

The Journal of the Institute of Chemistry of Ireland



President Prof John Cassidy DIT
presents the Boyle Higgins Gold Medal to
Prof John Kelly TCD



Originated 1922 Incorporated 1950

The Institute of Chemistry of Ireland

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The Professional Body for Chemists in Ireland

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Note:

Opinions expressed in this Journal are those of the authors and not necessarily those of the Institute.

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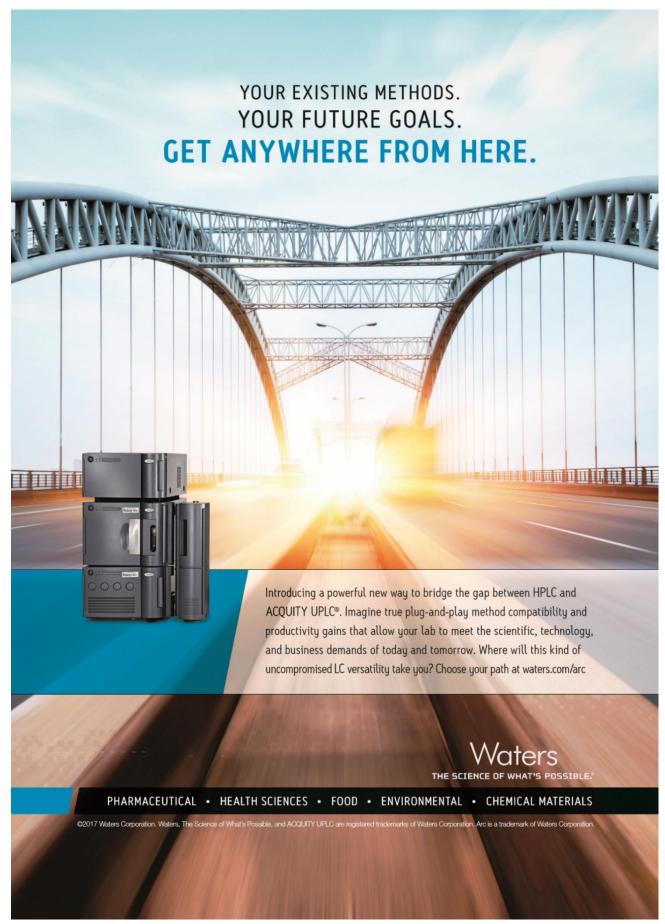












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A message from the President

Dear Colleagues,

May 2018

As we draw to the end of another academic year, we can look forward to a number of meetings. The ICI Annual Congress will be held in Athlone on Thursday 24th May. Further information can be had at https://www.eventbrite.ie/e/institute-of-chemistry-of-ireland-congress-drug-processing-tickets-45434957180.

Then there is the 70th Irish Universities chemistry Research Colloquium, to be held in Queens University in Belfast on 21st and 22nd June (http://go.qub.ac.uk/IUCRC2018).

Later on there is a IUPAC Photochemistry Symposium in UCD from 8th to 13th July . www.photoiupac2018.com

Next year is the International year of the Periodic Table and so EuCHEMs are seeking ideas on how to celebrate this occasion. What is the best way to engage school children with the concept of a periodic table? If you have any suggestions, be sure to drop me an email at john.cassidy@dit.ie.

Finally the ICI are progressing with the bid to host the EUCHEMs Congress in 2022.

John Carridy





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Editorial

This is the first Issue of ICN in 2018 and is much later than I had planned. This is caused by the nature of receiving material which is sporadic and generally arrives late. There is a big change with this first Issue in 2018 which is that there are no academic papers. As indicated in the last editorial I had a discussion ongoing with Council about the appropriateness of having academic papers within a large Issue of news type reports and general articles. It was agreed at our December Council meeting to have a new journal for academic papers which will be called **Chemistry Ireland.**

I have a target to publish Volume 1, No. 1 & 2 this year provided I get a sufficient number of academic papers. Initially it will not be Peer reviewed but in time I hope that with increasing submissions of papers Chemistry Ireland will evolve to be a Peer chemistry reviewed journal. I believe the quality and quantity of Chemistry research in Ireland justifies publication of an Irish academic chemistry journal. It will depend on support from chemists and their institutions.

This Issue carries reports of several chemistry events. The Institute is very proactive in organising or supporting relevant chemistry activity and we have plenty of photos of chemists participating and enjoying these activities.

A lot is happening this summer with more conferences to attend, especially our own 43rd Congress in AIT, Athlone, on Pharmaceutical Manufacturing, the 70th Irish Universities Chemistry Research Colloquium in QUB, Belfast. UCD won the bid to hold the 27th Photo IUPAC Conference in July. Eurachem are hosting a Scientific Workshop on Data Quality, Analysis and Integrity and their General Assembly in Dublin Castle later this month. As professional chemists there is no excuse not to attend some of these events and do some networking at the same time.

The big international chemistry congress this year is the 7th EuCheMS Chemistry Congress in Liverpool, in August hosted by our colleagues in the RSC. Our bid to host the 2022 Chemistry Congress will be submitted next week. We need a large Irish delegation of chemistry researchers here to attend and participate in this important Congress. If you have not yet registered do so now as this will help us will the bid for 2022. See:

https://www.euchems2018.org

I appeal to Principal Investigators and Heads of Chemistry Schools to get your teams ready to attend the **EUCheMS Chemistry Congress** in Liverpool and show support for our bid.

I also appeal to readers and researchers to encourage your colleagues to join the Institute and engage in promoting chemistry and if you are not a member to join. Membership forms are available on our website.

www.chemistryireland.org

EuCheMS and the **Royal Irish Academy** have posted calls for prestigious awards and there are notices within this issue.

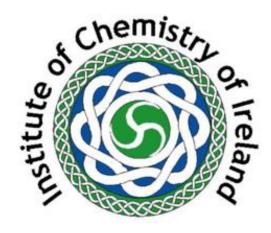
A young chemist from China Dr. Junsi Wang, working in Ireland the won the **RIA** prize for chemistry for her PhD thesis which is reported here. UCC had a Memorial Ceremony for Prof McKervey UCC and presented an award to a Cork Leaving cert student. The European Medicine Board is moving out to London because of Brexit and reassigning the rapporteurs amongst the other EU member countries.

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

info@instituteofchemistry.org

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

Editor 6/5/2018



List of Chemistry Events This Summer 2018

Eurachem Scientific Workshop & General Assembly, May 14-15, 2018, Dublin Castle ICI 43rd Chemistry Congress, May 24, 2018, AIT, Athlone

70th Irish Universities Chemistry Research Colloquium, June 21-22, QUB, Belfast 27th Photo IUPAC, July 8-13, UCD

7th EUCheMS Chemistry Congress, August 26-30, Liverpool, England



7th EuCheMS Chemistry Congress

Molecular frontiers & global challenges

ACC LIVERPOOL, UK 26–30 August 2018

REGISTER YOUR INTEREST



About the congress

With a theme of 'Molecular frontiers and global challenges', the 7th EuCheMS Chemistry Congress features five days of scientific and technical sessions, plenary lectures, oral and poster communications, keynote speakers and roundtable discussions, as well as exceptional networking opportunities, an exhibition and a unique social programme.

The EuCheMS Chemistry Congresses reflect the outstanding research being done in Europe and around the world by bringing together chemists from different countries and professional backgrounds to exchange ideas, advance knowledge and discuss key issues for chemistry and society. As such, the 7th EuCheMS Chemistry Congress offers you exceptional opportunities to network with chemists from across Europe and beyond.

Registration will open in late 2017, and will be via an online system; full payment is required to guarantee your booking.

http://www.rsc.org/events/euchems2018#



Update: There will be seven plenary speakers and six have now been confirmed. These are:

Paul Alivisatos, University of California, Berkeley, USA Frances Arnold, California Institute of Technology (Caltech), USA Stefanie Dehnen, Philipps-Universität Marburg, Germany Christopher Dobson, University of Cambridge, UK Ben Feringa, University of Groningen, The Netherlands Jin-Quan Yu, The Scripps Research Institute, USA

The seventh and final plenary speaker will be the winner of the European Chemistry Gold Medal which will be announced next year.

next year.		
Theme A: Catalysis – Graham Hutchings (UK)		
A1: Catalysis at the homo/hetero/bio interface	Christophe Copéret (M) Switzerland	
A2: Heterogeneous catalysis	Annette Trunschke (F) Germany	
A3: Homogeneous catalysis	Carmen Claver (F) Spain	
A4: Biological catalysis	Dick Janssen (M) Netherlands	
Theme B: Chemistry in the Life Sciences – Sara Linse (Sweden)		
B1: Biomolecular assembly processes	Tuomas Knowles (M) UK	
B2: Bioimaging, analysis and diagnostics	Andrew de Mello (M) Switzerland	
B3: Synthetic biology	Greg Challis (M) UK	
B4: Chemical biology and drug discovery	Alessio Ciulli (M) UK	
Theme C: Energy, Environment & Sustainability – Ib Chorkendorff (Denmark)		
C1: New approaches to clean fuels	Beatriz Roldan (F) Germany	
C2: Fuel cells and batteries	Ifan Stephens (M) UK	
C3: Solar photovoltaics	Annamaria Petrozza (F) Italy	
C4: Sustainable use of resources and green chemistry	Eleni Heracleous (F) Greece	
C5: Clean water and air	Ester Heath (F) Slovenia	
Theme D: Inorganic Chemistry Advances – Maria José Cal	horda (Portugal)	
D1: Inorganic reaction mechanisms	Yann Garcia (M) Belgium	
D2: Bioinorganic chemistry	Ricardo Louro (M) Portugal	
D3: Main group chemistry	Jean-François Halet (M) France	
D4: Transition metal chemistry	Grace Morgan (F) Ireland	
Theme E: Materials, Interfaces & Devices – Barbara Albert (Germany)		
E1: Materials governed by scale and dimensionality	Joao Rocha (M) Portugal	
E2: Un-conventional syntheses of inorganic solids	Natalia Dubrovinskaia (F) Germany	
E3: Functional materials and their electronic, magnetic and optical properties	Amparo Fuertes (F) Spain	
E4: Biomaterials	Peter Behrens (M) Germany	
E5: Soft control: macromolecules and smart polymers	Klaus Müllen (M) Germany	
Theme F: Organic Chemistry Advances – Josef Michl (Czech Republic)		
F1: Supramolecular and self-assembled materials	Paolo Samorí (M) France	
F2: Molecular machines and designed materials	Alberto Credi (M) Italy	
F3: Organic synthesis and methodology	Christina Moberg (F) Sweden	
F4: Organic reaction mechanisms	Jana Roithova (F) Czech Republic	
Theme G: Physical and Analytical Chemistry Advances Piero Baglioni (Italy)		
G1: Photochemistry / photophysics / electrochemistry	David Birch (M) UK	
G2: Advances in physical chemistry	Marie Paule Pileni (F) France	
G3: Advances in analytical chemistry and methods	Jiri Homola (M) Czech Republic	
G4: Computational and theoretical chemistry	Chantal Daniel (F) France	

ICI Boyle Higgins Gold Medal Lecture & Awards

The Institute's annual Boyle Higgins Gold Medal Lecture and Award was held on Thursday April 19th, at the Royal College of Surgeons, in the splendid Desmond Lecture Theatre located in their magnificent new building.

