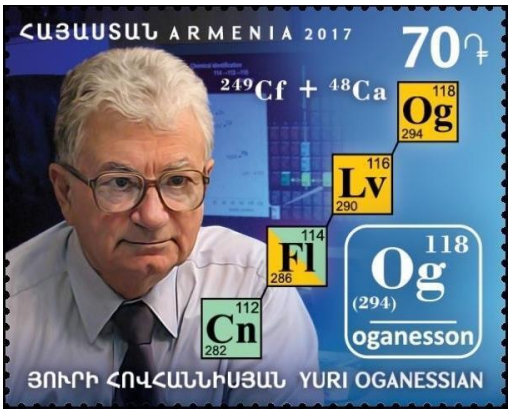
https://news.cgtn.com/news/3d3d514d316b7a4e31457a6333566d54/share_p.html



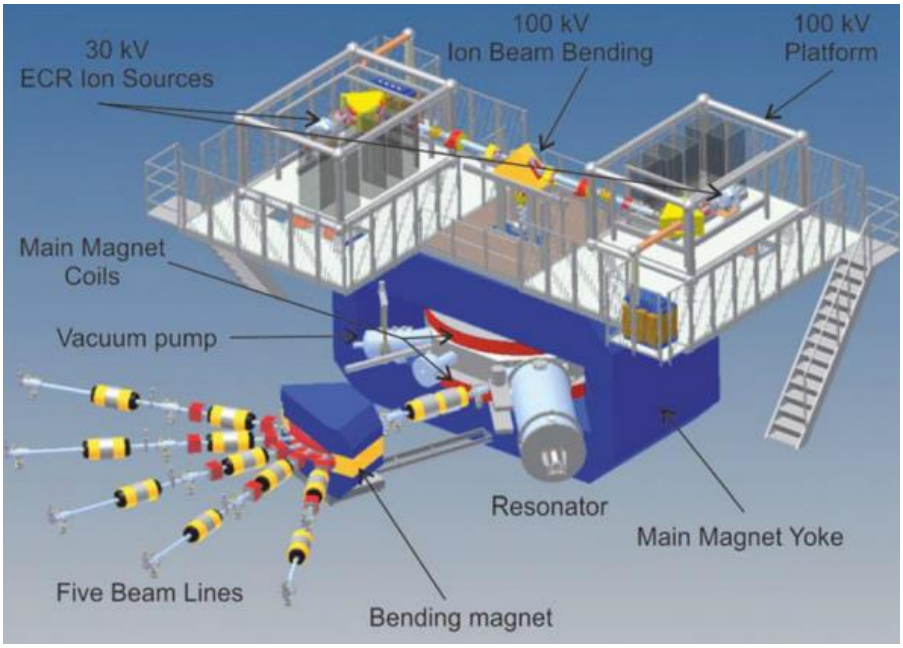
https://www.chemistryworld.com/features/the-father-of-the-periodic-table/3009828.article

Yuri Oganessian helped to discover many superheavy elements — and now one is named after him.

https://www.nature.com/news/four-new-element-names-proposed-for-periodic-table-1.20069



Pdf paper http://inspirehep.net/record/1502737/files/epjconf-NS160-08001.pdf

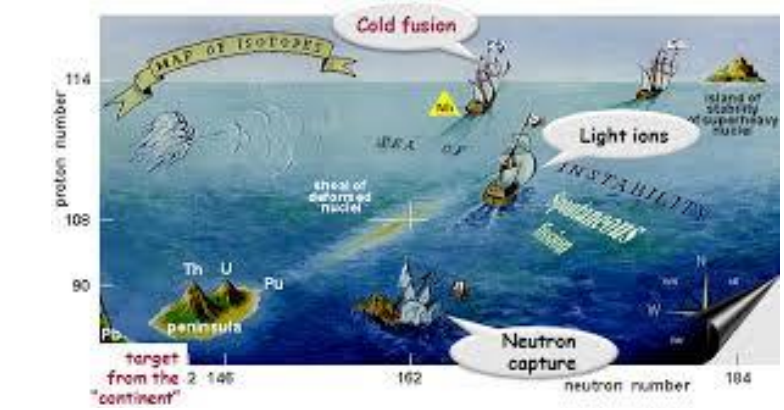


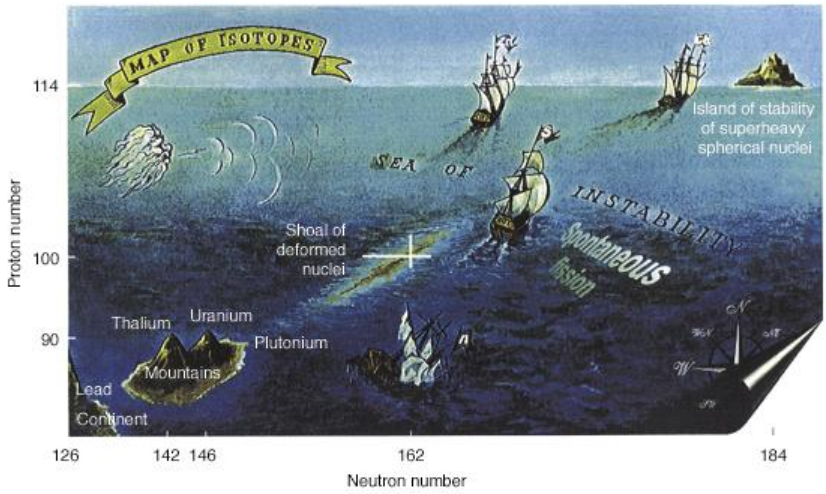
Power point presentation of the scale of equipment needed to carry out this research:

http://accelconf.web.cern.ch/AccelConf/cyclotrons2016/talks/tha03_talk.pdf

https://twitter.com/ScienceVisuals/status/1090993245906182145

https://www.sciencemag.org/news/2019/01/storied-russian-lab-trying-push-periodic-table-past-its-limits-and-uncover-exotic-new



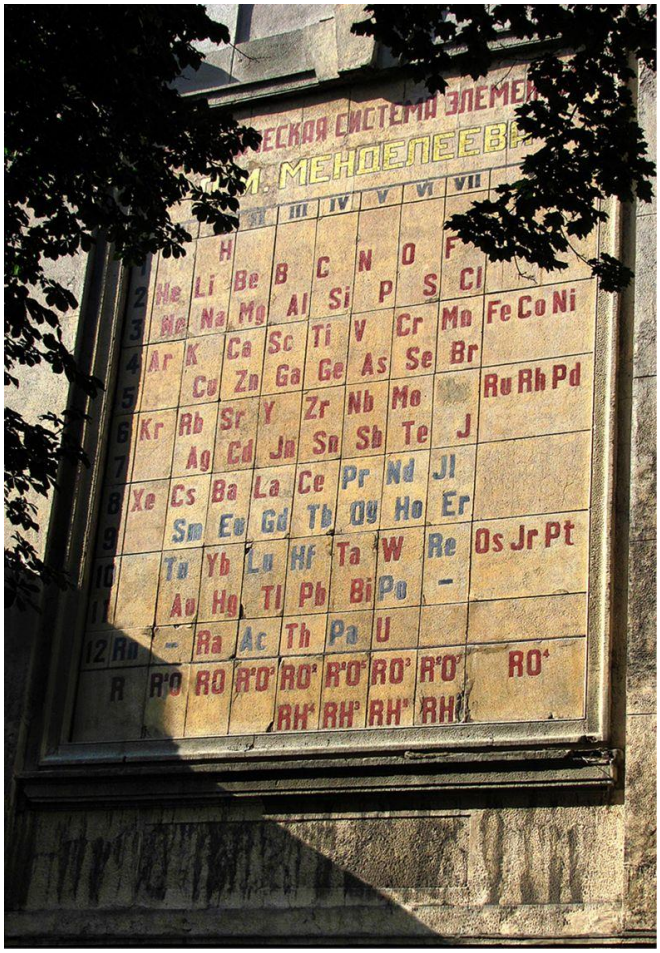


A Russian artist depicts the modern nuclear theory of the heaviest elements. At the upper far right is the island of stability, which was demonstrated by the production of long-lived element 114 in 1998 by a Russian–Livermore team.

http://accelconf.web.cern.ch/AccelConf/ipac2017/papers/fryaa1.pdf

Where Does the Periodic Table End?

http://discovermagazine.com/2015/march/11-forging-new-elements



Mendeleev's Periodic Table of the Elements as mural on the façade of the Mendeleev Institute of Metrology in Saint Petersburg (photograph by Magdolna Hargittai; reproduced by permission)

https://link.springer.com/article/10.1007/s11224-018-1266-2

English: http://webcast.unesco.org/live...
French: http://webcast.unesco.org/live...
Russian: http://webcast.unesco.org/live...
Programme

08:30-09:45 **REGISTRATION**
Exhibition area open

10:00-10:40 **WELCOME SESSION**
Moderator: Flavia Schlegel
Ms. Audrey Azoulay - Director-General UNESCO
Mr. Mikhail Kotyukov - Minister of Science and Higher Education of the Russian Federation

Pierre Corvol - President of l'Académie des Sciences, Institut de France
Dr. Andrey Guryev - CEO PhosAgro

10:40-10:50 **MUSICAL PERFORMANCE**
Mira Yevtich - Brahms Rhapsody Opus 79 number 2

10:50-11:00 **INTRODUCTION TO PROGRAMME**
Prof. Natalia Tarasova - IYPT MC co-chair, Past-President of IUPAC

11:00-11:30 **ELEMENTS FOR LIFE**
ROUND TABLE
Moderator: Mr. Philip Ball
Ms. Emelia Arthur (FAO/UCN/IIED STEM) - (women) education in Africa
Dr. Marco Mensink (CEO ICCA) - Industry and UN SDG
Prof. Alinka Lépine-Szily (Sao Paolo) - Discovery of new elements

11:30- 11:55 **NOBEL LAUREATE LECTURE**
Introduction: Prof. Jan Reedijk, IYPT MC co-chair
PERIODIC TABLE FOR SOCIETY AND THE FUTURE
Prof. Ben Feringa - Nobel Laureate in Chemistry 2016

11:55-12:05 **PUBLIC ENGAGEMENT**
INAUGURATION OF THE GLOBAL EDUCATIONAL INITIATIVE "1001 INVENTIONS: JOU
ALCHEMY TO CHEMISTRY"
Ahmed Salim - Co-Founder and Director, 1001 Inventions organisation

12:05- 12:25 **HAND-MADE ELEMENTS**
Introduction: Prof. Bruce McKellar - Past President IUPAP
NEWCOMERS IN THE PERIODIC TABLE
Prof. Youri Oganessian - Scientific Director Flerov Laboratory, Dubna

12:25-14:00 **LUNCH BREAK**
Visit of the Periodic Table exhibition

14:00-14:20 **PERIODIC TABLE AND EDUCATION OUTREACH**
Introduction: Prof. Pilar Goya - President EuChemS
MENDELEEV'S GIFT TO EDUCATION
Prof. Martyn Poliakoff - University of Nottingham

14:20- 15:00 **YOUNG OUTSTANDING SCIENTISTS OF THE WORLD**
STANDUP 4 PERIODIC TABLE-DEDICATED ADDRESSES BY YOUNG CHEMISTS FROM F
THE WORLD
Moderator: Dr. Michel Spiro - President Designate IUPAP
Ms. Nozipho Gumbi - Africa
Mr. Xuefeng Jiang - Asia
Ms. Thahira Begum - Asia-Pacific
Ms. Kita Macario - Latin America
Mr. Patrick Steinegger - Europe-North America
Ms. Nourtan Abdeltawab - Arab States

