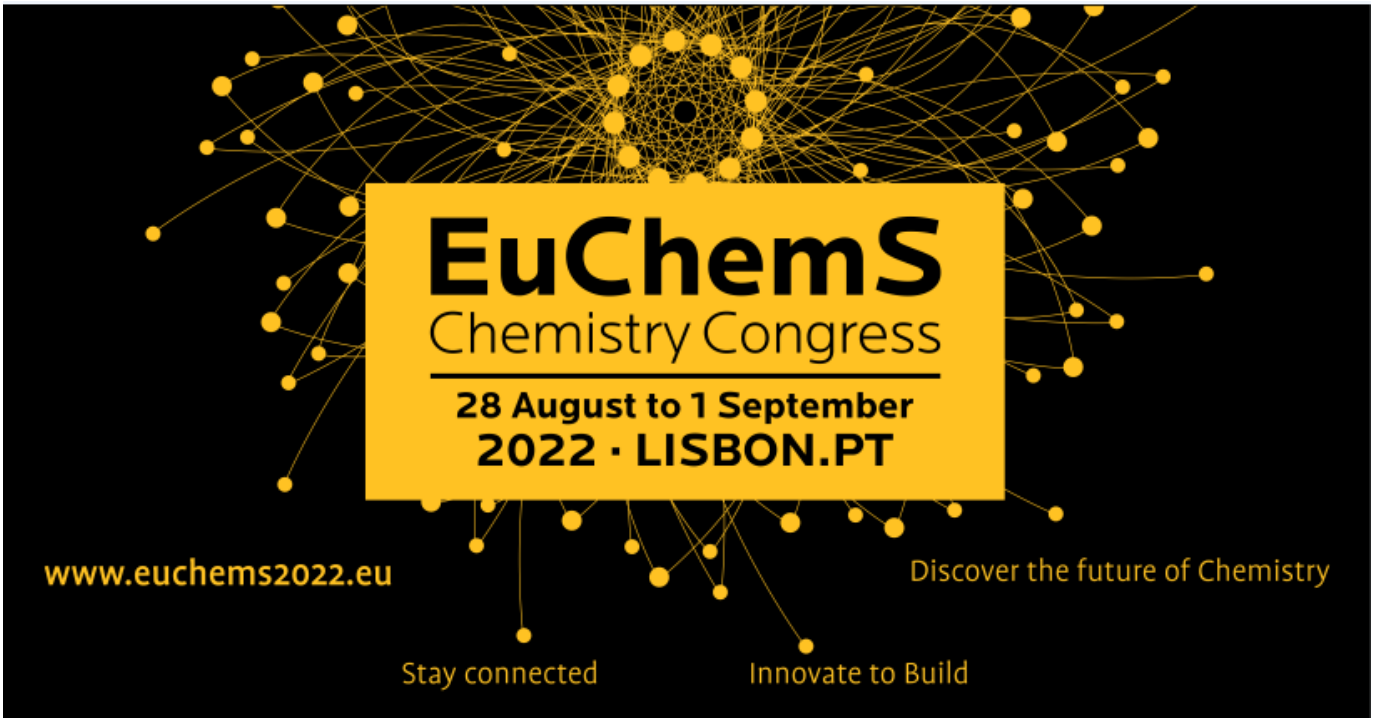
Irish Chemical News

A Journal of the Institute of Chemistry of Ireland



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More Details Inside

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A Message from the President

Dear Fellows, Members, Graduates and Associates,

I do hope you and your families are keeping safe and well.

First, on behalf of the Institute, may I express our deep sadness and grave concerns for the people of Ukraine. We stand in solidarity with the Ukrainian people and fervently condemn the ruthless military invasion of their country by Russia. We also join with EuChemS, the Royal Irish Academy and many other scientific societies in releasing a statement on our website condemning this violent Russian attack.

It is hard to believe that we are nearing the 2nd anniversary of the onset of COVID in our country. As we continue to navigate our way through COVID times, we should be mindful that other countries are experiencing new waves of this terrible pandemic. As a country and a community, we have learned a lot about controlling the spread of the virus. With the easing of restrictions, it is important that we remain ever vigilant. We are very grateful to our editor, Patrick Hobbs, for keeping us abreast over the last couple of years on the latest scientific developments in this field including the onset of mutations and ongoing progress in relation to advances in vaccines. You will find a series of hyperlinks towards the latter part of this issue that will bring you directly to pertinent articles selected by the editor providing recent updates.