Professor John Kelly TCD delivered an outstanding lecture as the recipient of the Boyle Higgins Gold Medal and Lecture Award 2018.

An honorary fellowship was also presented posthumously to Dr Philip Ryan RIP - two of his nephews were present to receive this Fellowship.

Seven students were also presented with an ICI Second Level Education Award - these students attained the highest grade in the leaving certificate chemistry examination in Ireland in 2017.

A wine and finger food reception was enjoyed by all.

There was an excellent attendance at the Boyle Higgins award lecture, the various presentations and of course, the reception.

The President, Professor Cassidy, also took the opportunity to showcase the activities of the ICI - some of which are highlighted below.

Recognising Excellence in Chemistry in Ireland

- Boyle Higgins Gold Medal and Lecture Award
- Eva Philbin Public Lecture Series Award
- Industrial Award
- ICI Second Level Education Award
- Launching a new ICI Postgraduate Award 2018

Key Events

- Annual General Meeting
- Irish Universities' Chemistry Research Colloquium
- ICI Annual Congress
- Schools Chemistry Newsletter Competition
- Sponsors key events including Robert Boyle Summer School

Communication

- Irish Chemical News
- Website http://www.chemistryireland.org/
- Email/LinkedIn/Twitter @irishchemistry
- ➤ ICI Young Chemists' Group Facebook

Boyle Higgins Gold Medal Award Prof John Kelly TCD at RCSI April 19th 2018

Award Lecture: '1.4 Giga-seconds Exciting Chemistry- Time and the Photochemist'



Prof John Cassidy (DIT) presents the Boyle Higgins Gold Medal award to Prof John Kelly (TCD)



John discussing the structure of DNA



John with daughter Moira Kelly at the reception



Moira Kelly, John and Prof Conor Long (DCU)



John with Post Doc Fergus Poynton

Opening Remarks to the Gold medal Award and Lecture



Prof Declan McCormak, Head, School of Chemical and Pharmaceutical Sciences (DIT) former PhD student of Prof John Kelly and Prof Mike Lyons opened the evening with some interesting reminiscences.



The 7 leaving Cert Chemistry Students engaging with the president of the Institute Prof John Cassidy (DIT)

Honorary Fellowship for Dr James Philip Ryan BSc, PhD, CBiol, MIBiol, EurProBiol, FIScT, CChem, MRSC, FICI, EurChem.

Awarded Posthumously, April 19th 2018'

Honorary Secretary of the Institute of Chemistry of Ireland 1982 – 2017



Died 14th October 2017. R.I.P



Nephews of (James) Philip Ryan, Rory and Shane MCGuire being presented with the Honourary Fellowship Certificate by the President of the Institute Prof John Cassidy (DIT)

Institute of Chemistry of Ireland ICI Second Level Education Award in Chemistry 2017 Highest Grades in Chemistry



Ryan James Bell, Oatlands College, Mount Merrion, Dublin



Callum Dempsey, Banagher College, Co Offaly



Eamonn Michael Fennelly, St Kiernans College, Kilkenny



Mark James Fortune, Scoil Na Mbraithre Criostai, Co Thiobraid Arann



Emily McGill, Abbey Vocational School, Co Donegal



Jack Patrick Murphy, Christian Bros School, Charleville, Cork



Diarmuid O'Donoghue, Ashton Comprehensive School, Cork City



Group photo of the 7 winners with president Prof John Cassidy

Familiar faces at the Boyle Higgins Lecture







Proud parents of the students taking photos with Prof John Kelly

Networking at the Reception



Prof Frank Hegarty UCD, Dr Noel Fitzpatrick UCD, Joe Rowley (AGB) and Prof Albert Pratt DCU



Prof David McConnell, Prof Mike Lyons TCD and Prof Donall MacDonaill TCD



Dr Emma Coyle, Prof Albert Pratt, Dr Odilla Finlayson, all DCU



Dr Danny Kelly, Teagasc, Prof Declan McCormack and Dr Ruth Kelly (nee McBride), Henkel



Joe Rowley and Conor Murphy



Prof Donal O'Shea RCSI and Dr Susan Quinn UCD



Dr Eoghan McDarrigle UCD and Dr Marie Walsh LIT



Prof Sylvia Draper TCD and Prof Apryll Stalcup DCU



Dr Zara Molphy and Sinead O'Carroll Andrew Kellett Group, DCU





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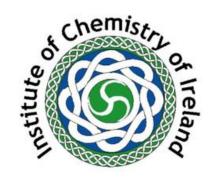
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43rd Institute of Chemistry of Ireland Congress

Drug Development, Delivery and Manufacturing

AIT, Athlone, Thursday 24nd May 2018

A full day conference consisting of Oral and Poster Presentations.

Organising Committee: S Reidy, D Faller, C O'Donnell, C Higginbotham, N Morris, B Murphy, E McCullagh, C O Donohoe, A O Malley, J Roche, G Stack (AIT).

AIT are hosting the annual Institute of Chemistry of Ireland (ICI) Congress this May (Thursday 24th). The title of the Congress is 'Drug Development, Delivery and Manufacturing'

We hope to cover a wide range of topics such as Green Chemistry, Contamination challenges, Challenges of Purity, Company Start-up challenges, Commercialisation challenges, Current and future legislation issues and The Midlands as a location for Pharmaceutical/Medical Device industry.

We would also like to showcase local industries and current research in AIT to a wider audience.

We hope our audience is a mix of industry and academia, including members of the ICI.

We will also be running a sponsored postgrad research poster competition as part of the Congress and would hope to attract postgrads from each of the Institutes /Universities to participate. (Perkin Elmer have offered to sponsor this, Leo McGuinness).

We have a number of speakers lined up including local industries, one from a start-up company, a speaker from the HPRA, A speaker from IBEC, a speaker from the IDA. We hope to confirm a speaker from the UK on applications of MOF (metal-organic frameworks) in energy applications and nanoscale drug delivery, some research into Green Chemistry and 3-D printed Pharmaceutical products

You will be able to register for the Congress through the options below:

- (i) Eventbrite:
 https://www.eventbrite.ie/e/institute-of-chemistry-of-ireland-congress-drug-processing-tickets-45434957180
- (ii) through the AIT Website: https://www.ait.ie
- (iii) directly through <u>sreidy@ait.ie</u> and 090 6471842

Submission of Poster titles to sreidy@ait.ie







8th-13th July 2018, UCD, Dublin, Ireland

www.photoiupac2018.com

PLENARY SPEAKERS

Thorsten Bach Technical University Munich, Germany

Christopher Barner-Kowollik Queensland University of Technology, Australia

Gonzalo Cosa McGill University, Canada

Michael Graetzel Ecole Polytechnique Fédérale de Lausanne, Switzerland

> Laura Herz University of Oxford, UK







Ana Krylov University of Southern California, USA

Testuro Majima Osaka University, Japan

Julia Weinstein, University of Sheffield, UK

PORTER MEDAL AWARD LECTURE

announced at the symposium

Wesley Browne University of Groningen, Netherlands

Luis Campos Columbia University, USA

Maurizio Fagnoni University of Pavia, Italy

Leticia González University of Vienna, Austria

Anna Gudmundsdottir University of Cincinnati, USA

Johan Hofkens University of Leuven, Belgium

IUPAC

Taiha Joo

Pohang University of Science and Technology, Korea

John Kelly Trinity College Dublin, Ireland

Tia Keyes Dublin City University, Ireland

Petr Klan Masaryk University, Czech Republic Maria Garbriela Lagorio

Instituto de Química Física de Ios Materiales, Medio Ambiente y Energía, Argentina

Xiaogang Liu National University of Singapore, Singapore

Nathan D. McClenaghan University of Bordeaux, France

Jerry Meyer University of North Carolina, Chapel Hill, US

Julia Perez Prieto University of Valencia, Spain

Hongmei Su Chinese Academy of Sciences, China

Stefan Hecht Ph.D., Humboldt-Universität zu Berlin, Germany

Jye-Shane Yang National Taiwan University, Taiwan













THEMES

Organic and Inorganic Photochemistry \cdot Renewable energy sources \cdot Green chemistry \cdot $At mospheric\ photochemistry\cdot Sensing\ Single\ molecule\ microscopy\cdot Super\ resolution\ imaging\cdot Photocatalysis\cdot Synthetic$ chemistry · Advanced Spectroscopy · Biomaterials to nanomaterials · Biomimetic and Artificial Photosynthesis

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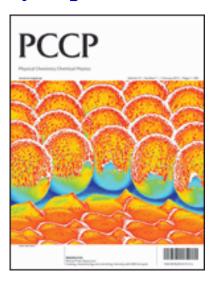
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www.photoiupac2018.com

Chairpersons:

Prof. Miguel A. Garcia-Garibay, UCLA, USA | Dr. Susan J. Quinn, University College Dublin, Ireland

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Scope

PCCP (*Physical Chemistry Chemical Physics*) is an international journal for the publication of cutting-edge original work in physical chemistry, chemical physics and biophysical chemistry. To be suitable for publication in *PCCP*, articles must include significant new physical insights; this is the prime criterion that referees and the Editors will judge against when evaluating submissions.

The journal has a broad scope which includes spectroscopy, dynamics, kinetics, statistical mechanics, thermodynamics, electrochemistry, catalysis, surface science, quantum mechanics and theoretical developments play an important part in the journal. Interdisciplinary research areas such as polymers and soft matter, materials, nanoscience, surfaces/interfaces, and biophysical chemistry are especially welcomed whenever they include a physico-chemical approach.

PCCP is proud to be a Society journal and is co-owned by <u>19 national chemical societies</u>. The journal is published by the Royal Society of Chemistry on a not-for-profit basis for the benefit of the whole scientific community.