15:00-16:00 **ON THE ORIGIN OF ELEMENTS**
ROUND TABLE
Moderator: Dr. Romain Murenzi - Executive Director TWAS
ORIGIN OF THE ELEMENTS IN OUTER SPACE
Prof. Ewine van Dishoeck - Kavli Prize Laureate 2018; Leiden University
THE PERIODIC TABLE AND METEORITES
Dr. Maria Lugaro - Konkoly Observatory, Budapest
STARS FROM CRADLE TO GRAVE
Prof. Alexander Lutovinov - Space Researc Institute RAS

16:00-16:30 **COFFEE/TEA BREAK**
Visit of the Periodic Table exhibition

16:30-17:20 **PERIODIC TABLE AND INTERDISCIPLINARY CONCEPTS FOR DEVELOPMENT**
ROUND TABLE
Moderator: Prof. Nicole Moreau - Chair of the International Scientific Board for the IBSP at UNES
Prof. Qi-Feng Zhou - President of IUPAC
Prof. Kennedy Reed - President of IUPAP
Prof. Aslan Tsivadze - President of the Mendeleev Russian Chemical Society
Dr. Bonnie Charpentier - President of the American Chemical Society
Dr. Robert Parker - CEO of the Royal Society of Chemistry

17:20- 18:20 **PERIODIC TABLE AND SUSTAINABLE DEVELOPMENT GOALS SESSION**
ROUND TABLE
Moderator: Ms. Peggy Oti-Boateng - UNESCO
Prof. Daya Reddy - ISC
Prof. Wole Soboyejo - Worchester Polytechnic Institute
Prof. Sandro Scandolo - ICTP
Dr. Brigitte van Tiggelen - On behalf of the President of the IUHSPT
Dr. Mark Cesa - OPCW Scientific Advisory Board
Prof. Pietro Tundo - ICGCSD, IUPAC

18:20-18:30 **MUSICAL PERFORMANCE**
Mira Yevtich - Chopin Nocture Opus 15 number 2 + Scriabin Poem Opus 32 number 2

18:30- 18:40 **CLOSING REMARKS**
ANNOUNCEMENT OF THE IYPT CLOSING CEREMONY IN TOKYO, JAPAN ON DECEMBE
Dr. Kohei Tamao - Chair of the IYPT Closing Ceremony Committee in Japan

CLOSING REMARKS FROM THE IYPT MANAGEMENT COMMITTEE
Prof. Jan Reedijk & Prof. Natalia Tarasova - IYPT MC Co-chairs

Kilburn & Strode *

https://www.kilburnstrode.com/knowledge/european-ip/changes-on-spc-manufacturing-waiver

SPC manufacturing waiver adopted by European Parliament

30 APR 2019

The SPC manufacturing waiver has recently been adopted by European Parliament. It is still to be adopted by the Council of the European Union, although the Council is expected to do so in a matter of months. Read on to find out how and when the changes to SPC protection will affect right holders.

What are SPCs?

SPCs are a form of intellectual property that provide additional exclusivity of up to 5 and a half years beyond the normal 20-year patent term for medicinal products and agrochemicals that have obtained marketing authorisation. The rational for SPCs is to compensate right holders for the delay attributable to the market authorisation procedure. Applications for SPCs are made at each national patent office where there is a basic patent in force that protects the relevant product and where there is a relevant granted marketing authorisation.

Background to the new manufacturing waiver

A draft EU regulation amending Regulation (EC) 469/2009 (the legislation governing SPCs for medicinal products) providing an exemption for manufacturing and stockpiling activities was initially published by

the European Commission in May 2018. The justification for the amendment was to allow EU-based manufacturers of generics and biosimilars to make medicines inside the EU when those medicines are intended for export to markets outside the EU, or allow them time to prepare for EU market entry as soon as possible on expiry of the SPC.

Key features of the manufacturing waiver

Manufacture of a medicinal product (or its active ingredient) will not infringe a relevant SPC if the product is intended for export to countries outside the EU.[1]

In addition, SPC protection will not prevent third parties from manufacturing a medicinal product or its active ingredient intended for the EU market during the last 6 months of the SPC term (to allow stockpiling prior to entry into the EU market as soon as possible after SPC expiry).[2]

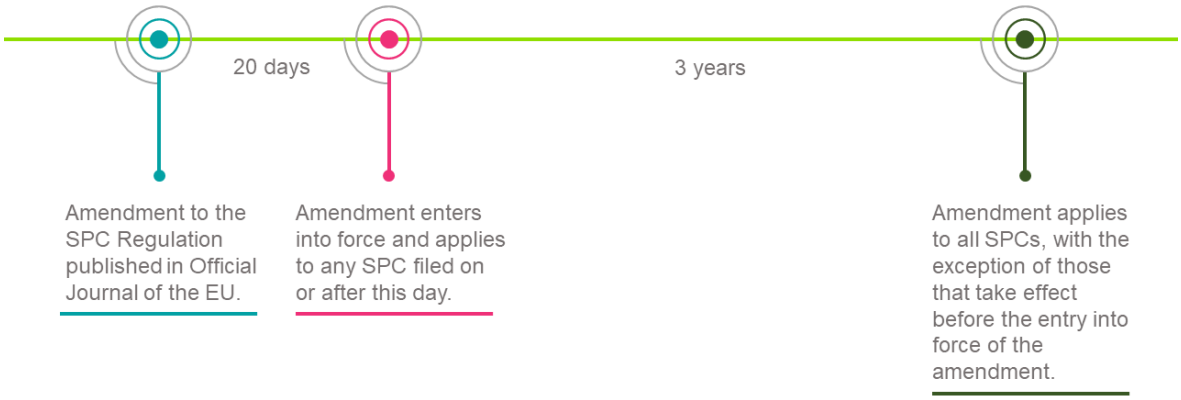
Obligations on users of the waiver

To benefit from the waiver, a manufacturer must:

- Provide the following information to both the national patent office that granted the SPC and the SPC proprietor 3 months prior to manufacture or the first related act:
  - The name and address of the manufacturer
  - Whether manufacture for export and/or stockpiling is intended
  - The EU member state where the export and/or stockpiling will take place
  - The SPC number
  - For exported medicinal products, the number of the marketing authorisation (or equivalent) in each country outside the EU
  - Any changes to the above before they take effect
- For export to countries outside the EU, a new "EU export" logo must be applied to the outer packaging of the medicinal product or active ingredient.

Next legislative steps

Amendments to the SPC Regulation must now be adopted by the Council of the EU, which is likely to go ahead.[3] Once adopted, the regulation will enter into force on the 20th day after publication in the Official Journal of the EU (expected around June or July 2019) and will apply to all SPCs filed on or after that 20th day. After a transition period of 3 years, the waiver will also apply to SPCs with a filing date before the 20th date that take effect on or after that date.



What action can be taken now?

While the waiver is good news for manufacturers of generics and biosimilars, it will clearly curtail SPC protection.

If possible, appropriate measures should be taken to complete prosecution of pending SPC applications before entry into force of the new regulation to avoid being affected by the manufacturing waiver. In the UK, for example, accelerated examination of SPCs may be possible as reported here.

Any applicants of SPCs that are not granted by the time the amendments come into force should make sure any third-party generics or biosimilar manufacturers who intend to take advantage of the waiver comply with the obligations provided above.

If you have any questions, please contact Tom Leonard or Oliver Lam, or your usual Kilburn & Strode advisor.

[1] The derogation also applies to related acts which are "strictly necessary" for making.
[2] Likewise, the derogation also applies to related acts which are "strictly necessary" for stockpiling.
[3] http://www.europarl.europa.eu/RegData/commissions/juri/lcag/2019/02-20/JURI_LA(2019)002691_EN.pdf

* Kilburn & Strode is a top-tier European law firm that protects the intellectual property of some of the world's most innovative organisations.

We are trusted to provide strategic IP advice and navigate the complex world of IP for an impressive roster of clients including leading brands such as Disney, NBC Universal, Colgate-Palmolive and La Perla, as well as some of the world's most impressive technology companies such as Amazon, Aston Martin, Boeing, Cisco, Honeywell and LG.

Whether obtaining protection, clearing the path or defending key technologies; we offer a unique combination of experience, technical expertise and, most importantly, an approach that makes us a true extension of our clients' teams. We have technical, legal and commercial nous second to none and we combine this with an attitude that makes working together easy. Many firms have competent patent attorneys, but we distinguish ourselves by our complete focus on building deep relationships.

Our commitment

Fiercely committed to diversity and social responsibility, we created an Innovation for All Foundation, which donates 1% of our annual profits to up-and-coming innovators. We were one of the first signatories of the IP Inclusive Charter, making a public commitment to supporting and promoting equality, diversity and inclusion in the IP professions.

Kilburn & Strode is one of just a handful of leading IP firms in Europe ranked as Top Tier for both trade mark and patent prosecution in each of the Legal 500, Chambers,

World Trade Mark Review and IAM listings.

With offices in London (HQ), Munich, The Hague, Amsterdam (Hilversum) and San Francisco, we're the only firm to connect these centres for European IP with the pulse of the Silicon Valley.

For more information, visit www.kilburnstrode.com.

Talent

Science Foundation Ireland invests in future research leaders in areas of health, energy, environment, materials and technology

Minister Breen Announces Research Investment of €10.8 million in Next Generation of Research

Dublin, 15th January 2019 – Minister of State for Trade, Employment, Business, EU Digital Single Market and Data Protection, Pat Breen TD, today announced a government investment of €10.8 million in research funding for 20 projects through Science Foundation Ireland's (SFI) Starting Investigator Research Grant (SIRG). With awards ranging from €376,000 to €425,000 over four years, the projects funded will support 20 researchers and a further 20 PhD students.

Speaking of the awards, Minister Breen said: "I am delighted to announce these SFI Starting Investigator Awards which allow researchers to advance their work and further develop their careers as the next research leaders in Ireland and internationally. These innovative projects demonstrate the impressive cutting-edge research taking place across Ireland, which has significant potential to positively advance Ireland's economy and society, and further solidify its reputation as a world-leader in scientific advancements."

Welcoming the announcement, Professor Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland said: "Science Foundation Ireland supports researchers at every stage of their careers. The SIRG awards help early-career researchers develop the essential skills and experience necessary to lead Ireland's future research in areas such as health, energy, materials and technology. Having passed through a rigorous competitive international merit review process, these projects continue to advance Ireland's international research reputation and I wish each awardee every success."

The 20 research projects supported by the SFI SIRG programmes will be funded through ten research bodies, as follows: Trinity College Dublin (6); University College Dublin (3); University College Cork (2); University of Limerick (1); Dublin City University (2); Royal College of Surgeons in Ireland (2); Tyndall National institute (1); National University of Ireland Galway (1), Dublin Institute for Advanced Studies (1) and Teagasc (1). Below is a summary of the projects receiving funding:-

Health and Medical

- Development of 3D-printed biomaterials for bone tissue regeneration (Dr Meadhbh Brennan, TCD).
- Developing new cancer drugs to trick cancer cells into eliminating proteins, ultimately killing the cancer (Dr Gerard Brien, TCD).
- A study on the health of premature babies, exploring the development of therapies using a novel protective dietary antioxidant intervention (Dr Fiona McDonald, UCC).
- Investigation of cancer resistance to current treatments to inform the development of new therapies (Dr Maria Prencipe, UCD).
- An exploration of the suitability of thyroid hormones in measuring iodine deficiency during pregnancy and its impact on infant brain development (Dr Aine Hennessy, UCC).
- Study of how gene regulation and protein generation could inform new treatments of epilepsy (Dr Gary Brennan, RCSI).
- Development of new sensor materials with diagnostic and environmental monitoring applications (Dr Joseph Byrne, NUIG).
- Using novel computational methods in a highly efficient procedure to obtain pharmaceutical compounds for initial chemical design (Dr Cristina Trujillo, TCD).
- Identification of genes that could inform treatment approaches for patients of Ulcerative Colitis (Dr Sudipto Das, RCSI).