As you will have read in the ICN December 2021 issue, our editor has been proactively reaching out to the Heads of Schools and Departments of Chemistry and Chemical Sciences across our Higher Education landscape for updates. In this issue, you will find updates from the University of Limerick including details in relation to the highly successful 72nd Irish Chemistry Research Colloquium which took place as an online conference in June, 2021. As you know, the Colloquia fall under the aegis of the ICI. We are grateful to University College Dublin who will host the 73rd Colloquium from 15th-16th June, 2022. It is exciting to note that this Colloquium will be one of the first, if not the first, *in person* meeting of chemists on the island since the COVID pandemic. This issue also includes reports from the Schools of Chemistry in UCC and Maynooth University, on their recent success in achieving the Athena Swan Bronze. Our congratulations to both Schools and all others who have attained this recognition as highlighted in the previous ICN issue.

This issue also highlights three relatively recent senior academic appointments in HEIs. Our congratulations to Professor Silvia Giordani on taking up the role of Head of School of Chemical Sciences at Dublin City University in 2020, to Professor Denise Rooney on her recent appointment as Head of School of Chemistry at Maynooth University and to Dr Edwin Carey on his appointment as Head of Department of Applied Science, TU Dublin (Tallaght campus). Wishing Professor Giordani, Professor Rooney and Dr Carey every happiness and success in their new and responsible roles. Our plan is to continue to include HEI updates in future ICN issues, allowing the Institute to showcase all the excellent work being done in our third level sector, so please do provide regular updates.

A special word of thanks to the ICI Young Chemists' Network (YCN) who continue to work hard to provide support to the younger members of our community. They recently held a wonderful event to coincide with International Women's Day, the details of which may be found in this issue. We are enormously grateful to Dr Mark Kelada, who is stepping down as chair of the ICI YCN, for his passion and commitment in this

role. We welcome Colm McKeever, Maynooth University, who has recently being appointed the new ICI YCN chair. I know that Colm and his team have a number of events planned to further support our young chemists so please keep an eye out on the ICI website but also on their social media channels for updates (details on ICI website) and please support them by promoting these events amongst the young chemists in your institutions.

After an open call for nominations for the ICI Annual Award for Chemistry (Eva Philbin Public Lecture Series), I am particularly delighted to announce that the 2021 recipient is Professor Paula E. Colavita, Head of Physical Chemistry, School of Chemistry, Trinity College Dublin (https://chemistry.tcd.ie/staff/colavitp/). Our warmest congratulations to Professor Colavita. We very much look forward to hearing more about her work this year as part of her public lecture series. Details to follow.

Our congratulations also to the most recent recipient of the Kathleen Lonsdale Royal Irish Academy Prize 2022, Dr Priyanka Ganguly, for the best chemistry PhD thesis in Ireland. Further details may be found: https://www.ria.ie/news/science-committees-physical-chemical-and-mathematical-sciences-committee-grants-and-awards/dr-1 We are very proud of Dr Ganguly who was also the recipient of the ICI Postgraduate Award in 2020. Dr Ganguly is currently a Marie Curie Early-Stage Researcher at the University of Glasgow, Scotland.

As you know, the ICI is an affiliated 'Member Society' of the European Chemical Society (EuChemS). May I draw your attention to EuChemS updates which are provided in this issue, including details in relation the forthcoming EuChemS Congress which is being hosted by the Portuguese Chemical Society, from the 28th August – 1st September, 2022 in Lisbon, Portugal. May we encourage you please to support this *in person* conference. As you know, the ICI will be hosting the EuChemS Congress in Dublin in 2024. We are enormously grateful to Professor David A. Leigh, Sir Samuel Hall Professor of Chemistry, University of Manchester, UK and to Professor Thorfinnur (Thorri) Gunnlaugsson, Trinity College Dublin who have kindly agreed to chair the EuChemS Congress 2024 International Scientific Organising Committee and the ICI Local Organising Committee respectively.

The above are just some updates and highlights from this latest ICN issue but as you can see from the Table of Contents, this issue contains so much more. I do hope you enjoy reading this latest issue. I know I did.