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Publishing frequency: 48 per year

Indexed in MEDLINE and Web of Science

http://pubs.rsc.org/en/journals/journalissues/cp#!recentarticles&adv



Making the SMART Decision on Laboratory Safety

Thousands of businesses owners, managers and workers are benefiting from using BeSMART.ie. This free, easy to use, online risk assessment and safety statement tool has put the management of health and safety at everyone's fingertips. It was developed by the Health & Safety Authority as part of their 'Taking Care of Business' initiative and since its launch in 2011 almost 50,000 have registered or used it to generate safety statements and risk assessments and many more have visited the site as a source of health and safety information.

By law, safety and health in your workplace must be effectively managed, but avoiding the negative consequences of accidents or ill health also makes good business sense because accidents and ill health inflict significant costs, often hidden and underestimated. It is essential that your workplace has a safety statement based on up to date risk assessments.

It may be some time since the risk assessments for your laboratory were prepared or reviewed. Maybe you think that the hazards and hazardous activities in your laboratory are few and checking them is common sense, but it is vital that they are systematically reviewed and documented.

Keeping your risk assessments and safety statement up to date will not in itself prevent accidents and ill health but it will play a crucial part in reducing their likelihood. Employers, managers and supervisors should all ensure that workplace practices reflect the contents of the safety statement and risk assessments. These should be reviewed at least annually and updated if there is reason to believe they are no longer valid, for example when new equipment or processes are introduced. The risk assessments should also be reviewed following investigation of accidents and near misses. The relevant information must be brought to the attention of employees and ongoing checking should be carried out to ensure that what has been laid out in the safety statement is being adhered to.

Laboratory Hazards

The good news is that **Laboratory** is one of the 300 business types available on <u>BeSMART.ie</u>. BeSMART.ie allows business owners/managers to prepare risk assessments and safety statements in a way that is easy and straightforward. It is easy to use, written in plain English, accessible 24/7 and it is completely confidential. Preparation or reviewing of risk assessments is quicker and more straightforward using BeSMART.ie because the hard work has already been done for you. All you need to do is simply register, select the laboratory business type and answer the questions presented, with 'Yes' or 'No' considering if the measures are in place in your laboratory. You then need to walk around your workplace, consult with your employees and make sure all the hazards have been risk assessed. After all, you and your employees know your workplace better than anyone else. Once complete, you can download, edit and print your document.

The noteworthy benefits of BeSMART.ie are:

- Easy to navigate and use
- Easily accessible available 24/7 at a convenient time and location
- Free of charge
- Confidential only the user has access to their account
- Uses plain language
- Laboratory is one of the 300+ different business types available
- Provides a framework that can be adapted for your own laboratory
- Support is available to users via telephone or email

When you select the Laboratory business type a range of related hazards will be presented to you. Select any hazard and you can see the recommended control measures. You can print any hazard to use it as a hardcopy checklist.

Used correctly <u>BeSMART.ie</u> provides the user with relevant risk assessments, helping to identify if there are any shortcomings and an action list can be generated. Using the 'Manage Your Actions' function the user can choose to assign responsibility for actions to individuals and a time-frame within which it should be completed.

<u>BeSMART.ie</u> reminds users that employees must be consulted when carrying out risk assessments. They are the ones doing the work and dealing with the hazards on a daily basis so they will have invaluable input, and involving as many managers and employees as possible will encourage them to share ownership of the finished assessments.

It is worth knowing that the risk assessments and safety statement can refer to specific procedures contained in other documents in use, e.g. operating instructions, company rules etc. Additional information specific to the workplace can also easily be added in to the final document.

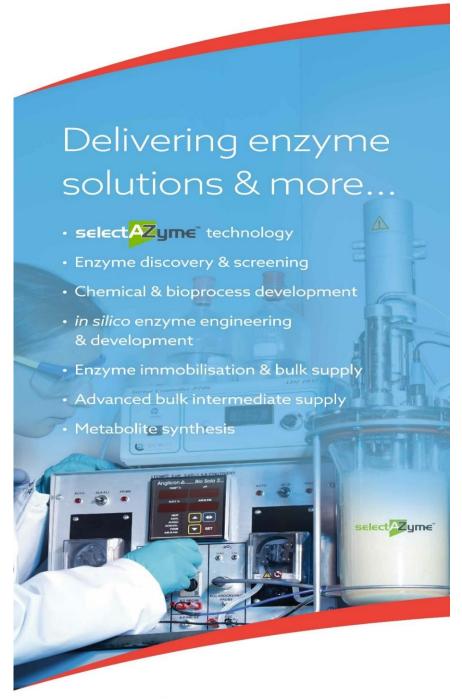
A Resource for All

In addition, <u>BeSMART.ie</u> has within its 'Learn More' tab, a section about and for Safety Representatives to signpost them to useful information and resources. It has a wealth of useful information for everyone, such as guidance materials, checklists, videos, information sheets and a link to the HSA's elearning portal. At <u>hsalearning.ie</u> there is a range of free courses, including an introductory health and safety course for employees. This short course informs learners as to their responsibilities when it comes to health and safety, and what actions they can take to keep themselves and their colleagues safe. Managers can set up a group for their employees to prompt them to complete the course. Successful completion of each course allows learners to download a certificate. While not a formal qualification this certificate can form part of an employees' training record. Like everything on BeSMART.ie, it's absolutely free!

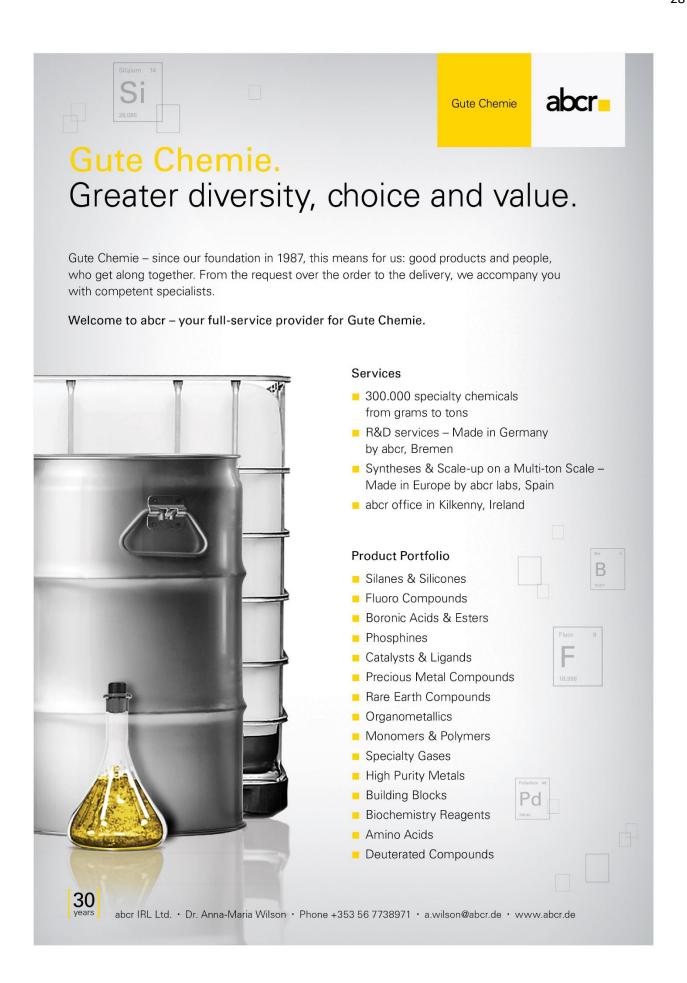
If you need any assistance support is available from the Health & Safety Authority. Queries on BeSMART.ie, chemicals, or any workplace health and safety related matter, should be directed to the HSA's contact centre at 1890 289 389 or visit www.beSMART.ie or www.bsa.ie.

BeSMART.ie is empowering thousands of businesses owners and managers to take control of day-to-day safety management. So what are you waiting for? Make the SMART decision on safety and visit BeSMART.ie today!





almacgroup.com













Launched in 2013, The Irish Laboratory Awards has established itself as the premier event in Ireland for benchmarking those that demonstrate excellence, best practice and innovation in Ireland's laboratories.

The Irish Laboratory Awards recognise excellence and achievement in the laboratory environment, covering management, innovation, collaboration, personnel development and laboratory equipment supply. Whether you are a commercial laboratory or research or academic, this is the awards programme for you.

WHO ENTERS THE AWARDS? laboratories and research groups, innovators, lab scientists & lab suppliers among others.

Just making the shortlist for the Irish Laboratory Awards ensures that the scientists involved receive national recognition for their achievements.

The Irish Laboratory Awards are one of many established business recognition programmes brought to you by **BusinessRiver**, Ireland's leading B2B business information and events provider.

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List of WINNERS Lab Awards 2018

Commercial Laboratory of the Year Irish Equine Centre

Academic or Research Laboratory of the Year Stanton Laboratory – APC Microbiome Ireland, Teagasc

Laboratory Team of the Year Microbiology Laboratory - Tallaght University Hospital

Laboratory Scientist of the Year Dr. Stepan Kucera - Nokia Bell Labs

Laboratory Staff Member of the Year Dr. Michael O'Byrne - Dynamical Systems and Risk Laboratory

UCD

Young Leader of the Year Dr. Russell McLaughlin - Trinity College Dublin

Pharmaceutical Laboratory of the Year Biotechnology TS/MS Laboratory – Lilly

Chemical Laboratory of the Year QC Laboratory - Mylan Damastown

Bio Science Laboratory of the YearPfizer Grange Castle

Food Laboratory of the Year Vision I Food Research Laboratory - Teagasc Food Research

Centre

Agricultural Laboratory of the Year *Irish Equine Centre*

Medical Laboratory of the Year Microbiology Laboratory - Tallaght University Hospital

Healthcare Laboratory of the Year Stanton Laboratory – APC Microbiome Ireland, Teagasc

Engineering Laboratory of the Year Dynamical Systems and Risk Laboratory - UCD

Veterinary Laboratory of the YearIrish Equine Centre

Calibration or Testing Laboratory of the YearComplete Calibration Management Solution - LotusWorks

Research Laboratory of the YearSystems Biology Ireland

Education Laboratory of the Year *Medical Device Decontamination Laboratory - School of Biological*

Sciences, DIT

Start-up Laboratory of the YearThink Biosolution

Laboratory Supplier of the YearBioClin Research Laboratories - Almac Group

Innovation of the Year Award *TUCSS Safety Valve - Class Medical*

Collaboration Achievement Brain Stethoscope Design - <u>Embedded.Systems@UCC</u>, INFANT

Centre & Tyndall

The awards will take place again Next Year so you can enter again or enter for the first time

Full details on how to enter are available on the event web page:

http://www.labawards.ie











Winners

The winners of the Irish Laboratory Awards 2018 were revealed on Thursday, April 19th at the Ballsbridge Hotel, Dublin.