Food

- Development of tools to identify the most efficient cows in the national herd leading to benefits for producers, processors, and consumers nationally and internationally (Dr Sinead McParland, Teagasc).

Energy and Environment

- Investigating transformation of agri-waste into high value, low carbon products, potentially improving waste management and benefiting the Irish bioeconomy (Dr Amanda Sosa-Avendano, UCD).
- Development of novel thermoelectric nanomaterials for manufacturing small wearable energy scavengers that can convert body heat into electricity, allowing for continuous portable charging (Dr Amir Pakdel, TCD).
- The investigation of key geological questions, including melting ice-caps and formation of gold deposits, using a novel mineral-dating approach (Dr Chris Mark, UCD).
- Testing new ideas about how temperature regulates species distribution by revisiting the core principles of thermal ecology (Dr Nicholas Payne, TCD).
- Assessment of impacts of pollutants and novel materials in freshwater ecosystems to better understand them before they reach precarious levels (Dr Konstantinos Gkrintzalis, DCU).

Manufacturing and Materials

- Development of next-generation batteries that can enable electric vehicles to travel further on a single charge (Dr Hugh Geaney, UL).

Contact Information:

GPE Scientific Ltd, Unit 5, Greaves Way Industrial Estate, Stanbridge Road, Leighton Buzzard, Bedfordshire, LU7 4UB. UK.

Phone: +353(0)861305122

E-mail: info@gpescientific.co.uk

Website: http://www.gpescientific.ie

Company Information:

GPE Scientific Ltd was established in 1962 and is a leading distributor and manufacturer of laboratory equipment, glass blowing products and specialised glass components for the industrial, laboratory and research markets. There are many reasons to choose GPE Scientific above our competitors; we pride ourselves in stocking thousands of products from leading suppliers providing you with the best selection of laboratory equipment on the market. This includes being the exclusive distributors for Chemglass Life Sciences and Chemical Reactors, Norell NMR Tubes and Accessories and the portable Nanalysis NMReady Benchtop Spectrometer.

Science Foundation Ireland publishes Annual Plan for 2019
Strong focus on talent pipeline and future skills needs
New programme for excellent individual researchers

Dublin, 15th January 2019 - The Minister for Trade, Employment, Business, EU Digital Single Market and Data Protection, Pat Breen, T.D., launched Science Foundation Ireland's Plan for 2019. The key priorities are: a new initiative for individual-led research to drive Ireland's innovation agenda, building large scale centre investments which leverage significant non-exchequer funding, challenge-based funding, collaborative partnerships recruiting outstanding researchers to Ireland, and enhancing international engagement as part of building Ireland's global footprint.

Commenting on Science Foundation Ireland's 2019 Plan, Minister for Trade, Employment, Business, EU Digital Single Market and Data Protection, Pat Breen, T.D. said, *"I welcome the publication of the Science Foundation Ireland plan for 2019. The focus on supporting excellent talent in our STEM sector through the new SFI Frontiers for the Future Programme for excellent individual researchers, increasing the number of PhD students, as well as challenge-based funding opportunities, demonstrates SFI's drive to enhance our research ecosystem, maintain a balance of investment priorities and ensure we enable discovery and innovation."*

Announcing the 2019 Plan, Prof Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland said, *"SFI has delivered significant initiatives against its 2018 Annual Plan, including growth in SFI Research Centres, support to early career researchers, a comprehensive PhD programme and recruitment of star researchers to Ireland. We also commenced a widespread consultation on our new strategy for the period 2020-2025. This engagement has influenced our planning for 2019: a key priority is support for individually-led excellent research at all career stages by supporting both shorter, small-scale high-risk projects, as well as larger longer programmes. SFI intends that this balanced portfolio of research funding programmes will support*

creative discovery of new knowledge, translations into products, services and policy, foster collaboration and provide outstanding training and opportunities for young people."

Key focus of activities are as follows:

The **SFI Science for Society Directorate** will support individual-led and challenge-based research, the STEM talent pipeline and citizen engagement. The range of programmes for 2019 include:

- The **SFI Frontiers for the Future** P**rogramme** will launch in Q1 2019 and will support excellent individual researchers for both short and longer projects. Novel review mechanisms are designed both to foster high risk/high gain projects as well as supporting women and others currently under represented in the research ecosystem. This programme will be in partnership with, and co-funded by, a range of other Irish funding agencies.
- The **SFI Research Professorship Programme** will focus on joint appointments with UK institutions and recruitment of European Research Council (ERC) advanced grant winners. This programme is key to establishing national expertise in strategic priority research areas.

International Partnerships:

- SFI has several agreements with Irish, UK and International funding agencies (S**FI-HRB-Wellcome Trust, US-Ireland, SFI Royal Society Partnership, EPSRC, NSF, etc.**). In line with the Government's plans to build Ireland's global footprint SFI will support and nurture international partnerships that stimulate collaboration between Irish and international researchers.

PhD Programmes:

- SFI will deliver significant investment in PhD programmes with the aim of creating a pipeline of talented scientists who will go on to build successful careers in either academia or industry and contribute to the growth and development of Ireland's economy and society. This includes the new **SFI Centres for Research Training** (which focus on data analytics and its applications) and support through the **SFI-EPSRC-CDT** for joint proposals from UK Universities and SFI Research Centres for collaborative **Centres for Doctoral Training**.

Challenge Based Funding:

- SFI is currently developing with partners challenge-based funding opportunities to enhance delivery of societal impact from government-funded research. The first implementation was in late 2018, SFI launched a bottom-up challenge-based call, the **SFI Future Innovator Prize**. Teams were provided with funding to develop their ideas and compete for seed funding. At the end of 2019, the finalists will compete for an overall prize award of €1 million.

Education and Public Engagement:

- SFI will strive to ensure that the Irish public is highly engaged in, and informed about, STEM and its potential to deliver for the Irish economy and society. This will include collaboration with the Department of Education and Skills on a number of actions under the STEM Education Implementation Plan, the second SFI Science in Ireland Barometer, and the delivery of a range of national programmes including Science Week.

The **SFI Science for the Economy Directorate** will support research programmes that drive economic competitiveness, including:

SFI Research Centres

- SFI will continue to develop and support world-class, large-scale, SFI Research Centres that are co-funded by industry and where world-leading applied and basic research is conducted in key areas of national strength and significant strategic opportunity for Ireland. Six SFI Research Centres will transition to Phase 2 funding and five SFI Research Centres will undergo review for a second term of funding in 2019. Three SFI Research Centres: AMBER, APC Microbiome Ireland and LERO have published independent studies of their significant economic, scientific and societal impact.

Enterprise Partnerships

- The **SFI Strategic Partnerships** Programme will continue to support co-investment partnerships with the private sector including industry, philanthropy and charitable organisations, in fields not covered by an existing SFI Research Centre.

- The **SFI Industry Fellowships** call will run as usual in 2019.

Science Foundation Ireland's Annual Plan 2019 is available here

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Legend Biotech Ireland, Ltd. celebrates the official opening of its European headquarters in Dublin, Ireland

07 MAR 2019

Sandyford, Dublin, March 7, 2019 - Legend Biotech Ireland, Ltd. announces the official opening of the company's European headquarters (HQ) at 10A Ballymoss Road, Sandyford Business Park, Dublin 18, Ireland. Legend Biotech established their European HQ in Dublin at the end of 2017 and has been focusing primarily on research and development (R & D) and business activities.

Dr. Frank Fan (Chief Scientific Officer), Dr. Li Zhu (Chief Strategy Officer) and Ms Sherry Sun (Finance Director) all attended this memorable event in Dublin. Legend Biotech Ireland, Ltd. is supported by the Irish Government through the Industrial Development Authority of Ireland (IDA Ireland).

"Legend Biotech is a global, integrated biopharmaceutical company. Europe is an important market for Legend Biotech and we are committed to having a holistic presence (discovery, development, commercialization) and to serve patients in Europe," said **Dr. Yuan Xu, CEO of Legend Biotech**. "The R & D institute in Ireland is just a first step to fulfilling this mission. Establishing our European HQ in Dublin, Ireland, is a logical decision for Legend Biotech given its access to experienced talent, accessibility and international recognition for supporting the pharmaceutical/biotechnology industry. We look forward to growing our R & D and commercial presence in Ireland in the future," stated Dr. Xu.

Legend Biotech specializes in the discovery, development and commercialization of chimeric antigen receptor T (CAR-T) cell therapies, and other cell therapy products, focused on the treatment of cancer, autoimmune and infectious diseases. Legend Biotech is the first CAR-T cell company in Ireland and a leader in this revolutionizing field. Legend Biotech is located in the heart of Dublin and represents the company's first European site with large space for R & D as well as business activities. The European hub is 770 square meters in size and spans 2 floors.

Commenting on the announcement **Eileen Sharpe, Global Head of Growth Markets, Europe, Emerging Business, New Forms of Investment at IDA Ireland** said "We welcome Legend Biotech's decision to locate its European Research and Development and Operations center in Dublin. As a global company based in the Life Sciences sector its decision to embed a research and development team in Ireland looking into the areas of immuno-oncology is a huge vote of confidence in Ireland's ability to provide the company with the high value, highly specialized, scientific talent they will require to continue their globally recognized innovative work in CAR-T cell therapy. We wish Dr. Yuan Xu, CEO of Legend Biotech and all the team every success in Ireland."

About Legend Biotech

Legend Biotech is a global biopharmaceutical company located in Ireland, USA, and China. Legend is a subsidiary of GenScript Biotech Corporation (HKEx: 1548), which operates in USA, Hong Kong, mainland China and Ireland. Learn more at www.LegendBiotech.com

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IDA Ireland welcomes significant new investment at the DePuy Synthes Ireland Innovation Centre, Ringaskiddy, Co. Cork.

28 JAN 2019

€36 million investment will position DePuy Synthes' Irish operation at the forefront of ground-breaking health solutions

Monday, January 28th, 2019. The Tánaiste and Minister for Foreign Affairs and Trade, Simon Coveney TD, today announced a €36 million investment in ground-breaking research and development projects at the DePuy Synthes Ireland Innovation Centre, Loughbeg, Ringaskiddy, Co. Cork.

The five year project is supported by the Department of Business, Enterprise & Innovation, through IDA Ireland. It will result in significant developments at the company's Materials and Surface Technology Centre, including co-location with Johnson & Johnson's 3D Printing Center of Excellence, creating 30 additional high-quality positions.

The investment expands the scale and scope of activities taking place at the **DePuy Synthes Innovation Centre**. Since launching a decade ago, the Centre has accelerated innovative technologies and new product introductions for the company's orthopaedic portfolio, driven by a diverse technical team. Projects will focus on advancing material science in 3D printing, coatings and surface treatments to meet future needs. The expansion includes the establishment of a 3-D Printing Development and Launch Center on-site, as well as the Johnson & Johnson 3D Bioprinting Laboratory, launched last year in collaboration with Trinity College Dublin.