Last December, you were also emailed a copy of the VOICE, the annual ICI Christmas Newsletter, with an overview of the activities of the Institute over the past year. This is now also available on the ICI website: https://www.chemistryireland.org/news-publications/#voice We will also provide updates soon regarding our ICI annual award ceremony and AGM, our ICI award lectures and also our ICI centenary celebrations.

In the meantime, may I take this opportunity to yet again thank our editor Patrick Hobbs. He works tirelessly behind the scenes to bring our community up to speed on national and international topics that he feels are of most interest to our community. It is a significant undertaking. My thanks also to all Council members who voluntarily give of their time and expertise to support our Institute and community. A special thanks to you, our ICI Fellows, members, graduates and associates. Please do keep in touch and send us your updates. We would be delighted to showcase these on our ICI website and in future ICN issues.

In the meantime, I wish you continued success, health and happiness.

Celine Marmion

Professor Celine J. Marmion PhD FRSC FICI
President, Institute of Chemistry of Ireland
8th March, 2022

Editorial

We are in a new year, the Covid crisis is still with us and far from over. However we are in a much better place thanks to our high uptake of vaccines and boosters. Although we have more daily infections than at the previous peak, fortunately infections are much less severe and hospitalisations are low but still we do have some Covid related deaths.

The large daily numbers, peaking at over ten thousand is concerning as this increases the likelihood of new mutations occurring. Already we have BA.1, BA.1.1, BA.2 and BA.3 linages* (See SARS CoV-2 Section). BA.1 displaced the Delta version and now BA.2 is possibly dominating. BA.2 is a sibling of BA.1, not derived from it. Some of the other linages are not getting much press. There is optimism though, such as the new Sanofi and GSK vaccine, demonstrating strong protection against severe Covid-19 in clinical trials and approval is being sought. Canada has approved the World's first Plant-Based COVID-19 Vaccine. We also have therapeutics as well to help those likely of becoming very ill with this disease.

Covid publications had started to decline but the Omicron variant has spurred a spike in publications again and this is reflected in a larger 'SARS CoV-2 Virus Updates and Developments' section. Despite lifting of restrictions we should all be careful in public places as it is best not to risk getting this virus.

The 'Chemistry and Related Technology' section is quiet large reflecting the huge efforts of chemists and scientists across many disciplines. The topics are wide and varied covering subjects from the trial of Elizabeth Holmes of Theranos in the US, to the origin of heavy elements, and designed chemical materials to absorb carbon dioxide from emissions points and directly from the atmosphere. With Teranos, no peer reviewed papers were published on the claims of this technology, investors and even senior politicians were taken in by the claims. The Holmes affair reflects the need for ethics in science with vigilance and cross checks always needed.

Climate Change is covered here and this section contains a range of articles and points of view. This section is some fourteen pages long reflecting the diversity of papers and reports published since COP26. The urgency to solve the problems is great and a most recent report titled "Humanity faces 'grave and mounting threat' of climate change — unless we act, the IPCC report reveals" just published by the UN. There are huge innovations happening, attempting to alleviate climate change. I included reports here on novel technology that does not fit in well in the other sections.

Arising from the need for climate mitigation is the controversial issue of nuclear power with fusion generated power still decades away. There has been some encouraging trial results from the US and Britain in December and January using different technologies, such as lasers bombardment and magnetic confinement technologies. China is also making progress in its efforts. There is dissent however and a publication New Energy Times, whose authenticity I have not been able to independently verify, so hence I have placed three ??? beside those references. It does ask serious questions about how much energy is actually inputted to get the claimed output energy usefully recovered. Then there is the problem of Tritium, a very rare element with only about 20 kg naturally occurring on planet Earth and needs to be manufactured by neutron bombardment of lithium in conventional reactors.

We have considerable nuclear power generation now in major countries which provide countries like France with the majority of its electricity but waste is a major problem. The French fleet of reactors is old and need replacement with better designs but when? Other new designs like Small (Modular) Nuclear Reactors are currently at the design and testing stage and generates a whole new set of problems especially now that war has broken out in Ukraine. Ukraine incidentally has fifteen nuclear reactors at four sites, one of which is the largest in Europe. The movement of Russian army equipment around Chernobyl has stirred up dust and soil resulting in an elevation of radiation by a factor of twenty. Physical security is a big concern for nuclear power plants in times of war or terrorism especially the ease of attacking a small facility.