Irish Equine Centre





Brendan McCloskey, Commercial Manager, Air Products, presents the Commercial Laboratory of the Year award to Sarah McNicholas and Prof. Tom Bukley, Irish Equine Centre.

Stanton Laboratory APC Microbiome Ireland, Teagasc





Matt Moran, Director, BioPharmaChem Ireland, presents the Academic or Research Laboratory of the Year award toStanton Laboratory team.

Microbiology Laboratory Tallaght University Hospital





Lisa Keating, Scientific Programme Manager, Programmes Directorate, Science Foundation Ireland, presents the Laboratory Team of the Year award to Microbiology Laboratory, Tallaght University Hospital team.

Dr. Stepan Kucera Nokia Bell Labs





David Bryant, Segment Programme Manager, Speciality and Medical Gases, Air Products, presents the Laboratory Scientist of the Year award to Dr. Stepan Kucera, Nokia Bell Labs.

Dr. Michael O'Byrne Dynamical Systems and Risk Laboratory, UCD





Mary Dempsey, Senior Lecturer in Mechanical Engineering at NUI Galway, presents the Laboratory Staff Member of the Year award to Dr. Michael O'Byrne, Dynamical Systems and Risk Laboratory, UCD.

Dr. Russell McLaughlin Trinity College Dublin





Mary Dempsey, Senior Lecturer in Mechanical Engineering at NUI Galway presents the Young Leader of the Year award to Dr. Russell McLaughlin and Trinity College Dublin team.

Biotechnology TS/MS Laboratory Lilly





Dr. Janice Murtagh, Associate Director Medical Affairs, MSD Human Health presents the Pharmaceutical Laboratory of the Year award to Lilly team.

QC Laboratory Mylan Damastown





Dr. Janice Murtagh, Associate Director Medical Affairs, MSD Human Health presents the Chemical Laboratory of the Year award to Katie Router, QC Laboratory, Mylan Damastown

Pfizer Grange Castle





David Bryant, Segment Programme Manager, Speciality and Medical Gases, Air Products presents the Bio Science Laboratory of the Year award to Pfizer Grange Castle team.

Vision I Food Research Laboratory
Teagasc Food Research Centre





Lisa Keating, Scientific Programme Manager, Programmes Directorate, Science Foundation Ireland presents the Food Laboratory of the Year award to Vision I Food Research Laboratory - Teagasc Food Research Centre team.

Irish Equine Centre





Lisa Keating, Scientific Programme Manager, Programmes Directorate, Science Foundation Ireland presents the Agricultural Laboratory of the Year award to the Sarah McNicholas, Irish Equine Centre.

Microbiology Laboratory Tallaght University Hospital





Dr. Fiona Blighe, Scientific Programme Manager, Science Foundation Ireland, presents the Medical Laboratory of the Year to Microbiology Laboratory, Tallaght University Hospital team.





Dr. Fiona Blighe, Scientific Programme Manager, Science Foundation Ireland, presents the Healthcare Laboratory of the Year award to Stanton Laboratory, Teagasc team.

Dynamical Systems and Risk Laboratory UCD





Lynn Willacy, Community and STEM Ambassador, presents the Engineering Laboratory of the Year award to Vikram Pakrashi, Dynamical Systems and Risk Laboratory, UCD.

Irish Equine Centre





Dr. Janice Murtagh, Associate Director Medical Affairs, MSD Human Health presents the Veterinary Laboratory of the Year award to Sarah McNicholas and Prof. Tom Buckley, Irish Equine Centre.

Complete Calibration Management Solution LotusWorks





Dr. Janice Murtagh, Associate Director Medical Affairs, MSD Human Health presents the Calibration or Testing Laboratory of the Year award to the Tom McGuinn, LotusWorks.

Systems Biology Ireland





Conor O'Brien, President, Irish Science Teachers Association, presents the Research Laboratory of the Year award to Jens Rauch, Systems Biology Ireland.

School of Biological Sciences, DIT





Conor O'Brien, President, Irish Science Teachers Association, presents the Education Laboratory of the Year award to School of Biological Sciences, DIT team.

Think Biosolution





Conor O'Brien, President, Irish Science Teachers Association, presents the Start-up Laboratory of the Year award to Dr. Shourjya Sanyal, Think Biosolution.

BioClin Research Laboratories Almac Group





Matt Moran, Director, BioPharmaChem Ireland, presents the Laboratory Supplier of the Year award to Roisin Browne, BioClin Research Laboratories - Almac Group.

TUCSS Safety Valve Class Medical





Matt Moran, Director, BioPharmaChem Ireland, presents the Innovation of the Year Award to Rory Mooney, Class Medical.

Brain Stethoscope Design Embedded.Systems@UCC, INFANT Centre & Tyndall





Matt Moran, Director, BioPharmaChem Ireland, presents the Collaboration Achievement award to Emanuel Popovici, Embedded.Systems@UCC & Andryi Temko, INFANT Research Centre.





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Royal Irish Academy

Dr Junsi Wang wins Young Chemist Prize 2018



This award which is sponsored by Henkel, is granted to the most outstanding Irish Ph.D. thesis in the general area of the chemical sciences.

Each year the winner of the Academy's Young Chemist Prize, is put forward to compete for the IUPAC-Solvay prize. As recipient of the Academy's Young Chemist Prize this year, Dr. Junsi Wang, will be put forward to compete to represent Ireland for the 2018 IUPAC-Solvay prize which will be presented to the successful recipients at the 2019 IUPAC Congress in Paris.

Dr. Wang is an accomplished, early career chemist who has made an impactful contribution to her research field. She was awarded the Outstanding Graduate Award for her excellence performance from Dalian University of Technology, China. Following this, she moved to Ireland after obtaining a competitive Irish Research Council scholarship to carry out her Ph.D. studies in Trinity College Dublin under the supervision of Professor Sylvia Draper.

Dr. Wang's winning paper entitled "In search of strong light-harvesting and long-lived Ru(II) and Ir(III) triplet photosensitisers" focuses on a process called upconversion. This has been shown to improve the efficiency of solar cells and to broaden the application of photodynamic therapy in the treatment of certain types of cancer. Her research results have made an impactful contribution to this field.



Academy Gold Medals: Call for nominations



In 2018 the Academy will award two Gold Medals: one in the Humanities and one in the Physical and Mathematical Sciences.

The Gold Medals celebrate the achievements of higher education in Ireland and to inspire future generations. The awards publicly highlight and acknowledge excellence in higher education in Ireland and the impact of this work internationally.

Eligibility for candidature is restricted to persons usually resident in Ireland who have made a distinguished, demonstrable and internationally recognised scholarly contribution to the Humanities or the Physical and Mathematical Sciences whilst working in Ireland. Candidates are normally expected to be research active at the time of nomination.

The Academy Gold Medal Nomination Form is available **here**

A proposer and seconder are required, at least one of whom is a Member (or Honorary Member) of the Academy and/or a current member of one of the Academy Multi-Disciplinary Committees, and/or the head of an institution designated under the HEA Act (1971). The nomination form should be supplemented by:

- a supporting statement of not more than one A4 page, outlining the candidate's scholarly achievements and contributions;
- a brief (no more than four pages), up-to-date C; and
- a list (no more than twenty) of the candidate's most important publications to date, including evidence of current research, with an evaluation (no more than two pages) by the proposer and seconder of the five most significant publications.

The closing date for the receipt of nominations is **Wednesday**, **23 May 2018**, **at 17:00**. Please download and read the following documents before preparing your application:

- Notes for nominators
- The Academy Gold Medal in the Humanities
- The Academy Gold Medal in the Physical and Mathematical Sciences

The Academy Gold Medals are kindly sponsored by the Higher Education Authority





It is our pleasure to welcome you at the 70th Irish Universities Chemistry Research Colloquium (IUCRC) which will take place at the School of Chemistry & Chemical Engineering, Queen's University Belfast on Thursday 21st and Friday 22nd of June 2018.

As always, the IUCRC will highlight the outstanding research being conducted by the best and brightest of Ireland's young chemists at third level institutions across the island. The schedule will feature a mix of innovative oral, poster and flash presentations from graduate students as well as two exciting plenary lectures from internationally renowned academics.

Professor Eva Hevia - University of Strathclyde, Glasgow

Professor Eric Anslyn - University of Texas at Austin

Outside the scientific programme, there promises to be a strong social programme along with a conference barbeque networking evening and lots more!

We do hope that many representatives from your institution will attend and look forward to seeing you in June.

IMPORTANT DATES

On-line Registration opens: Wednesday 28th March 2018:

Deadline for submission of abstracts: Friday 27th April 2018

Registration closes: Friday 25th May 2018



Cork Leaving Cert Chemistry Student Honoured at UCC

A YOUNG Skibbereen man has been singled out for getting the highest Leaving Cert chemistry result last year. David Murphy, Gortnaclohy was honoured at the Cork Schools Science Awards Committee's gold medal for awardees that undertook the Leaving Certificate in 2016.

This gold medal awards scheme, in operation for some 50 years, seeks to publicly acknowledge and honour students in the city and county who obtained the highest marks in applied mathematics, biology, chemistry, mathematics, and physics.

In addition David was also recognised by the Institute of Chemistry Ireland for obtaining the highest Leaving Cert National Chemistry result in 2016.

The medals were presented as part of the SEFS Awards ceremony in Boole 1 at 3.00pm on Friday, 9 March. David is now in his second year of his degree in Process and Chemical Engineering at UCC.



Prof Jeremy Glennon, David Murphy, Dr. Justin McCarthy, Head of Graduate School, College of Science, Engineering and Food Science (SEFS).

David attended St Fachtna's High School, Skibbereen, where the Principal was David Barry and his chemistry teacher was St Fachtna's

St Fachtna's has now amalgamated with Mercy Heights and Rossa College to become Skibbereen Community School whose Principal is Anton O'Mahony.

David was awarded a Quercus Entrance Scholarship to UCC and has just completed the first year of a degree in Process and Chemical Engineering at UCC.



Prof Jeremy Glennon with David at the presentation



At the presentation to David were, from left: Gerald and Rosarie Murphy; David Murphy, Deputy Lord Mayor of Cork; Cllr PJ Hourican, and teacher Mags Breen.

Some background on David for the Southern Star newspaper paper for info: (photo copyright to the Star)

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The spectrometer offers spectroscopic resolution at a fraction of the size and maintenance of current NMR instrumentation. The design brings analytical performance and point-of-need utility to the benchtop, fume hood or glovebox due to the compact size of the machine.