Making the announcement in Ringaskiddy, the **Tánaiste and Minister for Foreign Affairs and Trade, Simon Coveney TD,** said, "DePuy Synthes' investment of €36 million in innovation and the addition of 30 jobs at the company's Materials Centre of Excellence is fantastic news for the region, and clearly demonstrates the strong commitment by DePuy to the site. This has been built on a solid track record of over 20 years of successful operations here in Cork."

Welcoming the announcement on behalf of **DePuy Synthes, Shannon Crespin, VP, Global Supply Chain, DePuy Synthes** said, "I'm delighted to be here for today's announcement, which marks the next phase in the exciting R&D activity being undertaken at this Innovation Centre. As the world's most comprehensive medical devices business, our expert team continues to develop ground-breaking healthcare solutions, underlining our ongoing commitment to improving patient outcomes and shaping the future of healthcare delivery".

Gary Clerkin, Global Leader, Manufacturing Engineering, Science & Technology, DePuy Synthes, said, "This new programme will build on the dedication, hard work and excellent results delivered by the Innovation Centre over the past 10 years. It is crucial that we continue to deliver impactful research

outcomes, and this advanced Materials and Surface Technology Centre will help accelerate innovation through the supply chain and shape the products of the future. A central element of this investment, the 3D Printing Development and Launch Center, complements the 3D Bioprinting partnership with Trinity College Dublin launched last year."

Welcoming the announcement, **Martin Shanahan, CEO, IDA Ireland** said, "Ireland continues to evolve its global leadership position in the manufacture of high value, highly regulated innovative products and services. Exemplars in this regard which truly stand on the world stage include DePuy Synthes, who have been identified as a World Economic Forum Lighthouse for their process driven digital twin programme pioneered in their 'Factory of the Future' in Cork. Today's further investment in this site is a clear endorsement of the talent, foresight and capability of the team here and, on behalf of IDA.

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Photo: Pat Fitzgerald (left) and Phil Hogan. (Pic: Dylan Vaughan). Source: Agriland

Food crop offshoot from Fitzgerald Nurseries

25 Apr 2019

Crop producer **Beotanics** is investing €1m in a new research and development centre at its offices in Stoneyford, Co Kilkenny. The firm has a focus on niche crops such as sweet potato, yacon and wasabi.

Pat and Noirín FitzGerald set up parent company **FitzGerald Nurseries** in 1990 to supply ornamental shrubs, and then established Beotanics Plant Lab to research and apply plant innovations.

After 25 years of experience with the propagation, breeding and development of many genera of plants from plant tissue culture, cuttings, division and seed, the spinout company stepped things up a gear by applying non-GMO breeding practices to minority crops. The resulting varieties are now sold to growers all over the world.

Chief executive **Pat Fitzgerald** said: “We want to be the go-to experts for our chosen crops, and for evolving food ingredients and new variety development with added nutrition and bio-actives. The future of food is readjusting to become more plant-based. We’ve specialised in plant production development for over 25 years and this is a necessary natural progression for the business.

“Everything we do comes from a social need. We want to bring more complementary options into the food chain that are vegetable and plant based and widen Irish and European opportunities in crop production.”

The FitzGeralds expect that ten new jobs will be created at the R&D centre. The company’s expansion is supported with cash from Enterprise Ireland, Kilkenny Leader Partnership and Kilkenny Local Enterprise Office.

EU agriculture commissioner **Phil Hogan** said: “Beotanics is now a key Irish player on the international stage in discovering new ways to feed the planet, improve human health, balance resources, enhance biodiversity and reduce the environmental impact of crop production.”

Beotanics Ltd booked a net profit of €190,000 in 2017. Company net worth at year-end was €690,000.

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Closing the Loop – European Commission Reports on Circular Economy Action Plan

March 07 2019

The European Commission has published a comprehensive report on the implementation of the Circular Economy Action Plan it adopted in December 2015. The report presents the main results of implementing the action plan and sketches out open challenges to paving the way towards a climate-neutral, competitive circular economy where pressure on natural and freshwater resources as well as ecosystems is minimised.

First Vice-President Frans Timmermans, responsible for sustainable development, said: "Circular economy is key to putting our economy onto a sustainable path and delivering on the global Sustainable Development Goals. This report shows that Europe is leading the way as a trail blazer for the rest of the world. At the same time more remains to be done to ensure that we increase our prosperity within the limits of our planet and close the loop so that there is no waste of our precious resources."

Vice-President Jyrki Katainen, responsible for jobs, growth, investment and competitiveness, said: "This report is very encouraging. It shows that Europe is on the right track in creating investment, jobs and new businesses. The future potential for sustainable growth is huge and Europe is indeed the best place for an environmentally-friendly industry to grow. This success is the result of European stakeholders and decision-makers acting together."

Moving from a linear to a circular economy

Three years after adoption, the Circular Economy Action Plan can be considered fully completed. Its 54 actions have now been delivered or are being implemented. According to the findings of the report, implementing the Circular Economy Action Plan has accelerated the transition towards a circular economy in Europe, which in turn has helped putting the EU back on a path of job creation. In 2016,

sectors relevant to the circular economy employed more than four million workers, a 6% increase compared to 2012.

Circularity has also opened up new business opportunities, given rise to new business models and developed new markets, domestically and outside the EU. In 2016, circular activities such as repair, reuse or recycling generated almost €147 billion in value added while accounting for around €17.5 billion worth of investments.

EU Strategy for Plastics

The EU Strategy for Plastics in a Circular Economy is the first EU-wide policy framework adopting a material-specific lifecycle approach to integrate circular design, use, reuse and recycling activities into plastics value chains. The strategy sets out a clear vision with quantified objectives at EU level, so that inter alia by 2030 all plastic packaging placed on the EU market is reusable or recyclable.

To boost the market for recycled plastics, the Commission launched a voluntary pledging campaign on recycled plastics. 70 companies have already made pledges, which will increase the market for recycled plastics by at least 60% by 2025. However, there is still a gap between supply and demand for recycled plastics. To close this gap, the Commission launched the Circular Plastics Alliance of key industry stakeholders supplying and using recycled plastics.

The rules on Single-Use Plastics items and fishing gear, addressing the ten most found items on EU beaches place the EU at the forefront of the global fight against marine litter. The measures include a ban of certain single-use products made of plastic (such as straws and cutlery) when alternatives are available and of oxo-degradable plastic, and propose actions for others such as consumption reduction targets, product design requirements and Extended Producers Responsibility schemes.

Innovation and Investments

To accelerate the transition to a circular economy, it is essential to invest in innovation and to provide support for adapting Europe's industrial base. Over the period 2016-2020, the Commission has stepped up efforts in both directions totalling more than €10 billion in public funding to the transition.

To stimulate further investments, the Circular Economy Finance Support Platform has produced recommendations to improve the bankability of circular economy projects, coordinate funding activities and share good practices. The platform will work with the European Investment Bank on providing financial assistance and exploiting synergies with the action plan on financing sustainable growth.

Turning Waste into Resources

Sound and efficient waste management systems are an essential building block of a circular economy. To modernise waste management systems in the Union a revised waste legislative framework entered into force in July 2018. This includes, among others, new ambitious recycling rates, clarified legal status of recycled materials, strengthened waste prevention and waste management measures, including for marine litter, food waste, and products containing critical raw materials.

Circular Design and Production Processes

Smart design at the beginning of a product's lifecycle is essential for ensuring circularity. With the implementation of the Ecodesign Working Plan 2016-2019, the Commission has further promoted the circular design of products, together with energy efficiency objectives. Ecodesign and Energy Labelling measures for several products now include rules on material efficiency requirements such as availability

of spare parts, ease of repair, and facilitating end-of-life treatment. The Commission has also analysed, in a dedicated Staff Working Document, its policies for products, with the intention to support circular, sustainable products.

Empowering Consumers

The transition towards a more circular economy requires an active engagement of citizens in changing consumption patterns. The Product Environmental Footprint (PEF) and Organisation Environmental Footprint (OEF) methods developed by the Commission can enable companies to make environmental claims that are trustworthy and comparable and consumers to make informed choices.

Strong Stakeholder Engagement

Stakeholder engagement is vital for the transition. The systemic approach of the action plan has given public authorities, economic and social players and civil society a framework to replicate in order to foster partnerships across sectors and along value chains. The role of the Commission in speeding up the transition and leading international efforts for circularity was also recognised at the World Economic Forum 2019 where the Commission received the Circulars Award in the Public Sector Category.

Open Challenges

The circular economy is now an irreversible, global trend. Yet, much is still needed to scale up action at EU level and globally, fully close the loop and secure the competitive advantage it brings to EU businesses. Increased efforts will be needed to implement the revised waste legislation and develop markets for secondary raw materials. Also, the work started at EU level on some issues (like chemicals, the non-toxic environment, eco-labelling and eco-innovation, critical raw materials and fertilisers) needs to be accelerated if Europe wants to reap the full benefit of a transition to a circular economy.

Interaction with stakeholders suggests that some areas not yet covered by the action plan could be investigated to complete the circular agenda. Building on the example of the European Strategy for Plastics in a Circular Economy, many other sectors with high environmental impact and potential for circularity such as IT, electronics, mobility, the built environment, mining, furniture, food and drinks or textiles could benefit from a similar holistic approach to become more circular.

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€760 Million Raised by NovaUCD Supported Companies Over the Last 15 Years

Pictured are Julie Sinnamon, CEO, Enterprise Ireland, and Tom Flanagan, UCD Director of Enterprise and Commercialisation.

February 27 2019

University College Dublin (UCD) has announced the results of its latest survey of companies supported through NovaUCD, the University's Centre for New Ventures and Entrepreneurs, since it opened 15 years ago. UCD has supported over 360 companies and early-stage ventures through the services and supports provided by NovaUCD (www.novaucd.ie). The combined annual turnover of the companies surveyed amounted to over €113 million in 2018 and collectively they currently employ over 1,040 people directly, more than 950 of whom are based in Ireland.

The supported companies which operate in sectors including; AgTech, CleanTech, FinTech, ICT, MedTech and Life Sciences, have raised over €760 million in equity funding.

At NovaUCD new high-tech and knowledge-intensive start-up companies are nurtured and supported to enable them to develop, scale and create jobs. Early-stage ventures have additionally completed programmes run by NovaUCD, such as the UCD VentureLaunch Accelerator Programme (and its predecessor the Campus Company Development Programme) and the UCD Start-Up Stars Programme.

Julie Sinnamon, CEO, Enterprise Ireland, said: "Start-ups are the life blood of the Irish economy and a key role for Enterprise Ireland is to support the start-up ecosystem. Enterprise Ireland has supported NovaUCD over the last 15 years and I would like to congratulate the centre and the companies on their success."

UCD's technology transfer team, which is responsible for the commercialisation of the intellectual property emerging from UCD's world-class research programmes, is also based at NovaUCD.

Since 2003, 45 new UCD spin-out companies have been incorporated; over 825 inventions have been disclosed by UCD researchers; over 280 priority patent applications have been filed and more than 200 licensing deals have been concluded with a range of indigenous and international businesses such as, Amdocs, Amryt and Glanbia.

Six private sector sponsors; AIB, Arthur Cox, Deloitte, Ericsson, Goodbody Stockbrokers and Xilinx contributed to the development of the NovaUCD facility originally, along with Enterprise Ireland and UCD.

NovaUCD's technology transfer team has in addition been supported through Enterprise Ireland's Technology Transfer Strengthening Initiative (TTSI) since 2007. TTSI is managed and administered by Knowledge Transfer Ireland (KTI).