There are two other nuclear power technologies Thorium and Hydrogen-Boron-11 reactors which are getting much less press but cannot be ignored. Thorium is not fissile and needs activation by other radioactive material. China seems more advances with this technology. Fusion energy without radioactivity by laser ignition of solid hydrogen–boron (11) fuel looks promising and at least one company is investing in this technology so maybe this is a future option but we must wait and see. There are relative few publications available on this technology.

Solar cell technology is a very active area of innovation and improvements in efficiency with one technical innovation reaching 29%. Another has demonstrated 90% reduction is silver usage. Progress is being made with inorganic Perovskite cells which should be cheaper to manufacture than traditional silicon solar panels. Overall costs will continue to fall as research progresses into manufacturing.

Rechargeable battery technology and design is really very active and there is a lot of innovation in the chemistry, engineering and materials used along with the types of lithium. We really need solid state batteries to become available on a wide basis with their higher capacity and improved safety. Advances in organic batteries could possible replace lithium. Sourcing lithium is problematic and huge efforts are going into sourcing it from recycling and recovery from sea water. Rechargeable batteries are vital along with solar energy to work in tandem when the sun does not shine or wind fails to blow.

Green Hydrogen will be essential and must come from renewable sources like solar power or wind. Now we have high capacity electrolyser plants at advances stages of build. Plans are in place to test Airbus aircraft where a hydrogen fuelled engine will be tested on the A380. A Japanese ship has left Australia with the first cargo of liquefied hydrogen. Trucks, trains and buses are undergoing testing with hydrogen fuel. The options are fuel cells or direct combustion, progress is being made with both. All these need green hydrogen.

In the topics above I have tried to reflect the efforts made in academia, industry and reflect the commercial investment in billions of Euros in addressing climate change. Chemistry is at the heart of these endeavours and innovation across the sectors.

With easing of restrictions due to Covid 19, conferences, events and exhibitions are starting up again and some are posted in this Issue. The **73rd Irish Universities Chemistry Research Colloquium** will take place on 15-16th June at UCD. The **7th International Conference on Molecular Sensors and Molecular Logic Gates (MSMLG 2022)**, on 12-15th July at the Radisson Blu Hotel, Dublin. **The EuChemS Chemistry Congress (ECC8)** is happening in Portugal this year with details posted in this Issue. **Registration is open.**

There are changes to Heads of Chemistry Schools at three Universities and these are presented within the Universities & 3rd Level section.

Given the crisis in Ukraine an ICI statement supporting Ukraine has been posted on our web site and in this Issue. EuChemS and German Scientific Societies have also issues statements. This invasion may have grave implications for humanity if nuclear weapons are used or nuclear reactors damaged and possible genocide in Ukraine. You don't need nuclear weapons to commit war crimes and genocide. Bombing, shelling and cluster bombs can inflict terrible injuries and widespread death on civilian populations and we have started to see evidence of that already.

The 8th EuChemS Chemistry Congress (ECC8) will take place in person - August 28 to September 1, 2022. Plan to attend and support EuChemS and the Portuguese Chemical Society.

Comments and Responses are welcome and can be sent to the **Editor Email address: -**

editor@instituteofchemistry.org

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

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

THE ICI YCN PRESENTS

INTERNATIONAL WOMEN'S DAY
PANEL DISCUSSION
8TH OF MARCH 2022 AT 5-6PM ON ZOOM

REGISTER YOUR ATTENDANCE FOR THE FREE EVENT ON EVENTBRITE

FOR MORE INFORMATION PLEASE CONTACT OUR SOCIAL MEDIA PAGES

@ICIYCN

@ICI_YoungChemistsNetwork

The Institute of Chemistry of Ireland Awards

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

The Boyle Higgins Gold Medal and Lecture Award

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

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

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

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

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

The ICI Postgraduate Award

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

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

For these awards and others see ICI website [*https://www.chemistryireland.org/awards-events*](https://www.chemistryireland.org/awards-events)

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

EuChemS Chemistry Congress

28 August to 1 September
2022 · LISBON.PT

www.euchems2022.eu

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ABSTRACT CALL:

- **Deadline for Oral Communications Presenters:** 11th March, 2022
- **Notification of Oral Communications Acceptance:** 29th April, 2022
- **Deadline for Poster Communications Presenters:** 29th june, 2022
- **Notification of Poster Communications Acceptance:** 3st June, 2022
- **Deadline for Student Grant Application:** 29th April, 2022

REGISTRATION:

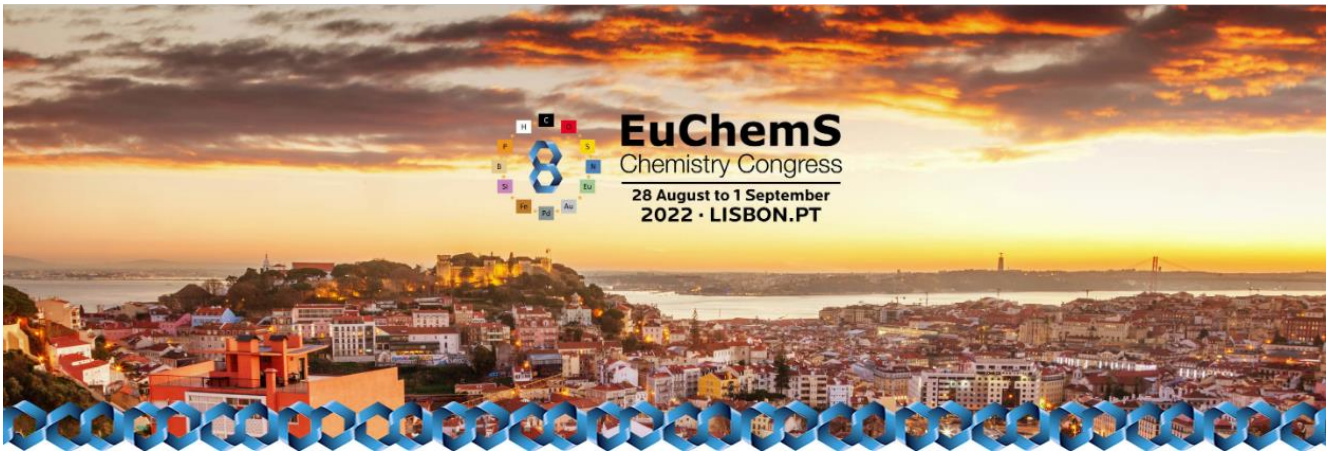
- **Standard Registration deadline:** 17th June, 2022
- **Late registration deadline:** 5th August, 2022

twitter.com/EuChemS_Congres
facebook.com/EuChemS2022

PLENARY LECTURERS

Cristina Nevado (Organic Synthesis/Medicinal Chemistry)
University of Zurich, Switzerland
Hanadi Sleiman (Chemistry and Biology)
McGill University, Canada
Joanna Aizenberg (Materials)
Harvard University, USA
João Rocha (Materials and Solids)
University of Aveiro, Portugal
Lutz Ackermann (Catalysis)
University of Göttingen, Germany
Nicola Armaroli (Energy and Sustainability)
National Research Council, Italy
Takuzo Aida (Polymer and Supramolecular Chemistry)
The University of Tokyo, Japan

EuChemS
European Chemical Society



Postponed from 2020

Important Dates

Dear 8th EuChemS congress attendant these are the important dates to mark in your calendar.

CALL for ABSTRACT

Oral Communications Presenters: 11th March, 2022
Notification of Oral Communications Acceptance: 29th April, 2022

Poster Communications Presenters: 29th April, 2022
Notification of Poster Communications Acceptance: 3rd June, 2022

Student Grant Application: 7th June, 2022

PROGRAM

Preliminary Program: 10th June, 2022
Final Programme: 27th June, 2022

REGISTRATION

Standard Registration deadline: 17th June, 2022
Late registration deadline: 5th August, 2022

The Portuguese Chemical Society (SPQ), with the support of the Portuguese Electrochemical Society (SPE), has the great pleasure of organizing the 8thEuChemS Chemistry Congress (ECC8), to be held in Lisbon, Portugal, from August 28 to September 1, 2022.