The NMReady was the first 60 MHz spectrometer available on the benchtop NMR market. Given its small footprint (Dimensions: 9.5 x 11x 17 inches) and light weight nature (only 45 lbs), the spectrometer is ideal for incorporation directly into the laboratory. The NMReady is compatible with all standard consumable 5mm NMR tubes, also available from GPE Scientific, so sample preparation is simple and fast.



The machine offers good sensitivity and the high resolution allows spectra to be measured quickly. The data can be processed directly (even while wearing safety gloves) through the built-in resistive touchscreen without connecting an external computer.

Contact Information:

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

Phone: +44(0)1525 382277

E-mail: info@gpescientific.co.uk

Website: http://www.gpescientific.co.uk/products/chemistry/nanalysis-nmready-benchtop-spectrometer

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.



Local organising committee

Vicki Barwick (UK), Blanaid White (Ireland), Patrice Behan (Ireland), Ted McGowan (Ireland), Rosemary Hayden (Ireland), Helen Cantwell (Ireland), Hugh Fay (Ireland), Barbara O'Leary (Ireland), Sean Hyland (Ireland), Colman O'Riordain (Ireland), Sean McGowan (Ireland).

Scientific committee

Vicki Barwick (UK), Perihan Yolci Omeroglu (Turkey), Brian Murphy (Ireland), Lorens Sibbesen (Denmark), Alessandra Rachetti (Austria), Michael Koch (Germany), Kyriacos Tsimillis (Cyprus), Elizabeth Prichard (UK), Oktay Cankur (Turkey), Eugenia Eftimie Totu (Romania), Wolfhard Wegsheider (Austria), David Milde (Czech Republic), Alex Williams (UK), Blanaid White (Ireland), Patrice Behan (Ireland), Ted McGowan (Ireland), Rosemary Hayden (Ireland), Helen Cantwell (Ireland), Hugh Fay (Ireland), Barbara O'Leary (Ireland), Michelle O'Connor (Ireland).

Registration

Registration is open from 1st OCTOBER 2017 at

www.eurachem2018.com

You are advised to register early, as places are limited.

Please refer to the workshop website for information regarding hotels close to Dublin Castle

Location

Dublin is...

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Wild and beautiful, inspiring and exciting, Ireland's energy and romance will win you over in an instant. And with some of the friendliest people in the world, this perfectly sized and surprisingly diverse island will keep you coming back for more. 4 out of every 5 people asked say that Ireland is in their list of top 5 places to visit.









This workshop will be directly relevant to everyone involved in state, semi-state, pharmaceutical, analytical, medical, environmental and academic sectors.

Alms

- Understand the importance of scientific data integrity and how to achieve it
- Understand risks and opportunities related to data
- Discuss future challenges in data quality, analysis, integrity and compliance
- Discuss the impact of new developments on data quality, analysis, integrity and security

Topics covered during the workshop will include:

Current Practices

- International guidance
- Extent of validation/verification studies
- Analysis of validation data
- Examples of best practices in different fields
- Analysis of meta-data
- Data management systems
- Operation of advanced instrumentation
- Accreditation requirements

Future Challenges

- Future developments Accreditation Body viewpoint
- Compliance assessment
- Risk based approaches to quality
- Validation of multiparameter methods
- Implementing principles of Quality by Design (QbD)
- Human errors
- Machine learning algorithms, including artificial neural networks

In addition to the presentations, participants will be given ample opportunity to discuss these subjects in detail and exchange experiences in a number of working group sessions. Eurachem is a network of organisations in Europe having the objective of establishing a system for the international traceability of chemical measurements and the promotion of good quality practices.

Workshop Programme

Monday 14th May 2018

- Welcome address and workshop opening
- Presentations exploring current best practices
- · Plenary, keynote and flash presentations
- Round table discussions
- · Poster session and wine reception
- Workshop dinner

Tuesday 15th May 2018

- Presentations of risks and emerging challenges
- · Plenary, keynote and flash presentations
- Round table discussions
- Closing lectures
- · Closing the workshop

For more details on the workshop and to register visit www.eurachem2018.com

Invited contributions

The Scientific Committee invites participants to present posters on subjects related to the theme of this workshop.

Poster abstracts presented according to the format available from the website should be submitted before before **January 19th 2018**.

Early career scientists submitting a poster abstract will be given the opportunity to have their abstract considered for an **oral presentation**.

Proposed abstracts will be subject to approval by the Scientific Committee.

Participants will be notified of acceptance on February 28th 2018.

Early bird registration rate closes: March 31st 2018

Exhibition

Products and services related to the workshop topics can be presented in the exhibition area for the 2 days of the workshop.

Requests should be sent to the workshop organisers, jayne@happeningconferences.com by 1st February 2018.

Supporting organisations







Redistribution of UK's portfolio of centrally authorised products Assignment of new rapporteurs and co-rapporteurs completed

The EU27 Member States and the European Medicines Agency (EMA) have completed the reallocation of the medicines for which the United Kingdom's (UK) Medicines and Healthcare products Regulatory Agency (MHRA) and Veterinary Medicines Directorate (VMD) are currently rapporteur or corapporteur appointed by the scientific committees to coordinate the evaluation of a medicine.

Over 370 centrally authorised products have been transferred to new rapporteurs and co-rapporteurs from the EU27 Member States, plus Iceland and Norway, following a methodology developed by EMA's working groups on committees' operational preparedness for human and veterinary medicines. The new (co)-rapporteurships will be communicated to the relevant marketing authorisation holders before the end of April.

The redistribution plan covers the post-authorisation stage in a medicine's lifecycle, i.e. once a medicine has a marketing authorisation. It follows a multifaceted approach and takes into account both the diverse expertise in the European medicines regulatory network and the workload associated with each medicine. It allows Member States to participate in EMA activities according to their individual capacity. The methodology used for the reallocation of medicines is based on Member States' current expertise with a specific class of medicines. It also builds on existing knowledge, for example, by transferring medicines to the current co-rapporteur for a particular product, or to the peer reviewer involved in the marketing authorisation application.

In addition, the reallocation methodology takes into account the type of product. Generic medicines, for example, were allocated to national competent authorities who traditionally have participated less in EMA evaluations but have indicated that they would like to increase their involvement with such medicines. Clusters of products with the same international non-proprietary name (INN) and/or belonging to the same marketing authorisation holder have been allocated to a single rapporteur in order to facilitate review of post-authorisation procedures and ultimately improve efficiency within the network. Further details are explained in a report.

EMA will facilitate the transfer of knowledge on the specific medicines from the UK to the new rapporteurs and co-rapporteurs once marketing authorisation holders have been informed of the changes. The new rapporteurs and co-rapporteurs will only take full responsibility for the re-allocated products as of 30 March 2019, when the UK withdraws from the European Union and becomes a third country.

11/04/2018

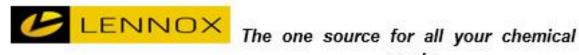


Memorial Seminar in honour of Prof MA McKervey at UCC



On Friday 5th January 2018, a Memorial Seminar in Organic Chemistry was held in UCC in honour of Prof MA McKervey who passed away unexpectedly in June 2017. Tony studied at Queen's University Belfast (QUB), obtaining his PhD in 1964, undertook postdoctoral research at and led a very successful academic career at QUB (1966 -1976) UCC (1976 - 1990) then returned to QUB in 1990. Having established QUCHEM Ltd, which was acquired by Almac he moved to a role in industry in 1998. Tony's research resulted in 234 publications with particular impact in organic synthesis, □-diazocarbonyl chemistry and calixarenes.

Speakers at the event included Prof Mike Doyle, University of Texas at San Antonio, Prof Derek Boyd, Queen's University of Belfast, Prof Anita Maguire, University College Cork, Dr Stephen Barr and Dr Hugues Miel, Almac Sciences, reflecting Tony's career in research in both academic and industrial environments, and his legacy in terms of research outputs and the many researchers from his team. The event was attended by over 80 people including former PhD students, postdoctoral researchers, colleagues and friends in addition to family members, and was sponsored by Almac Group.



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Takeda to invest €25m and create up to 70 new roles in a new facility at their Grange Castle site in Dublin

Dublin - 28 February 2018 –Minister of State at the Department of Enterprise and Innovation Pat Breen TD announced today that Takeda Pharmaceutical Company Limited (TSE: 4502) is to create up to 70 new jobs and invest €25m in the construction of a new regenerative medicine facility at its site in Grange Castle.

The investment by Takeda will expand their Grange Castle site's existing footprint, with the construction of a new standalone modular cell therapy facility dedicated to manufacturing a novel stem cell therapy. The investment will also create 70 temporary construction jobs. The facility will be in commercial operation by 2021. This investment is supported by the Irish Government through IDA Ireland.

The largest pharmaceutical company in Japan, Takeda first set up operations in Ireland in 1997 manufacturing products for global markets. In 2002 Takeda chose Dublin as the location for its first active pharmaceutical ingredient (API) facility outside of Japan. In 2017 Takeda also announced a €40m investment in the construction of a stand-alone production facility for the manufacture of part of their Oncology portfolio at Grange Castle.

Welcoming the announcement Minister of State Pat Breen TD said, "The pharma industry makes a huge contribution to the Irish economy in terms of jobs and exports, and is one of the fastest growing sectors. Takeda's decision to invest in Ireland is a great win and vote of confidence in Ireland and it builds on our ongoing expansion of the sector here. I'm delighted that this investment will bring a further 70 jobs to the company's existing Clondalkin facility".

Mr. Paul Keogh, Plant Director at Takeda Ireland Grange Castle said that the additional investment in Ireland demonstrates the confidence and commitment Takeda has in its Irish operation. "To be chosen as the first site to introduce this new technology platform to our manufacturing network is very exciting. The nature of this product and its process will bring us closer to the patient than ever before which is a responsibility that we take very seriously. We have a great team here in Ireland and are committed to continuing to put patients first through the timely manufacture and supply of high quality products from our site. The roles being created are in the areas of quality, manufacturing and engineering"

Commenting on the investment Martin Shanahan, CEO IDA Ireland said, "Ireland is a globally recognised centre of excellence in Life sciences due to the country's strong regulatory track record and talent availability. Today's investment by Takeda demonstrates their continued commitment to Ireland. I wish the Takeda team every success as they continue to grow their operations in Ireland."

About Takeda Ireland Ltd

Established in Ireland in 1997, Takeda in Bray, Co, Wicklow, manufactures solid oral dosage blockbuster drug products for the European, the U.S and Japanese markets. In Grange Castle, Co. Dublin, the plant develops and produces Active Pharmaceutical Ingredient's from clinical trial stages through to launch and full commercialisation for global markets. Takeda Ireland Ltd currently employs over 400 people, who are committed to improving the quality of life for patients. This year Takeda Ireland Ltd has been selected as the only pharmaceutical company in Ireland, to receive the coveted Top Employer® status for 2018. This award recognises our outstanding values, culture and our ways of working.