Kevin Cooney, Senior Vice-President and Chief Information Officer, Xilinx and Managing Director, Xilinx, EMEA, one of the NovaUCD sponsors, said: "Having been involved with NovaUCD since it opened, I am delighted to see its impact through the 15 year results announced today. These results clearly demonstrate UCD's leadership role in supporting entrepreneurial and knowledge transfer activities within the HEI sector in Ireland. I now look forward to NovaUCD's impact continuing to grow from strength to strength in the years ahead."

Companies currently, and to date, supported through NovaUCD include: AccountsIQ, Auranta, BiancaMed, Carrick Therapeutics, ChangingWorlds, Corlytics, DocoSoft, EnBIO, Equinome, Genomics Medicine Ireland, Initiative Ireland, Life Scientific, Logentries, MagGrow, MyWallSt (formerly Rubicoin), Neuromod Devices, NovoGrid, Nuritas, OncoMark, OxyMem, Terra Solar, Plusvital and Vivid Edge.

Professor Orla Feely, UCD Vice-President for Research, Innovation and Impact, said: "University College Dublin is committed to playing a key role in Ireland's innovation ecosystem as an enabler of economic growth and as a contributor to economic and social development. At UCD NovaUCD is responsible for the commercialisation of our research outputs, supporting start-ups and more established companies to scale globally and create jobs, and today's results clearly demonstrate its success and impact over the last 15 years."

Last August UCD announced a €6.5 million development project to renovate and extend NovaUCD's east courtyard. When completed this Summer NovaUCD's capacity to house start-up companies will increase by over 50%.

Tom Flanagan, UCD Director of Enterprise and Commercialisation, said: "We are very proud of the achievements of our companies and look forward to building on the successful formula for enterprise development and commercialisation that we have developed at NovaUCD. We can do even more when the expansion of our facilities is completed later this year."

Using a multiplier of 2 would indicate that NovaUCD supported companies support approximately 2,100 jobs in total, some 1,040 jobs indirectly in addition to the over 1,040 direct jobs.

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€4.3 Million Invested in Enterprise-based Research Partnerships

Pictured at Government Buildings at the announcement of a €4.3m investment in the Irish Research Council's Enterprise Partnership Scheme were: Eleanor Mc Mahon, from University College Dublin; Liz-Anne Worrall, Assistant Director of the Irish Research Council; Peter Brown, Director of the Irish Research Council; Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD; Declan O'Loughlin, from the National University of Ireland, Galway; and Norah Storey, from Waterford Institute of Technology.

March 04 2019

The Government has announced details of a €4.3 million investment in the Irish Research Council's Enterprise Partnership Scheme. The Irish Research Council's Enterprise Partnership Scheme supports collaborations between researchers and partner organisations. Over the coming months, a total of 53 researchers will take up positions at higher education institutions in collaboration with 48 partner organisations.

The awards are two thirds funded by the Irish Research Council and one third funded by the partner organisations, which include national or international companies and not-for-profit organisations. To encourage involvement of diverse organisations, a waiver of the partner's first year contribution was granted to not-for-profits involved in social innovation.

Some partner organisations participating this year are the Football Association of Ireland, AIB, Fighting Blindness, Clúid Housing, Ludger Ltd., GreenLight Pharmaceuticals, Teleflex Medical Europe, Valitacell Ltd., Microwave Vision SA and Killruddery Arts, Culture, Ecology and Heritage amongst others.

Examples of projects that will receive funding under the scheme include:

- **Norah Storey**, based at Waterford Institute of Technology, will undertake research with AIB, exploring what underpins the decision-making process in investment in low-carbon technologies.
- **Dan Horan**, based at University College Dublin, will undertake research in partnership with the Football Association of Ireland on injury surveillance in elite-level women's football.
- **Declan O'Loughlin**, based at the National University of Ireland, Galway, will undertake research looking at improving clinical decision-making in early-stage breast cancer screening, with Microwave Vision SA.
- **Eleanor Mc Mahon**, studying at University College Dublin, will commence a research project in association with Clúid Housing, developing an analysis of housing supports for low-income Dublin households.

The researchers will be based at their respective institutions for the duration of their studies and will work in close collaboration with the partner enterprises.

Fellowships are awarded to postdoctoral researchers to undertake research for a period of two years and scholarships are awarded to postgraduate students to complete a masters or PhD research degree.

Announcing details of the scheme, Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD said: "The Irish Research Council's Enterprise Partnership Scheme enables researchers to develop innovative research projects at their higher education institutions, whilst engaging with some of Ireland's leading companies and organisations. Clearly this scheme is a win-win for both the researchers and their partner organisations, who get to tap into some of Ireland's best research and innovation capacity."

Peter Brown, Director of the Irish Research Council, said: "The Enterprise Partnership Scheme allows postgraduate and postdoctoral researchers to gain direct insights into a broad range of enterprises, whilst – at the same time – partner organisations gain direct access to some of Ireland's pipeline of highly talented researchers. Projects that have been greenlit range from football and housing to climate change and breast cancer. It is because of schemes like this that a whole range of employers, from multinational companies and small enterprise to NGOs, can benefit from Ireland's rich research pool."

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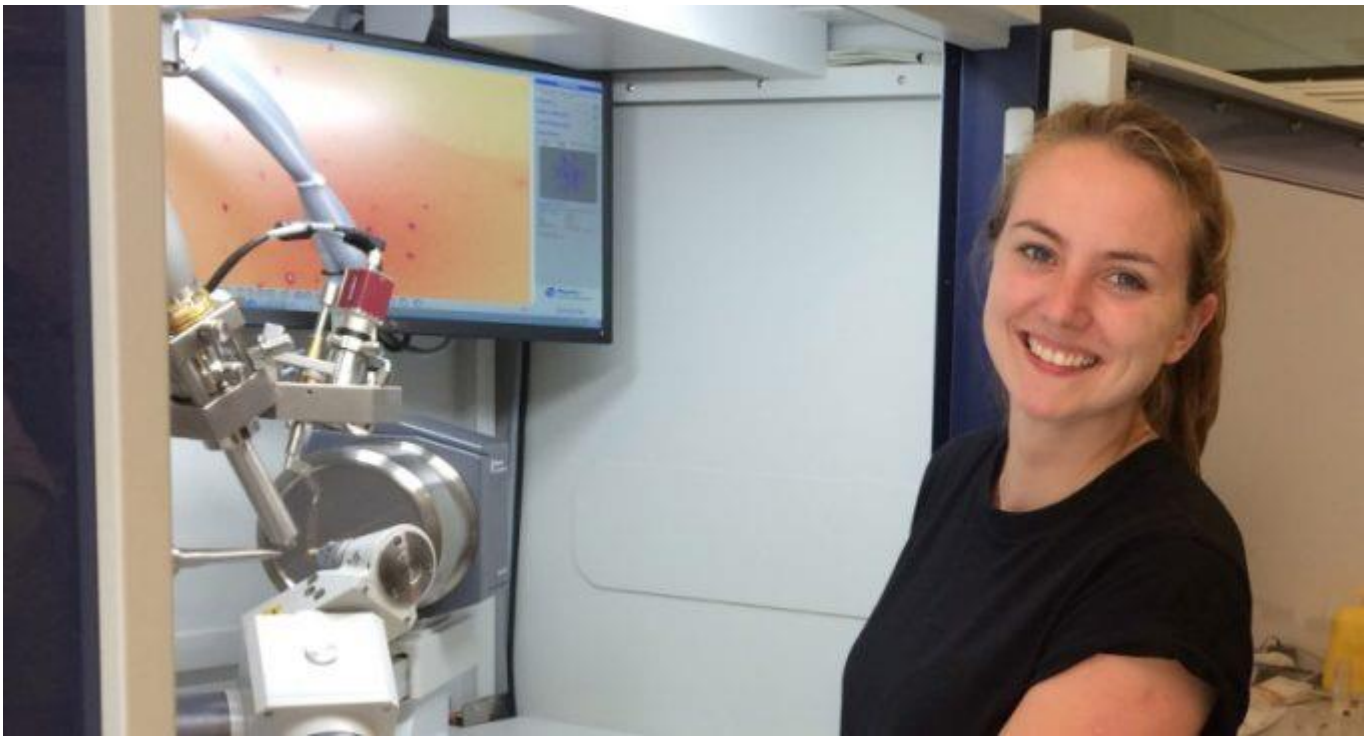
€4.5 Million Investment in Research Commercialisation



SFI TIDA awardee, Dr Creina Slator, at the XtaLAB Synergy-S single crystal X-ray diffractometer in the University of Southern Denmark.

February 07 2019

€4.5 million in funding has been awarded to 38 research projects to support the commercialisation of government-funded research. 47 research positions will be supported through the awards, in areas such as cancer research, preterm infant care, medical devices, agriculture, energy and food technologies, for a duration of 12 months.

The funding is provided through Science Foundation Ireland's Technology Innovation Development Award (TIDA) programme, which has been running since 2009. The programme provides project development funding and training in entrepreneurship skills to third-level researchers, to support them in exploring commercial opportunities associated with their research. Researchers will demonstrate if an applied research project (that is, research used to find practical solutions to everyday problems, cure illness, etc.), is technically feasible, and has potential for further commercial development.

Speaking of the awards, Minister for Business, Enterprise and Innovation, Heather Humphreys TD, said: "I am delighted to announce the recipients of the SFI TIDA Awards and commercialisation support for 38 research projects. The programme is aligned with a number of key Government strategies including Innovation 2020, the National Policy Statement on Entrepreneurship in Ireland and Project Ireland 2040. It will develop important entrepreneurship skills and commercialisation capabilities, ensuring Ireland maintains its position as a leader in cutting-edge research."

Researchers funded through the TIDA programme will also participate in the new SFI Spark Pre-Accelerator, which is an intensive five-day programme delivered by the DCU Ryan Academy for Entrepreneurs. This will support STEM researchers to develop skills in areas such as evidence-based entrepreneurship, innovation and design thinking and facilitates mentoring and networking.

Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, also welcomed the announcement, adding: "Through the SFI TIDA programme the Irish government is supporting and encouraging innovation and collaborative partnerships, across the regions. Fostering a culture of entrepreneurship and helping researchers in Ireland to realise the commercialisation potential of their work is an important factor in deepening Ireland's economic resilience."

Prof Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland, said: "Science Foundation Ireland is committed to investing in the translation of world-class research from the laboratory to market. A key objective is to increase the number and quality of discoveries that have strong economic impact potential, that can secure follow-on public or private investment. The TIDA programme plays a key role in this process by providing funding to develop technologies, as well as fostering entrepreneurship skills among our research community."

The research projects supported by the SFI TIDA programmes will be funded through 12 research bodies, as follows: Trinity College Dublin (11), National University of Ireland Galway (5), University College Cork (4); University College Dublin (4); Dublin City University (3); Royal College of Surgeons in Ireland (3), University Limerick (2), National Institute for Bioprocessing Research and Training (2), Tyndall National Institute (1), National University of Ireland Maynooth (1), Dublin Institute of Technology (1) and Cork Institute of Technology (1) Below is a summary of the projects receiving funding:

Research highlights include:

- An implantable device to help immune cells fight ovarian cancer tumours – Dr Eimear Dolan (NUIG)
- A new drug therapy to treat inherited and acquired bleeding disorders such as haemophilia – Dr Roger Preston (RCSI)
- Development of a novel biomarker-based platform and diagnostic test for identifying obese individuals with highest health-risks – Dr Fiona McGillicuddy (UCD)
- Development of a new surface treatment for hip replacement implants that improves adhesion and reduces the risk of failure – Prof Brendan Duffy (TU Dublin)
- Viability testing of real-world petrol and diesel made from household and plant waste – Dr Stephen Dooley (TCD)
- Development of a computer-based system that continuously monitors the brain health of preterm infants in intensive care – Dr John O'Toole (UCC)
- An Autonomous lifeguard and search system using computer vision and machine learning – Prof Michael Madden and Dr Enda Barrett (NUIG).