The 8 EuCheMS Chemistry Congress is being built under the unifying theme of Chemistry the Central Science, focusing on the central role of chemistry at the interfaces with biology, material and environmental sciences, both for the progress of humankind and for the solution of fundamental problems of modern societies. An exciting scientific program led by world class experts will develop around seven main scientific topics:

- Advances in Synthetic Organic Methodologies
- Metal Containing Compounds and Solids: Properties and Applications
- Chemistry meets Biology
- Colloids and Materials
- Biomaterials and Medicinal Chemistry
- Catalysis
- Spectroscopic and Analytical Tools / Advanced Physical Chemistry

accompanied by three sessions devoted to topics of particular relevance to join scientists from different areas:

- Chemistry and Society
- Functional Materials
- Food Chemistry

and the final one organized by EYCN, the EuChemS European Young Chemists´ Network of EuChemS The program will be completed by three general and particularly important themes, which will run every day and provide a general view of the field, going beyond the view from each classical area:

- Molecules in Motion
- Energy, Environment and Sustainability
- Imaging

This conference will be the 8th in a series that started in Hungary, and was held in several cities before reaching Lisbon. All of them reached very high scientific levels, giving to all the participants the opportunity of listening to the most celebrated world speakers presenting state of the art advances in chemical sciences and to discuss openly with the chemistry community.

Themes

Theme A: Advances in Synthetic Organic Methodologies
Conveners: Luis Vicario, Sophie Beeren

Theme B: Metal Containing Compounds and Solids: Properties and Applications
Conveners: Katharina Fromm, Silvia Gross

Theme C: Chemistry Meets Biology
Conveners: Mario Salmona, Sonja Herres-Pawlis

Theme D: Colloids and Materials
Conveners: Maria Lucia Curri, Pablo Ordejon

Theme E: Biomaterials and Medicinal Chemistry
Conveners: Avi Schroeder, Holger Stephan

Theme F: Catalysis
Conveners: Bert F. Sels, Paolo Melchiorre

Theme G: Spectroscopy and Perspectives in Analytical Chemistry / Advances in Physical Chemistry
Conveners: Christian Huck, John Cassidy

Transversal Themes

Theme 1: Imaging
Conveners: Johan Hofkens, Roland Winter — Eu

Theme 2: Energy, Environment and Sustainability
Convener: Maria F. Montemor, Piotr Stepnowski — H

Theme 3: Molecules in Motion
Conveners: Nicolas Giuseppone, Oren Scherman — P

Additional Sections

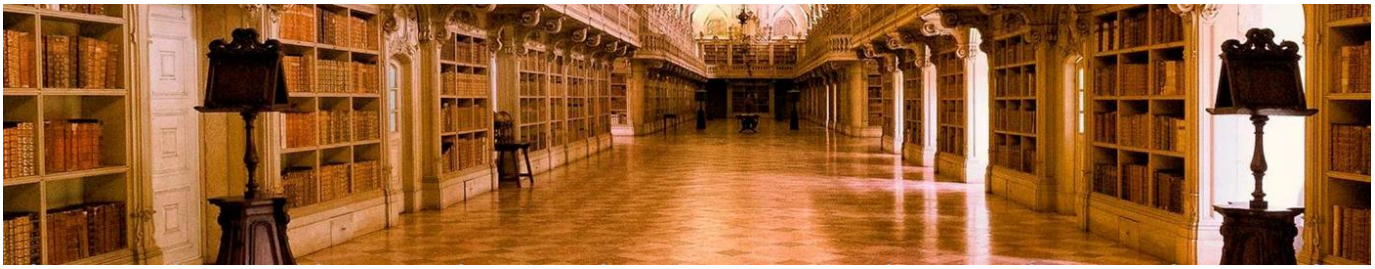
Section I: Functional Materials
Conveners: Bo Albinsson, Nazario Martin — C

Section II: Chemistry and Society
Conveners: Joseph Moran, Rachel Mamlok-Naaman — B

Section III: Masterclasses – Lunch break
Conveners: Artur Silva, Luisa De Cola — Si

European Young Chemists' Network (EYCN)