Ireland to get its own dedicated 3D bioprinting lab to grow 'living' tissue

3D printing doesn't have to be about creating everyday items, with 3D bioprinting showing that it is possible to grow 'living' cell and tissue cultures for use in advanced clinical research.

Now, Trinity College Dublin's (TCD) AMBER centre has announced a partnership with global healthcare company Johnson & Johnson to open a collaborative laboratory focused on 3D bioprinting by the end of 2018.

The company will also engage in research projects focused initially in orthopaedics and, in the long term, offer its internal scientific experts as adjunct professors, and engage in staff exchanges.

The lab will be jointly led by AMBER's Prof Daniel Kelly and Johnson & Johnson's lead API and bioprinting researcher Joseph Ault. It will be made available to other principal investigators as well as postgraduate and undergraduate students to carry out project work outside of the direct collaborative activity.

A 100 sq m space within the Trinity Biomedical Sciences Institute (TBSI) building has been identified to host the lab, and will be suitable for working with bioprinting and cell and tissue culture, acting as a meeting and office space for 12 people.

Transforming healthcare delivery

This is not the first time that TBSI and AMBER have been involved in the science of bioprinting, revealing in 2016 that their researchers created a process to support 3D bioprinting of new bone material, enabling larger and more complex implant shapes, paving the way for grafts around the head.

"This lab is the result of a shared vision to create a global centre of excellence for 3D bioprinting within the centre," said AMBER's director, Prof Michael Morris.

"This has been made possible because of the calibre of our world-leading academics, state-of-the-art equipment and supporting facilities and infrastructure."

Johnson & Johnson's vice-president of supply chain in its medical devices business, Willem Appelo, added: "Transforming healthcare delivery for patients and consumers through 3D-printing technology requires collaboration with experts from around the world.

"Our work with AMBER will advance opportunities to design and deliver a broad range of personalised, bioprinted healthcare solutions for the patients and consumers we serve every day."

Colm Gorey

This article originally appeared on www.siliconrepublic.com and can be found at:

https://www.siliconrepublic.com/machines/3d-bioprinting-lab-amber



Hello, World! Researchers store message in E coli for future generations

The ability to store digital information in DNA has been one of the most fascinating pursuits of genetic researchers in recent years, with the human body seen as the ultimate storage device for the zettabytes of information expected to be generated in the coming decades by a myriad of different devices.

There is also the issue of preserving the legacy of our species, as hard drives of the future will simply be unable to stand the test of time – but DNA could be preserved for potentially millions of years.

Already, genetic researchers and computer scientists have created early prototypes, demonstrating the ability to code an entire movie and an operating system directly into DNA.

Even in Ireland, start-ups such as Helixworks are already offering the service of coding text in DNA on Amazon.

On that note, the Telecommunications Software and Systems Group (TSSG) based at the Waterford Institute of Technology (WIT) has unveiled a new and improved storage solution that enables researchers to store information in different types of bacteria for the first time.

Until now, it had only been possible to simply encode data on DNA and then decode it again, but this method can store data significantly longer.

E coli and Novablue

According to RTÉ, the team of researchers encoded the message 'Hello World' into circular rings of double-stranded DNA known as plasmids.

Then, it was a matter of storing the plasmids on a strain of the E coli bacteria known as Novablue, which is then trapped in a very specific location, transforming it into a data storage device.

Another form of E coli bacteria called HB101 becomes the 'USB stick' whereby the plasmids laden with the data are transferred to Novablue through a process known as conjugation.

Once delivered, HB101 then travels back to a device capable of extracting the plasmids to read the data, creating a microscopic data storage system.

DNA written in seconds

In the team's paper published online, the key to this movement was explained as being down to the use of two different antibiotics: tetracycline (Novablue-resistant) and streptomycin (HB101-resistant).

If HB101 wants to travel, it needs to pick up its resistance to tetracycline by conjugating with Novablue, which allows HB101 to gather the data.

Speaking of its potential, WIT's Dr Lee Coffey said that a number of challenges remain before it can be used effectively, notably the time it takes to transfer.

"Potentially, DNA can be written down to seconds; there are instruments around a long time that can do this," he said.

"In terms of transfer of DNA between different bacteria and cells, that's happening with millions of billions of cells at one time per second in a reaction. So, if we are talking about data transfer – getting cells to take DNA for us from A to B – at the moment, it is a matter of how fast can they swim."

There are also the issues of data security and bringing the cost down before data can be secured in the real world.

Colm Gorey

This article originally appeared on www.siliconrepublic.com and can be found at:

https://www.siliconrepublic.com/innovation/dna-ecoli-data-storage



Edwards Lifesciences to open operations in the Mid-West of Ireland to support Global Supply Network

5 MAR 2018



Edwards Lifesciences Announcement

Ministers Humphreys and Breen and IDA Ireland welcome project with expected investment totalling €80m and 600 jobs

Ireland, March 5, 2018 – Edwards Lifesciences Corporation, the global leader in patient-focused innovations for structural heart disease and critical care monitoring, today announced that the company, headquartered in Irvine, California, USA, has chosen the Mid-West of Ireland for the location of a new plant to manufacture delivery components for its transcatheter heart valve therapies. This new addition to Edwards' global supply network, which includes a similar existing facility in the United States, will initially be configured to support the manufacturing of therapies that enable minimally invasive procedures on patients' aortic, mitral and tricuspid valves, where open heart surgery would previously have been the norm.

"Today is a wonderful day as we mark this very significant regional investment. The arrival of Edwards Lifesciences is a vote of confidence in the Mid-West region as a destination for high-end medical technology manufacturers," said Minister Heather Humphreys. "It will provide even more opportunities for local residents and communities to grow and thrive. My department, through the IDA, is committed to supporting Edwards as it establishes operations in Ireland and as the company continues to develop its innovative heart valve technologies."

Added Pat Breen, Minister of State and TD for Clare, "On behalf of everyone in the Mid-West, I would like warmly welcome Edwards Lifesciences to the region. Their presence here serves to highlight the

attractiveness of the region as a destination for progressive, innovation-driven companies. I would like to wish Edwards well in their future operations and assure them of our ongoing support."

Edwards is planning to hire approximately 60 people this year in various functions, such as production staff, engineering and professional management, to work at its initial site located in the Shannon Free Zone.

The company plans to complete a new, purpose-built manufacturing facility in the Mid-West of Ireland in 2020. Once the facility is fully operational, the company expects it will employ approximately 600 people. Edwards' investment in the project is expected to amount to approximately €80 million.

"The addition of a manufacturing location in Ireland is an element of Edwards' global supply strategy to support future growth and reliability of supply, and continues the growth in employment Edwards has experienced both in the United States and around the world," said Joe Nuzzolese, Edwards' corporate vice president, global supply chain. "Choosing this location included many considerations, but an important one is a talented workforce with experience in medical technology. We look forward to becoming an integral part of the local community through engagement and philanthropic support, and providing educational and professional opportunities for our employees. We are excited to welcome these new associates into Edwards, with the shared goal of serving more patients around the world by delivering high quality life-saving technologies."

The company expects to begin hiring new employees in Shannon by June. People interested in applying for a position can find out more information and submit applications at www.edwards.com/irelandjobs.

"This announcement by Edwards Lifesciences that it is establishing a new manufacturing facility in the Mid-West is terrific news for the region and for Ireland," said Martin Shanahan, CEO of IDA Ireland. "The company's arrival further enhances Ireland's reputation as a preferred location for leading companies in the lifesciences sector. Winning investment for regional locations is a key focus for IDA Ireland and this project is an excellent one to secure for this region."

This project is supported by the government through IDA Ireland.

About Edwards Lifesciences

Edwards Lifesciences, based in Irvine, Calif., is the global leader in patient-focused medical innovations for structural heart disease, as well as critical care and surgical monitoring. Driven by a passion to help patients, the company collaborates with the world's leading clinicians and researchers to address unmet healthcare needs, working to improve patient outcomes and enhance lives.

For more information, visit <u>www.edwards.com</u> and follow us on Twitter @EdwardsLifesci.



EuCheMS Award for Service

– call for nominations open !



The call for nominating who you believe should be awarded the EuCheMS Award for Service is now open! Make sure to submit your nomination before 31May 2018.

The EuCheMS Award for Service acknowledges outstanding commitment with regard to fostering chemistry and molecular sciences in Europe and the goals of EuCheMS. In addition to recognised service to EuCheMS, this may include activities in governmental, non-governmental or funding organisations, publicity-related activities, etc. Nominations must demonstrate achievements for improved competitiveness, visibility, coherence or structure of chemistry in Europe.

All EuCheMS member organisations, Divisions/Working Parties and individuals are invited to submit nominations for the Award. Self-nominations are not accepted. Decisions on making the Award are taken by the EuCheMS Executive Board, normally annually. It is normal practice that members of the Executive Board and Division Chairs are not considered for the Award until after their term of office has ceased.

Service as EuCheMS President or Treasurer or as Chair or other office holder of a EuCheMS Division is not itself sufficient to merit the Award. The nomination must demonstrate service to EuCheMS and/or to European chemistry over and above the basic voluntary contribution that would normally be expected. Unsuccessful nominations for the Award may be re-submitted once in the next three years from the first submission.

For details see link below:

Call for nominations now open. Submit your nomination here! Deadline: 31 May 2018

http://www.euchems.eu/awards/award-for-service-new1



EuCheMS Awards

First European Chemistry Gold Medal awarded to Professor Ben Feringa

The very first European Chemistry Gold Medal has been awarded to Professor Ben Feringa for exceptional achievements in the field of chemistry in Europe. Professor Feringa, a Dutch chemist who was awarded the 2016 Nobel Prize in Chemistry for his work on the development of molecular machines together with Sir James Fraser Stoddart and Jean-Pierre Sauvage, will be presented with the Gold Medal during the 7th EuCheMS Chemistry Congress in Liverpool this year, where he will also give a plenary lecture.



For more details go to:

http://www.euchems.eu/awards/european-chemistry-gold-medal

EuCheMS Lecture Award

Dr Capriotti is awarded the EuCheMS Lecture Award

Doctor Anna Laura Capriotti has been awarded the <u>EuCheMS Lecture Award</u> 2017. Awarded on a yearly basis, the Lecture Award aims to reward the significant achievements of a junior scientist. Moreover, the winner is given the opportunity of giving a lecture at a major EuCheMS event. Dr Capriotti was commended for her significant contributions to the field of analytical chemistry and separation science.