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Glanbia Ireland to Build New €140 Million Continental Cheese Facility in Belview

January 232019

Glanbia Ireland, Ireland's largest dairy processor, and Royal A-ware, a leading global cheese and dairy producer in The Netherlands, plan to enter a strategic partnership that proposes to build a new continental cheese manufacturing facility in Belview, County Kilkenny, Ireland. It is proposed that a total of €140 million will be invested in this best-in-class facility. The new facility is scheduled for commissioning in 2022 and will produce continental cheeses in various formats.

Once fully commissioned, the new facility will have a production capacity of 450 million litres of milk per annum. Approximately 80 full time jobs will be created at the facility. It is expected that a further 100 temporary jobs will be created during the construction phase.

Milk used in the production process on site will be sourced from local suppliers and the cheese will be marketed and sold to global customers.

Michael Creed TD, Minister for Agriculture, Food and the Marine, said: "The agri-food sector is Ireland's largest indigenous industry supporting over 174,000 jobs across rural Ireland, from farms to food processing. Investments like this cheese manufacturing facility in Belview are a critical response to the challenges posed by Brexit, in terms of developing new products and new markets."

Jan Anker (pictured left), Chief Executive of Royal A-Ware Group, added: "We are proud to announce this partnership with Glanbia Ireland. With this announcement, Royal A-ware is taking another step towards

achieving its goals of working with strategic partners to build innovative and sustainable agri-food chains and offering its customers an enhanced product portfolio. It also gives our company access to additional volumes of high-quality cheese through a local supply chain."

Jim Bergin (pictured right), Chief Executive of Glanbia Ireland commented: "We are delighted to partner with Royal A-ware, a leading global producer of continental cheeses, to build a world-class cheese plant in the south-east of Ireland. This new partnership will create a new route to market for Glanbia Ireland suppliers' milk and diversify our portfolio of consumer dairy products and ingredients. Since 2014 we have invested €343 million to facilitate a 42% increase in milk production by Glanbia farmers. This proposed new investment is now required to diversify our product mix and to ensure that our suppliers have the opportunity to fulfil their growth ambitions."

Orla Battersby, Head of Food Division, Enterprise Ireland, concluded: "The announcement by Royal A-ware and Glanbia Ireland demonstrates that Ireland remains at the forefront of dairy innovation for the global marketplace and an attractive location for international dairy investments."

The proposed new facility will be located at a greenfield site near to Glanbia Ireland's infant nutrition plant at Belview, County Kilkenny. First opened in 2015, the Glanbia infant nutrition plant at Belview is a flagship manufacturing site for Glanbia Ireland and is currently the subject of a €130 million investment to install a third drier and expand production capacity.

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New Global R&D Centre for Nestlé Opens in Ireland

Pictured (left to right): Thomas Hauser, Head of Global Product and Technology Development for Nestlé; Orla Battersby, Head of the Food Division, Enterprise Ireland; Michael Creed, Minister for Agriculture, Food and the Marine; and Dan O'Callaghan, Head of the new Nestlé R&D Centre.

January 24 2019

Nestlé has opened its first Research and Development Centre in Ireland at its existing manufacturing facility at Askeaton in County Limerick, marking the completion of a three-year building programme with a capital investment of €27 million. The new R&D centre will focus on scientific research to support innovations in the development of milk-based maternal and infant nutrition products for the global market. The Centre was formally opened by Michael Creed, Minister for Agriculture, Food and the Marine; and Thomas Hauser, Head of Global Product and Technology Development for Nestlé S.A.

Over 40 research staff are employed at the R&D Centre, which is co-located with Nestlé's Wyeth Nutrition manufacturing plant. Wyeth Nutrition Ireland produces a range of premium milk powder products for infants, young children and mothers for export to world markets.

Thomas Hauser, Head of Global Product and Technology Development for Nestlé SA, said at the opening event: "Our Irish R&D Centre will benefit from Nestlé's global R&D network and help to position Nestlé at the fore of infant and maternal nutritional product development, one of Nestlé's most important growth drivers. With this new centre, we will increase the pace of our innovation capacity by enabling our scientists to explore innovative nutritional solutions for the crucial first 1,000 days of life."

The R&D Centre will concentrate on developing premium, science-based products for mothers and infants. It incorporates state-of-the-art laboratory facilities as well as a full pilot-scale manufacturing line to facilitate the development, and testing of new products from initial concept through to product deployment. The project investment was supported by Enterprise Ireland.

Michael Creed, Minister for Agriculture, Food and the Marine, added: "This is a strategically important investment for Ireland by the world's largest food and beverage company. We are honoured to have a world leading research facility that provides a cutting-edge scientific base to develop new products that will bring health benefits to infants, children and mothers worldwide. Nestlé's decision to invest and open this centre further places Ireland internationally as a location that offers quality raw dairy materials combined with a highly educated and skilled workforce. It is a major signal of confidence in the future and quality of the Irish dairy industry."

Dan O'Callaghan, Head of the new R&D Centre, stated: "Between our pilot plant and laboratories, we have installed state-of-the-art food processing equipment and analytical instruments. We will also complement our in-house activities through collaborative research programmes with Irish universities and with Teagasc – the Agriculture and Food Development Authority. This will enable our cross-functional team of research scientists to develop the next wave of innovative nutritional products to meet the demands of future generations."

Orla Battersby, Head of the Food Division, Enterprise Ireland, said; "Enterprise Ireland is committed to supporting companies like Nestle to increase their level of innovation, improve their competitiveness and expand their global footprint, with the ultimate goal of delivering export growth for Ireland. Enterprise Ireland is also responsible for attracting Foreign Direct Investment from the global food industry into Ireland and the opening of this new showcase plant reflects highly on the entire Irish dairy sector – pooling together innovation with best-in-class facilities."

Nestlé has the world's largest private food and nutrition research organization with around 30 R&D Centres and over 5,000 people worldwide. With nutrition at its core, Nestlé R&D is committed to make the Nestlé portfolio even tastier and healthier, to fulfil its purpose of enhancing quality of life of people and contributing to a healthier future. In 2017, Nestlé invested about €1.3 billion (SFr1.7 billion) in R&D.

Nestlé has over 70 brands across seven categories in the Irish market – beverage, confectionery, cereals, food, pet care, dairy and infant nutrition. Its iconic brands include NESCAFÉ®, KIT KAT®, ROWNTREE'S®, CHEERIOS®, MAGGI®, SMA® as well as BAKERS® and FELIX® pet food. Nestlé's operates a manufacturing site at Askeaton, County Limerick. Nestlé employs over 750 people in Ireland.

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Ireland's UCC Ocean Energy Test Facility Opens

Dr. Jimmy Murphy, Lir Manager, with UCC President Dr. Patrick O'Shea and An Tanaiste Simon Coveney TD touring the wave tanks at the official opening of the Lir National Ocean Test Facility at the UCC Environmental Research Institute Beaufort Building, Ringaskiddy, Co. Cork.

January 21 2019

Lir, Ireland's ocean energy test facility, has been officially opened in Ringaskiddy, County Cork by Minister for Foreign Affairs Simon Coveney, TD. Located in the €20 million UCC Environmental Research Institute (ERI) Beaufort building, Lir – the National Ocean Test Facility – provides world-class laboratory testing for offshore wind, wave and tidal energy devices. The state of the art facilities at Lir include four wave tanks that can replicate real ocean conditions and enable testing of various marine innovations, technologies and structures at different scales. As well as the ocean test infrastructure, Lir also offers a highly experienced team of researchers and operators.

Speaking at the opening of Lir, Tánaiste Simon Coveney said: "Lir, the National Ocean Test Facility is key to the development of Ireland's offshore renewable energy industry and marine research sector. As a key piece of infrastructure in the SFI MaREI Centre for Marine and Renewable Energy it provides an invaluable resource for industry, researchers and state institutions to facilitate testing of innovative ocean energy technologies and devices for marine systems. The ERI, MaREI and Lir are vital enablers of Ireland's blue economy, allowing both indigenous and international companies to develop renewable energy systems that will ultimately have real impact in how we generate energy from our oceans."

Professor Patrick G. O'Shea, President University College Cork, said: "When you consider the energy and environmental challenges society faces globally, research to unlock the potential of our oceans can provide future solutions. University College Cork has been an acknowledged leader in marine energy research for many years, and we have been part of the Lir journey since its designation as a National Facility in 2009. Today is a proud day to see Lir become a vital part of Ireland's national ocean energy test infrastructure. We are looking forward to working with government departments and agencies in ensuring that the full capacity and potential of Lir to the research community and Irish economy are realised."

The Ministerial party toured the Lir facility, a 2,600 m^2 tank hall reviewing the Deep Ocean Basin tank, Ocean Basin tank and Electrical Laboratory, and also experienced the wave and current flume capabilities of the tanks, as well as the wave watch flume and adjustable beach.
UCC's Dr. Jimmy Murphy and Lead at Lir said: "The diversity of activities at Lir reflect the numerous commercial opportunities that offshore renewable energy presents. We are supporting companies by de-risking their technologies through our extensive testing capability including towing, installation, performance and survivability testing. We also operate in the broader marine sector as we have the capacity to test any structure that can be fabricated at a smaller scale. As well as renewable energy devices and systems, Lir can also be used to test oil and gas platforms, aquaculture cages, vessels, breakwaters and coastal protection structures. The Lir facility will accelerate Ireland's marine sector development, and we look forward to supporting indigenous and international companies, institutions, academia and researchers in this important sector."

The Lir Infrastructure represents a capital investment of €10 million, with infrastructure funded by HEA and Bord Gais (under PRTLI), DCCAE and the Sustainable Energy Authority of Ireland and support from the IDA and Port of Cork. Additional funding was received from DAFM and subsequent capital and equipment awards from Science Foundation Ireland and the Marine Institute won by, and enabled through, MaREI in the Environmental Research Institute at UCC. Lir receives ongoing support from SEAI through their Ocean Energy Programme.

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Winners of the 2019 IMR Manufacturing and Supply Chain Awards

Helen Ryan receiving her award from John Whelan, Chairman of Premier Publishing and Events.

January 22 2019

Former CEO and non-executive director of Creganna-Tactx Medical, Helen Ryan has been crowned the Outstanding Industry Contribution winner at this year's IMR Manufacturing and Supply Chain Awards. The event, which celebrates the finest in Irish manufacturing, took place at the Citywest Hotel Convention Centre on the evening of the 17th of January, following the record breaking National Manufacturing and Supply Chain Conference & Exhibition held earlier the same day.

Unlike other awards ceremonies, the event recognised hard work, innovation and dedication to the industry. Female business leader, Galway woman Helen Ryan scooped the title for enabling Creganna-Tactx Medical to become one of the world's top 10 medical device outsource providers. Her time as CEO ensured the company grew five-fold to become the largest indigenous medical device company in the world.

Speaking about her win, Helen Ryan said: "I'm thrilled to have won at this year's IMR Manufacturing and Supply Chain Awards. It's not often the medical device industry gets recognised for its people and innovation despite the industries efforts to keep Ireland on the map as a leading manufacturer in the med tech field."

Competition was fierce this year with hundreds of entries applying across 15 categories. Other winners included Java Republic who won Sustainable Manufacturer of the Year for boasting the world's first purpose-built carbon-neutral roastery in the world. In addition to this, Intel were awarded ICT

Manufacturing Team of the Year while Kerrygold Park won Food Manufacturing Team of the Year (for a full list of winners please see below).

Innovative work, close collaboration and improvement to internal operations played a significant role in the decision-making process for judges this year. The 2019 panel included Eoin O'Driscoll, Chairman of Tyndall Institute; Barry Kennedy, Chief Executive of IMR; Caroline Spillane, Director General Engineers Ireland; Bob Barbour, Chief Executive Competitiveness Centre; Professor Eamon Murphy, University of Limerick; Dr Christopher Keely, Trinity College Dublin; and John Whelan, Chairman of Premier Publishing and Events.

Speaking about Helen Ryan's win, John Whelan said: "Premier Publishing and Events are delighted to see a former female CEO win at this year's Irish Manufacturing Research (IMR) Manufacturing and Supply Chain Awards. Helen has contributed to putting Ireland on the map as a leader in producing innovative technologies in the medical device sector and we wanted to recognise her hard work and determination in bringing this to fruition. Congratulations to all our other winners also who continue to contribute a significant amount of hard work and dedication to Ireland's manufacturing industry."

Barry Kennedy, CEO, Irish Manufacturing Research, said "This year's finalists were chosen because they have demonstrated the ability to navigate change and innovation as industry leaders, and as such, they represent the very best within Ireland's Manufacturing industry today. Through Irish Manufacturing Research (IMR) we look forward to supporting their growth and success now and into the future and we are proud to remain at the forefront, championing advancements in manufacturing across the island of Ireland. We look forward to continuing to assist our member company's put the necessary building blocks in place as they continue to lead through hard work, innovation and determination. On behalf of IMR, I would like to sincerely thank all of the businesses that entered this year's Awards programme. Through their success, they make an invaluable contribution to the economy, employment and Ireland's reputation – and they should be applauded for these achievements."

Winners of the 2019 IMR Manufacturing and Supply Chain Awards:
Best Use of Robotics sponsored by Cobots.ie
Valeo Vision Systems
Industry Research Partnership of the Year
DesignPro Ltd & University of Limerick
Contract Manufacturer of the Year
Croom Precision Medical
Health & Safety Initiative of the Year
Briody Bedding Ltd
Sustainable Manufacturer of the Year
Java Republic
Supply Chain Manufacturing Partner
Optel Group
Food Manufacturing Team of the Year
Kerrygold Butter Packing Ltd
Engineering Manufacturing Team of the Year
Key Plastics Ltd
ICT Manufacturing Team of the Year
Intel
Medtech Manufacturing Team of the Year
Cook Medical
Biopharma Manufacturing Team of the Year

Pfizer Ireland Pharmaceuticals Ringaskiddy Cork
Smart Factory Manufacturer of the Year
DePuy Synthes

Best Manufacturing Skill & Development Program
Boston Scientific Clonmel
Micro Manufacturing Company of the Year
Horan Automation & Consulting
SME Manufacturing Company of the Year
Arrotek Medical Ltd
Large Manufacturing Company of the Year
Boston Scientific Clonmel
Gran Prix IMR Manufacturer of the Year
DePuy Synthes

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Highest Number Ever Employed in Multinational Sector

Martin Shanahan, IDA Ireland

January 112019

IDA Ireland, which is responsible for attracting foreign direct investment (FDI) to the county, has announced that employment levels in its client companies have reached 229,057. FDI's performance has exceeded targets set by Government contained in IDA Ireland's Strategy – Winning: Foreign Direct Investment 2015-2019.

For context, IDA clients added two and a half times more jobs under "Winning" FDI strategy than in the first 4 years of IDA's previous strategy 2010 – 2014. 58% of employment is now outside of Dublin in 2018, which is the highest number of people employed by IDA clients outside of Dublin in the history of the organisation, with more jobs added in the regions than at any time over the past 17 years.

Welcoming the results, Heather Humphreys, Irish Minister for Business, Enterprise and Innovation, said: "The IDA's record results for 2018 underline how strongly Ireland continues to perform when it comes to attracting FDI. The significant increase achieved in employment is all the more impressive considering the highly competitive global FDI marketplace in which Ireland and the IDA operate. The Government will continue working hard in 2019 to ensure that Ireland remains a destination of choice for overseas firms looking to invest or expand their presence in Europe.

"I particularly welcome the gains made in deepening and growing investment outside of Ireland's main cities, with the largest regional employment growth achieved in 17 years. 58% of all IDA client-supported jobs are now located outside Dublin, with every region of the country seeing employment gains in 2018."

Martin Shanahan (pictured above), CEO of IDA Ireland, said: "Foreign Direct Investment has transformed Ireland over the last 70 years. FDI continues to drive the economy with strong employment growth at 7%, compared to national average of 3% in 2018. FDI Exports experienced growth of 10% and an increase of

8% in the amount spent in the Irish economy on Payroll, Materials and Services – this now stands at over €19.2 billion. The strength of FDI can also be seen in increasing Corporation tax receipts – IDA Client companies account for an estimated two thirds of Ireland's Corporation tax and one third of combined Income Tax, USC and Employer PRSI tax. Ireland's investment proposition continues to resonate with companies across the globe as investors search for stability and certainty."

Martin Shanahan continues: "Once again, the 2018 figures show a consistent pattern of extremely strong job creation amongst IDA Client companies in recent years. It is important to remember that only ten years ago, across 2008 and 2009, Ireland lost over 35,000 FDI jobs during the Global Financial Crisis. This is a salutary reminder that we can take nothing for granted and we need to be vigilant, particularly in relation to our competitiveness. All jobs are fought for and won against increasing international competition."

Apart from direct employment and skills transfer, IDA Ireland's client companies have a hugely positive effect on the local economy with over eight jobs being created for every 10 jobs in an FDI company. Spillovers from Multinational Company (MNC) investment directly into the Irish economy include expenditure on Irish materials and services totalling €7.5bn, an annual payroll spend of €11.7 billion and capital investment of €5.7 billion on new buildings and machinery and equipment.

Brexit

IDA Ireland has continued to secure a substantial number of Brexit-related investments in 2018 with the overall figure now standing at 55+ for investment approved with over 4,500+ associated jobs. For investors, the importance of Ireland's ability to provide a stable predictable investment climate cannot be overstated. We have continued to engage significantly with our clients on this issue, fighting for any mobile investment that arises.

Ireland's advantages in a post-Brexit context include English language, commitment to the EU, a common law system in addition to our existing competitive proposition. Leading companies like Bank of America, Morgan Stanley, Legal & General, Everest Re, Central Pharma, The Standard Club, Coinbase, Citi Group, Barclays, AXA XL, Wasdell Group, EquiLend, Thomson Reuters, BRE Global, Simmons & Simmons, Neueda Technologies and Depository Trust and Clearing Corporation (DTCC) have all declared a new or expanded presence for Ireland in 2018.

New Strategy

Over the course of 2019, IDA Ireland's Board will be developing the agency's new five-year strategy. This strategy will take account of the changing nature of work and the impact of technology on specific sectors.

Martin Shanahan says: "Ireland is a small open trading economy and increased nationalism and protectionism is likely to have an impact on future FDI figures. Ten years on from the financial crisis, the global economy continues to grow at a steady pace but the OECD says global GDP growth has peaked and is slowing on the back of weaker trade growth and less supportive monetary and fiscal policies.

"According to FDI Intelligence, global greenfield investment projects fell 1.1% in 2017, while at the same time investment into Ireland continued to grow. Ireland wins a much larger market share of European FDI than expected for its size. Ireland's share of all FDI projects to the EU in 2017 was 5.4%, while Ireland's share of EU GDP was just 1.9%.

"As we said last year, maintaining the competitiveness of the Irish economy remains absolutely essential. Issues that our clients are raising and that the National Competitiveness Council has also identified include: residential housing – availability & cost; skills; infrastructure investment; investment in the education sector and income tax levels at the higher marginal rate."

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Publishing frequency: 48 per year
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Biotechnology Firm Visiblegy Plans to Quadruple Workforce in Omagh

Pictured (L-R) are Mark Bradley, Director at Visiblegy, with Ethna McNamee, Western Regional Manager, Invest NI.

January 8 2019

Visiblegy Limited, a start-up tech company focused on the global pharmaceutical industry, is recruiting 11 new staff as part of investment plans that will more than quadruple its workforce. Visiblegy is a technology company focused on providing solutions to the healthcare industry to deliver insights that will lead to patients getting better treatment outcomes across diverse health profiles.

Welcoming the investment, Ethna McNamee, Western Regional Manager, Invest Northern Ireland, said: "Visiblegy is an impressive young business with high growth potential. The significant export contract secured in its first year of trading is a valuable endorsement of the importance of its technology to the global pharmaceutical industry.

"The 11 new jobs to be recruited during 2019 is very positive news for the Fermanagh and Omagh District Council area. We are committed to helping this business achieve its targets and maximise the global opportunities which exist for its innovative technology."

The new jobs cover a range of positions including software programming, marketing, sales and managerial roles. Two of the jobs are already in place.

The business' software platform XLens delivers insights which support the effective launch of new drugs into the marketplace. Visiblegy is already working with one of the top 20 global pharma companies, demonstrating the value of this technology to its target market.

Mark Bradley, Director at Visiblegy, said: "Our software platform 'XLens' is aimed at eliminating the billions of dollars of revenue leakage that the pharma industry experiences when new products are launched onto the marketplace. We have received encouraging feedback from customers to date and are aiming to generate further sales over the coming months. The support offered by Invest NI towards our market development and recruitment investments is enabling us to build a market presence and establish a well-resourced team to help deliver our growth targets."

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Irish Genetics Company Wins €1.8 Million 'Beyond Food Labelling' R&D Grant

10:10 2018

Irish genetics company IdentiGEN has welcomed a €1.8 million research and development award to further strengthen its position as a world leader in DNA technologies within the food industry. IdentiGEN, which is based in Dublin and provides DNA traceability solutions for the meat and seafood sectors, will use the investment to advance food quality and integrity, working together with University College Dublin (UCD).

IdentiGEN has operations in Ireland, UK, USA and Europe and works with major international retailers, distributors and processors. It has been awarded €1.8 million from the Disruptive Technologies Innovation Fund, announced by the Irish Government's Department of Business, Enterprise and Innovation.

IdentiGEN's Managing Director and Founder Ciarán Meghen says the funding will be used to further develop genomic technologies to improve confidence in the origin, quality and safety of food. "Food labelling is a major cost to industry and has been shown to be vulnerable to abuse and fraud. IdentiGEN has identified an approach to transform and industrialise the use of DNA profiling in food labelling. This will involve working with the UCD Animal Genomics Laboratory where we expect to transform the cost base of DNA analysis, making the technology widely applicable."

He adds: "New technologies present us with the opportunity to disrupt the food labelling status quo. This investment will support IdentiGEN to remain at the cutting edge of genomics and we look forward to the global opportunities which it will present."

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Over €75 Million For 27 Groundbreaking Projects Under Disruptive Technologies Innovation Fund

Pictured (left to right): Minister for Business, Enterprise and Innovation, Heather Humphreys TD, Taoiseach Leo Varadkar TD and Professor Cathal Kelly, CEO of RCSI.