Each year, the major achievements of one junior scientist working in chemistry in a country with a EuCheMS Member Organisation will be rewarded. The winner will receive a statuette and the opportunity to give a lecture at the next European Chemistry Congress (ECC) or at a conference of a EuCheMS Professional Network (PN). The guidelines for the Lecture Award can be found here.

http://www.euchems.eu/awards/lecture-award

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RCSI develops blood test that identifies early-stage Alzheimer's

A blood test from your local doctor can already tell you a lot about your current health, but major advancements in medical research in recent years show that it is possible to reveal conditions that were once unidentifiable.

One such advancement has been revealed by the Royal College of Surgeons in Ireland (RCSI), showing that it is now possible to identify the presence of Alzheimer's disease in its early stages from a blood test.

Not only that, but the research team said that once its presence has been found, we can then better predict how the disease will progress.

Alzheimer's is one of the most devastating brain diseases, affecting 48m worldwide and as many as 25,000 in Ireland, with an associated cost of up to €400m per year to the healthcare system.

In the past 20 years, no new therapies have managed to make it past clinical trials because they have been applied during advanced stages of Alzheimer's where damage to the brain becomes irreversible.

This means that any possible treatments must be targeted for the early stage of the disease, meaning this latest blood test could prove hugely beneficial to the development of new treatments in the years to come.

Importance of a small molecule

The multi-centre study was carried out by academics and clinicians from Ireland and Spain, and was led by RCSI's Dr Tobias Engel.

Its findings showed that the blood test identifies the concentration changes of a small molecule believed to be influential in the development of the disease.

"Research into the condition is largely focused on the development of new therapies; however, new therapies need diagnostic methods which are affordable and minimally invasive and can be used to screen large populations," Engel said.

"Our research carried out over the past four years has identified changes in blood levels of a small molecule called microRNA, which is able to diagnose Alzheimer's disease at a very early stage and is able to distinguish Alzheimer's from brain diseases with similar symptoms."

Colm Gorey

This article originally appeared on www.siliconrepublic.com and can be found at:

https://www.siliconrepublic.com/innovation/rcsi-alzheimers-blood-test



https://enterprise-ireland.com/en

Minister Halligan announces €26.75m in funding for the Enterprise Ireland Technology Gateway Network 2018-2022



L-R: Mairead O'Donnell, Polar Ice Tech; Marc Kelly, Teva Pharmaceuticals Ireland; Tomas Thompson, Rockfield Medical; Denis McGowan, Visual ID; Michael Hughes, Enterprise Ireland; Minister John Halligan, TD; Regina O'Sullivan, PBC Biomed.

New 'Irish Food Tech' cluster to be established within the Gateway network

John Halligan TD, Minister of State for Training, Skills, Innovation, Research and Development, announced the Government of Ireland is providing funding of €26.75m for the Enterprise Ireland Technology Gateway Network over the five year period from 2018-2022.

Since its formation in 2013, the Technology Gateway Network has completed over 2,750 innovative projects with over 1,250 Irish based companies. Projects range from polymers to pharmaceuticals, photonics to mobile services and mechatronics, right through to biotechnology and industrial design.

Typical projects focus on the development of a new product or service or the optimization of a process, across all sectors of the economy and based in every county.

The network consists of 15 individual Gateways hosted by an Institute of Technology, spread across the country providing industry with access to over 300 highly skilled and industrially focused researchers, together with specialist equipment and facilities.

Today's €26.75m funding announcement was made at a showcase event in Dublin attended by over 100 industry representatives where the establishment of a new Food and Beverage Technology Cluster (Irish Food Tech) within the network was also announced.

Announcing the funding, Minister John Halligan TD said: "The Technology Gateway Network programme aims to bring Irish companies together with the researchers in the Institutes of Technology to provide near-to-market innovation and solutions in a range of areas, both regionally and nationally. Today I'm also delighted to announce the establishment of a new food and beverage technology focused cluster within the Gateway Network called Irish Food Tech. As with the other two sectoral clusters in the network, Applied IoT and EMD Ireland, the aim of Irish Food Tech is to optimise the power of the Network and connect industry with researchers in a wide selection of areas that include bioprocessing, food for health, process control and packaging".

Gearoid Mooney, Manager, Research and Innovation, Enterprise Ireland added: "The Enterprise Ireland Technology Gateway Network offers an open access point for industry providing technology expertise which is industry relevant. Projects range from small starts-up in the regions making use of the Enterprise Ireland's Innovation Voucher Scheme, to larger companies using the Innovation Partnership Programme.

"However, the most common mechanism by which companies engage via the Gateways is through projects they pay for completely themselves without leveraging any state funding.

"This is a testament to both the trust built up between the companies and the Gateways, and the capability of the research community in the Institutes of Technology".

Companies who have collaborated with the Enterprise Ireland Technology Gateway Network provided case studies and presentations during the event while attendees also had the opportunity to meet with the Technology Gateway teams to discuss various Research, Development and Innovation funding mechanisms.

For more information, go to www.technologygateway.ie

Industry and Business

Promoting Manufacturing Excellence http://www.industryandbusiness.ie

Enterprise Ireland Announces Graduate Entrepreneurship €500,000 Competitive Start Fund to Accelerate Growth of Start-ups



March 29 2018

Pictured (from left to right) are: Minister for Business, Enterprise and Innovation Heather Humphreys TD; Aisling Ahern, HPSU, Enterprise Ireland; Niall Harty, Director, Harty Nutrition Ltd; Oisin Geoghegan, Head of Local Enterprise, Local Enterprise Office Fingal; and Sarita Johnston, Manager HPSU Start, Enterprise Ireland.

Enterprise Ireland's Competitive Start Fund (CSF) for recent graduates will open for applications on Tuesday 10th April 2018. The €500,000 fund will provide up to €50,000 in equity funding for up to 10 successful applicants. The fund closes to applications at 3pm on Tuesday, 24th April 2018. The purpose of the Competitive Start Fund is to accelerate the growth of start-up companies that have the capability to succeed in global markets and the graduate entrepreneurship call specifically is to encourage entrepreneurship among graduates.

The CSF is part of Enterprise Ireland's strategy for increasing the number and quality of High Potential Start-Up companies (HPSUs) that have the potential to employ more than 10 people and achieve €1 million in export sales within three years. Applications from final year students and graduates with a third-level qualification within the last three years are invited to apply. Minister for Business, Enterprise and Innovation, Heather Humphreys TD said: "We have a pool of talented and ambitious entrepreneurs in this country, who are still in university or recently graduated, and are making valuable contributions to the economy through their start-ups. For these entrepreneurs, supports like Enterprise Ireland's Competitive Start Fund are vital.

Together with crucial funding, the initiative provides valuable business support and networking opportunities to innovative entrepreneurs and companies at the start of their journey, and provides a platform from which they can progress their business. "Commenting on the announcement, Sarita Johnston, Department Manager, HPSU Start, Enterprise Ireland, said: "A key priority for Enterprise Ireland is to help Irish entrepreneurs and companies with global ambition to start and grow their businesses internationally. Entrepreneurship can be embarked upon at different stages of life and there are real opportunities right now in Ireland for graduates to travel the exciting journey of starting a high potential business. Graduate entrepreneurs can sometimes be overlooked; however, we understand the value in their ideas and their businesses to the start-up ecosystem. This CSF call is a kick-start for innovative early stage companies led by graduates to get off the ground while receiving a critical funding boost of up to €50,000."

In addition to written online applications, companies will be asked to prepare an online video pitch. Full details on the Competitive Start Fund for Graduate Entrepreneurs, including the application form and eligibility criteria, can be accessed on the Enterprise Ireland website: www.enterprise-ireland.com/graduatecsf

In partnership with Enterprise Ireland, Dublin BIC will be hosting a free-to-attend CSF Application Support Day on 17th April. Prospective applicants for the CSF for graduate entrepreneurship can register here: http://www.dublinbic.ie/our-programmes/investor-ready-preparation/smart-start/csf-application-support-days

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Government Announces €29.6 Million Investment in Frontier Research



Pictured (from left to right): Peter Brown, Director of the Irish Research Council; Dr Larisa Florea; Richard Bruton TD, Minister for Education and Skills; Dr Dawn Walsh; and Dr Ronan Fahey of the Irish Research Council.

March 26 2018

The Government has announced a €29.6 million investment by the Irish Research Council in "frontier research" projects. Thirty-six researchers will receive funding under the Irish Research Council's new Laureate Awards to conduct ground-breaking research in the life sciences, physical sciences and engineering, and the arts, humanities and social sciences. Projects to be funded under the inaugural Laureate Awards range from research into age-related vision loss to sustainable food production.

Announcing the awards, Richard Bruton TD, Minister for Education and Skills, said: "Frontier basic research is very much at the cutting edge of new knowledge. It is research that is daring, that pushes boundaries, and that moves beyond the frontiers of our current understanding. Innovation 2020, Ireland's five-year strategy for science and technology, research and development, identified a significant gap in the Irish research and innovation landscape in the area of frontier basic research. The Laureate Awards scheme was designed specifically to address this gap, and the Irish Research Council has, through the programme, identified a wealth of clearly talented researchers with brilliant ideas. Investing in cutting-edge, world-class research will strengthen our knowledge base and enhance Ireland's international reputation, taking us further along our journey to becoming the best education and training service in Europe by 2026"

John Halligan TD, Minister of State for Training, Skills, Innovation and Research and Development, said: "Frontier research is key to understanding the world around us and developing the bedrock of knowledge necessary for social, technological and environmental progress. We would not have devices like mobile

phones, or indeed the internet, without frontier basic research. Innovation 2020 targets Ireland to become an Innovation Leader, and the investment being announced by the Department is a very positive step on the way to achieving this."

Funding for Laureate Awards

Two streams of funding have been announced:

- 1. 'Starting' Laureate Awards, which are aimed at supporting excellent early-career researchers to establish their own independent research programme. Eighteen awards totalling €7 million.
- 2. 'Consolidator' Laureate Awards, which provide funding for excellent mid-career researchers with an established track record to progress to the next level. €10.6 million in funding was announced for the Consolidator Laureate Awards, to fund a further eighteen new Laureates.

In addition to the investment in the first round of awards, the Department of Education and Skills also announced a further investment of €12 million for a series of Advanced Grants under the Laureate programme. Senior researchers in Ireland's higher education and research institutions will have the opportunity to compete for an Advanced Laureate grant with a value of up to €1 million over four years. The Advanced Grant call will be opened by the Irish Research Council in the coming weeks.