09:54 2018

The Government has unveiled the 27 innovative projects who are sharing over €75 million in funding out to 2021 under the first tranche of the Disruptive Technologies Innovation Fund. They include a scheme to help communities generate their own electricity, new treatments for sepsis, a support system for coastal flooding and advanced 3D printing of medical implants.
27 projects from sectors like life sciences, medical devices, ICT, manufacturing, food, agriculture, energy sustainability and the creative industries made successful applications for this first round of funding. All include collaborations between start-ups, SMEs, multinationals and academic institutions. Every project involves at least one SME and many are led by an SME. Over the next ten years some €500 million will be allocated through the fund, which was announced as part of Project Ireland 2040.

The projects can use the funding to develop and deploy their disruptive innovative technologies on a commercial basis. The Fund is a key part of the Government's 'Future Jobs' initiative, a new whole-of Government plan to secure Ireland's economic success, starting in 2019. It is one of the first funds of its type in the world and is aimed at tackling national and global challenges to secure the jobs of the future.

Announcing the successful projects An Taoiseach, Leo Varadkar TD said: "The creation of this fund is particularly timely when we consider the vast and rapid technological advancements that are taking place. Today everything is faster, more efficient, and more easily accessible. We must adapt to a future of greater digitalisation and automation. Today's school children will be employed in jobs and industries that don't exist yet. Technology will eliminate or transform existing occupations.

"We are currently developing a new Plan, the Future Jobs Initiative, to meet these challenges and ensure we assist industry to create and sustain good jobs for our people in light of future challenges and opportunities. The Disruptive Technologies Innovation Fund is central to the Future Jobs Programme. It's our way of stimulating private investment in new technologies and ways of doing business, and building stronger links between higher education, multinationals and Irish SMEs."

Minister for Business, Enterprise and Innovation, Heather Humphreys TD said: "This Fund is about ensuring that Ireland can stay ahead of the game to secure the jobs of the future. Disruptive technologies will significantly change the way that we work and live and we need to embrace the changes coming our way. A recent OECD study estimated that the average Irish worker faced a 46 per cent probability of being automated by the 2030s so we cannot afford to stand still.

"We are lucky in this country to have amazing companies that are doing amazing things in technology, both indigenous and multinational. We also have world-class researchers so there is a lot we can achieve by working together. These 27 projects have devised ground-breaking solutions that will help us to future-proof our economy."

Over 300 applications were made under the first round. Successful projects have made it through a highly competitive process involving screening by a panel of international experts.

The successful projects include:

- 'Irish Lasers for the Internet of the Future (iLife)' led by Pilot Photonics with Dublin City University and Trinity College Dublin as partners;
- Advanced Environmental Decision Support System for Coastal Areas to tackle coastal pollution and flooding;
- Cooperative Energy Trading System: a disruptive technology platform where consumers and communities will be empowered to generate their own electricity;
- E-BAMBI: using 3-D printing to develop biomedical implants;
- 'Beyond Food Labelling' led by IdentiGEN with University College Dublin as partners;
- Therapeutic enzymes as a treatment for sepsis and other immune disorder diseases;
- Disruptive gene therapy platform replacing viruses in the treatment of genetic conditions, led by Amryt Pharma with Curran Scientific, DEBRA Ireland and Charles Institute of Dermatology, University College Dublin as partners;
- 'Smart-Cardio – A Paradigm shift in Cardiac Arrhythmia Treatment, led by Atrian Medical with NUI Galway as partner;
- 'ArtEngine 2.0: Bringing Automated, AI-Driven 3D World Creation to Market' led by Artomatix with Black Shamrock, Keywords and WarDucks as partners;
- 'Blockchain in the Technology Product Supply Chain' led by Exertis Supply Chain Services with Sonalake and CeADAR as partners;

- 'The Future of Colorectal Cancer Diagnosis and Treatment: Combining Tissue Responsive Probes, AI and Machine Learning to Transform Medical Care' led by Royal College of Surgeons (RCSI) with Deciphex, IBM Research and University College Dublin as partners.

Julie Sinnamon, CEO, Enterprise Ireland, who are providing support in managing calls under the Disruptive Technologies Innovation Fund, said: "We see every day, through our market offices, how innovation is the key differentiator for Irish companies in competing and winning in global markets. The DTIF provides unique supports to ambitious SME's and researchers to help them collaborate on the development of innovative technologies that have the potential to transform how markets and businesses work. The 27 proposals approved under this first call have the potential to be game-changers in their sectors, and to dominate in niche sectors globally. We look forward to continuing to work with these teams, to help them achieve their full global ambition."

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Grass-fed Beef – Opportunities For Healthier Diets

Pictured at the "Grass-fed beef: Marketing opportunities and the scientific evidence" workshop at Teagasc Ashtown were from (L to R): Sinead O'Mahony, FSAI; Aidan Moloney, Teagasc; Briege McNulty, UCD; Joe Burke, Bord Bia; Helen Roche, UCD; Maeve Henchion, Teagasc and Frank Monahan, UCD.

09:55 2018

Ireland's climate means that the country is good at growing grass. It is well known that producing beef from grass results in lower costs than feeding animals on concentrates. But what about the consumer? Is grass-fed beef better than other types of beef for consumers?

This was the focus of a Department of Agriculture, Food and the Marine funded project undertaken by Teagasc and University College Dublin (UCD). The project examined the scientific basis for any potential nutrition and health claims that could be associated with grass-fed beef.

The findings from this work were the topic of a recent one-day workshop held at the Teagasc Food Research Centre, Ashtown, Dublin. A diverse audience gathered to hear the results of the nutritional analysis of Irish grass-fed beef and the implications of differences in the composition of grass-fed and concentrate-fed beef for the quality of the human diet and the health of the consumer.

Joe Burke of Bord Bia outlined the market requirements for beef and the opportunities for Irish grass-fed beef. Professor Aidan Moloney of Teagasc and Professor Frank Monahan of University College Dublin,

reported that grass-fed beef had higher concentrations of several minerals and fatty acids (particularly conjugated linoleic acid and alpha-linolenic acid) which are of benefit to cardio-vascular health. Dr Breige McNulty of UCD used a predictive modelling analysis to demonstrate that consumption of grass-fed beef could improve population adherence to dietary recommendations for total fat, saturated fatty acids and polyunsaturated fatty acids. Dr McNulty said: "Dietary recommendations can be hard for people to adhere to. Our work in UCD has shown that consuming grass-fed beef can help more people to meet their dietary recommendations for total fat, saturated fatty acids and polyunsaturated fatty acids."

Professor Helen Roche of UCD stated that modelling exercises have demonstrated that supplementing a high-fat diet with a small amount of the beneficial fatty acids found in grass-fed beef (i.e. conjugated linoleic acid and alpha-linolenic acid)can improve what are known as "biomarkers" of cardio-metabolic health, indicating their potential to reduce the potential negative effect of high-fat diets. Subsequent work in the form of a pilot human study however did not show that grass-fed beef resulted in improved health profiles. Professor Roche said: "This was a pilot study of short duration; a more prolonged intervention may specifically improve risk factors relating to heart disease and diabetes risk."

Sinead O'Mahoney of the Food Safety Authority of Ireland discussed the current regulation on Nutrition and Health Claims with respect to beef composition.

In a facilitated workshop, Professor Maeve Henchion of Teagasc worked with the industry and academic workshop participants to identify how these research results can be used to benefit Irish consumers, meat companies and farmers. Professor Henchion said: "Grass-fed beef is different to other beef on the market place. We need to use this evidence, and continue to support the strong position of Irish beef in the market."

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SEAI Report Highlights Urgent Need to Reduce Reliance on Fossil Fuels

12:28 2018

The Sustainable Energy Authority of Ireland (SEAI) has published their annual Energy in Ireland report. Energy in Ireland presents the latest national data and trends on energy use and renewable energy in Ireland. This year's report shows a 0.5% increase in energy demand as the economy grew by 3.0%.

Ireland continues to face a challenge in reducing reliance on fossil fuels for transport, heating and electricity production, with over 90% of all energy used in 2017 from fossil fuels.

Commenting on the urgent need for action to address our energy challenges, Jim Gannon (pictured), CEO of SEAI, said: "Despite some areas of good performance in 2017, the bottom line is that we need to accelerate the pace of change. Collectively and individually, we need to use less as we take greater advantage of the renewable energy available to us here in Ireland.

"SEAI's Government of Ireland funded grants have already supported energy efficiency improvements in 400,000 homes, which along with other measures like improved building regulations has resulted in the average energy used per dwelling in Ireland now being 30% lower than it was in 2005. The next phase of activity in the residential sector must be a rapid acceleration towards deeper retrofits using the technical, consumer, financial and supply chain learnings from SEAI's deep retrofit and other programmes."

The 2018 report also shows energy demand in transport increased by 2% in 2017.

"Transport represents the single largest sector of energy use, half of which is private cars. We need a rapid transition from diesel and petrol to electric vehicles. Government funded incentives of varying types have driven a rapid growth in electric car sales, doubling year on year since 2015. Ireland's geographical extent makes it well suited to electric cars and, while not every driver can switch in the short term, we must ensure that it is considered a real option for the majority of new car purchases from now on. A transition to a largely

electrified passenger fleet, along with the consideration of alternative fuels for commercial, public transport and freight is essential."

The Energy in Ireland report pointed to a reduction of 2.1% in carbon dioxide emissions from energy used in 2017. This reduction is mainly due to increased electricity generation from wind with record levels of capacity installed in 2017, making Ireland a world leader in renewable electricity.

Jim Gannon said: "2017 represented a record year of renewables in our electricity system, and Ireland is a world leader in the level of wind deployed on our grid. However, 70% of our electricity still comes from fossil fuel, with both coal and peat remaining features of our generation mix. We must continue to develop our own renewable energy sources, with the most realisable opportunities represented by incremental increases to our onshore portfolio and significant opportunities in offshore wind, in addition to contributions from solar and domestic biomass production.

"The development of Irish sources of renewable energy, can create local jobs and encourage inward investment. Renewable energy is essential to support the transition to a sustainable economy – one that is not wedded to the use of imported fossil fuels."

Highlights from Energy in Ireland for the year 2017

- Overall energy use increased by 0.5%, while the economy grew by 7.2% as measured by gross domestic product (GDP) or 3.0% as measured by modified gross national income (GNI*). Energy-related CO2 emissions fell by 2.1% and were 18% below 2005 levels.
- Ireland's energy import dependency reduced from 88% in 2015 to 66% in 2017.
- Renewables made up 10.6% of gross final consumption relative to a 2020 target of 16%. This avoided 4.1 million tonnes of CO_2 emissions and €439 million of fossil fuel imports.
- Renewable electricity generation accounted for 30.1% (normalised) of gross electricity consumption. The use of renewables in electricity generation in 2017 reduced CO_2emissions by 3.3 Mt and avoided €278 million in fossil fuel imports.
- The carbon intensity of electricity fell from 480 gCO_2/kWh in 2016 to 437 gCO_2/kWh. This was as a result of growth in renewable generation and reductions in coal and peat use.
- Transport continues to dominate as the largest energy-consuming sector, with a 43% share of final consumption. Transport energy use increased by 2%.
- Industrial energy use increased by 3.4% driven by a 7.6% increase in output as measured by value added.
- Residential energy use fell by 2.9% though when adjusted for weather, it actually increased by 0.2%.
- The average household emitted 5.1 tonnes of CO2 of which 63% came from direct fuel use in the home and the remainder from electricity use. This is down from 8.4 tonnes in 2005.
- Final energy use in the commercial and public services sector increased by 4.2% – on a weather-corrected basis the increase was 7.4%.

For more information visit www.seai.ie.