Welcoming the announcements, Peter Brown, Director of the Irish Research Council, said: "Supporting research that pushes out the frontiers of knowledge is a key priority of the Irish Research Council. With the establishment of the Laureate Awards we are taking steps to ensure that exceptional individual researchers are supported to achieve world-class standing in their respective areas of expertise.

"The independent international panels that assessed applications for the Laureate Awards were extremely impressed with the quality of individual researchers in the Irish research system. With continued investment in frontier research across all disciplines, Ireland will reap benefits for the long-term and will leverage greater success in European research programmes, in particular the European Research Council."

Researchers who will be funded by these Laureate Awards include:

- **Dr Sarah Doyle**, based at Trinity College Dublin, whose research is focused on age-related vision loss;
- **Dr Larisa Florea**, based at Dublin City University, who will develop micro-vehicles to navigate through the human body to recognise, diagnose and treat a variety of diseases;
- **Dr Jacopo Bisagni**, based at National University of Ireland, Galway, who is researching how intellectual exchanges between Ireland, Brittany and Francia during the Carolingian age (c. AD 750-1000) laid the foundations of Europe as we know it; and
- Dr Dawn Walsh, based at University College Dublin, whose research will explore the role played by independent commissions in peace processes.

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Bright and Bold innovators to Receive €94.25 Million EU Funding to Scale Up Their Businesses



March 26 2018

57 small and medium-sized companies have been selected for funding under the Horizon 2020 European Innovation Council (EIC) pilot, which aims to nurture breakthrough innovation. The companies, which underwent face-to-face interviews with a jury of innovators, entrepreneurs and venture capitalists, will receive a total amount of €94.25 million.

Carlos Moedas, Commissioner for Research, Science and Innovation, said: "With the European Innovation Council pilot, we set out to support high-flying entrepreneurs with breakthrough ideas and a clear ability to create new markets. This very first group of innovators certainly has that potential."

Examples of the projects include a 3D printer for food, an innovative treatment for breast cancer, multiactive cardboard packaging that extends the shelf life of vegetables by 40% or a new type of biodegradable bioplastic. Each project will receive up to $\[\in \]$ 2.5 million ($\[\in \]$ 5 million for health projects) to finance innovation activities such as demonstration, testing, piloting and scaling up.

The companies will also benefit from free business coaching and business acceleration services. Most companies come from the fields of health, engineering and information & communication technology (ICT), and are based in Spain (13), the Netherlands (6), followed by France and Finland (both 5) and thirteen other countries.

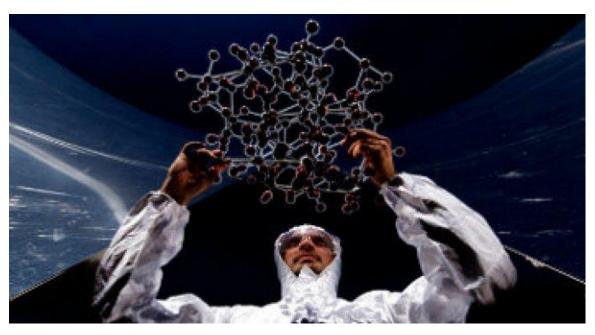
The funding comes from the SME Instrument, which has been brought under the umbrella of the EIC pilot. The EIC pilot was launched in 2017 bringing together the parts of the research and innovation programme Horizon 2020 that provide funding, advice and networking opportunities for those at cutting edge of innovation.

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Revised Research Priority Areas for 2018-2023



March 22 2018

The Government has published the 'Research Priority Areas 2018–2023' report. Research Prioritisation, introduced by the Government in 2012, aligns the majority of competitively awarded public investment in research with 14 priority areas. Innovation 2020, Ireland's strategy for research and development, science and technology, commits to reviewing the priority areas to ensure that they are still valid and to refresh and revise them, if necessary, in the light of changed circumstances since 2012.

Welcoming the Research Priority Areas Report, Minister for Business, Enterprise and Innovation, Heather Humphreys TD said: "I am delighted to announce this report. The challenge for small open economies like Ireland is to remain agile and responsive. Enhancing the innovative capacity of Irish based firms along with their ability to diversify into new markets has become all the more critical. With the recommendations in this report, the objectives of Research Prioritisation remain relevant and valid – to create research activities of critical mass in areas of importance to Ireland; to efficiently extract maximum value from our national research investment; and to take research to market faster than in other jurisdictions."

Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD said: "As technology continues to develop at an ever-increasing pace, bringing radical changes throughout almost every industry, it is essential that we continue to drive this important agenda – keeping innovation centre stage to drive a strong sustainable economy and a better society."

A rigorous exercise including extensive consultation was undertaken to develop the evidence base to inform the refresh exercise. While the evidence demonstrated that for many of the priority areas, the focus remains as relevant in 2018 as it was for the 2012 -2017 cycle, there have been several revisions and updates to both the themes and the priority areas to reflect changing circumstances in that period.

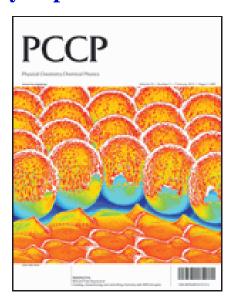
- The ICT priority areas have been broadened to reflect the changes in technology since 2012 and now include Robotics, Artificial Intelligence (including Machine Learning), Augmented Reality and Virtual Reality.
- With the focus on preventive health measures and the increasing emphasis on well-being, which is evident across all the health-related priority areas, the Health theme has been has evolved to reflect these drivers and is renamed **Health and Well-being**.
- The Sustainable Food Production and Processing priority area is broadened to reflect the evolution in technology since 2012 and the key emerging priorities in the EU initiative Food 2030, particularly the need for climate smart and environmentally sustainable food systems and the need for circularity and resources efficiency of food systems and is renamed **Smart and Sustainable Food Production and Processing.**
- The most significant changes have been to the Energy theme. Based on developments since 2012, including the increased urgency to address climate change and sustainability challenges, alongside the increased opportunities for enterprise within this wider context, the Research Priority theme has evolved to reflect these drivers and is renamed Energy, Climate Action and Sustainability, and the two priority areas have been updated to **Decarbonising the Energy System**; and **Sustainable Living**.
- To reflect the impact of technological change and the digitisation of manufacturing since 2012, the
 Manufacturing Competitiveness priority area is renamed Advanced and Smart
 Manufacturing (which will also include Processing Technologies) and Processing Technologies
 and Novel Materials is renamed Manufacturing and Novel Materials, acknowledging that Novel
 Materials underpin and enable other priority areas, presenting particular challenges for the
 manufacturing sector.
- The services sector in Ireland is a major part of Ireland's economy and is increasingly participating
 in innovative activities and the Innovation in Services and Business Processes research priority
 remains unchanged.

Implementation of the report 'Research Priority Areas 2018 to 2023' will be driven through the Innovation 2020 Implementation Group, which comprises the Chief Scientific Advisor, the heads of research for each of the research funding Departments and Agencies, and is chaired by the Assistant Secretary of the Innovation and Investment Division of the Department of Business, Enterprise and Innovation.

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MSD is to develop a new biotechnology facility in Dublin, with the expected creation of up to 350 new jobs



Martin Shanahan, IDA Ireland; Minister Heather Humphreys; Ger Brennan, MSD

Tuesday, 13th February 2018 – Minister for Business, Enterprise and Innovation Heather Humphreys TD and IDA Ireland today welcomed the announcement that MSD is to develop a new biotechnology facility in Dublin, with the expected creation of up to 350 new jobs.

Known as MSD Biotech, Dublin, the facility will be constructed on an existing MSD-owned property, the site of its former facility in Swords, Co. Dublin.

Commenting on the announcement, the **Minister for Business**, **Enterprise and Innovation**, **Heather Humphreys TD said** "this investment by MSD is a great vote of confidence in Ireland. MSD has been a

tremendous success story in this country with plants located in several centres, providing valuable employment. This new, cutting edge, Biotechnology facility will be a tremendous asset to our Pharma industry and will deepen the great partnership between the company and Ireland."

Martin Shanahan, CEO, IDA Ireland congratulated the company on winning this mandate for Ireland. "MSD's decision to develop a new biotechnology facility in Dublin, with the expected creation of up to 350 new jobs greatly strengthens Ireland's position as a global destination for manufacturing excellence in biopharmaceuticals. This announcement underpins MSD's commitment to Ireland and follows the company's announcement in May last year that it will create 330 new jobs and invest €280 million in its manufacturing facilities in Carlow and Cork."

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Irish R&D Supports Bausch + Lomb's \$205 Million Investment in Waterford



March 19 2018

Over 96% of the lens volume produced by Bausch + Lomb, the global eye care specialist, at its plant in Waterford has been developed by the facility's in-house R&D Laboratory, pointed out Joe Dowling (pictured above), R&D Director, Bausch + Lomb, Waterford, at the recent 2018 Research & Innovation Conference & Exhibition held at Citywest in Dublin. His presentation was entitled 'Bausch + Lomb Ireland – An R&D Case Study'.

Bausch + Lomb, which was established as an optics company but moved into contact lens manufacturing in the 1970s, established its plant at Waterford in 1980. Last year, a \$175 million expansion was opened and a further \$30 million is being invested in additional production lines. Half of production is exported to Asia, where Bausch + Lomb is the market leader in China for contact lenses. The expanded Waterford plant also supplies to the US and Europe.

The R&D Laboratory at Waterford was introduced in 1998 and currently employs 45 scientists, engineers and technicians. The Waterford laboratory was responsible for the development of the Biotrue ONEday range of daily disposable contact lenses. Indeed, the recent \$205 million investment programme was to support the manufacturing of this highly successful product.

The development of the Biotrue ONEday range is a fine example of customer-focused R&D and innovation. Extensive research was carried out to see how the lens would be used by potential customers in their everyday lives. This revealed, for example, that the average user would spend 9 hours of their day looking at digital devices and 2.3 hours watching television. "When you are using digital devices, you are not blinking as often," Joe Dowling explained. "This has an impact on the contact lenses we develop."

Designed to deliver consistently clear vision and comfort for users throughout the day, the Biotrue ONEday lens range is inspired by nature. "We wanted to be as bio-compatible as possible," he said. The lens material is 78% water – the same as the cornea in the human eye. Similarly, the lens also incorporates a unique dehydration barrier, which maintains 98% of its moisture for 16 hours a day. The shape of the new lens was also based on the functioning of the cornea. "It was inspired by the natural blinking pattern and how that interacts with your eyelids," he said. "We studied how people actually blink – it is not just an up and down movement."

Just as a customer-focused approach determined the design of the Biotrue ONEday, it is now used to measure the performance of the lens. "We do real life surveys to see if it meets customers' needs," he added. 95% of respondents agree that the Waterford-developed product delivers consistently clear vision.

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