EYCN



Scientific Committee

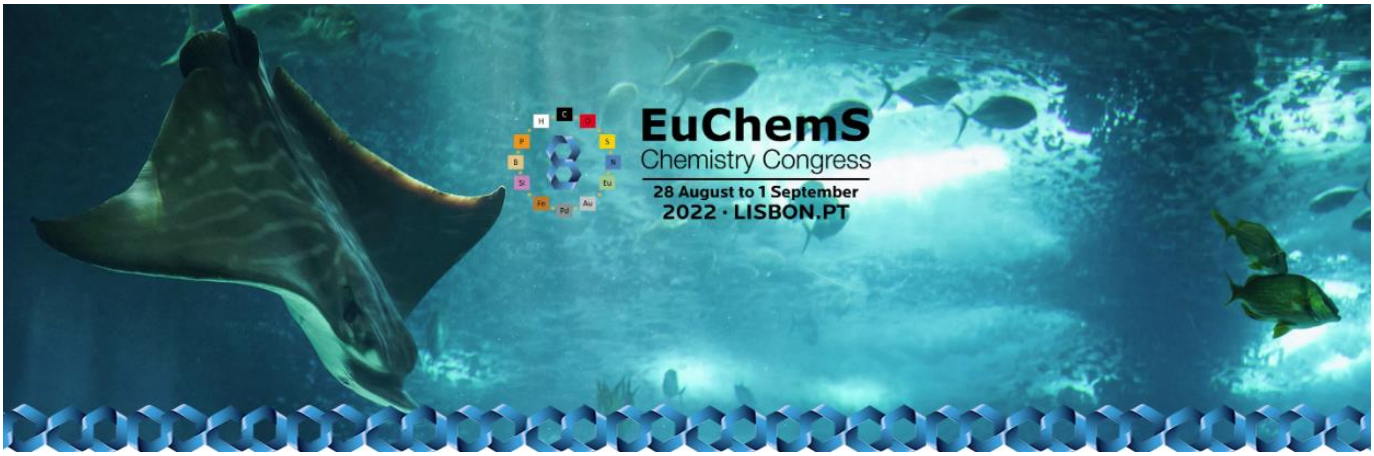
Luisa De Cola, France – Chair – Materials
Mário N. Berberan Santos Portugal – Co-Chair – Spectroscopy/Physical Chemistry
Artur M. S. Silva, Portugal – Portuguese Chemical Society - Organic Chemistry – Synthesis
Alice Solda, Italy - European Young Chemists´ Network
Katharina M. Fromm, Switzerland – Inorganic chemistry and solids
Piotr Stepnowski, Poland - Analytical & Environmental Chemistry
Maria Lucia Curri, Italy – Nanostructured and multifunctional materials
Paolo Melchiorre, Spain – Catalysis and Photocatalysis
Oren Scherman, United Kingdom – Dynamic supramolecular assemblies
John Cassidy, Ireland - Analytical Chemistry and Instrumentation
Johan Hofkens, Belgium - Spectroscopy and Imaging

Organizing Committee

Adelino Galvão, SPQ General Secretariat, IST, Universidade de Lisboa
Ana Isabel Ricardo, FCT, Universidade Nova de Lisboa
Antonio M. Rodríguez García Spain - European Young Chemists´ Network
Fernanda Proença, Universidade do Minho
Joaquim Faria, SPQ Vice-President, FEUP, Universidade do Porto
Luísa Martins, SPE, IST, Universidade de Lisboa
Manuel Minas da Piedade, FCUL, Universidade de Lisboa
Maria José Calhorda, FCUL, Universidade de Lisboa
Rui Fausto, FCT, Universidade de Coimbra
Tito Trindade, Universidade de Aveiro
Vítor Freitas, FCUP, Universidade do Porto

Preliminary Program

	28.08	29.08	30.08	31.08	01.09
	Sunday	Monday	Tuesday	Wednesday	Thursday
8:30-9:10		Plenary Lectures			
09:15		A B C D E F G Y	A B C D E F G Y	A B C D E F M G Y	A B C D E C S G Y
10:30		Coffee Break			
11:00					
12:30					
Lunch Session		Chemistry in Space	Chemistry in Hollywood	Chemistry and Arts	Pitches from challenges
14:00	Registration				GDCh – Prize
15:30-16.00		Coffee Break			2 EuChemS Awards (2020 and 2021)
17:45	Opening Ceremony	Imaging	Energy, Environment and Sustainability	Molecules in Motion	EYCA Awards Closing Ceremony
17:45-18:30	PL – EuChemS Gold medal 2022	Plenary Lectures			
18:30 - 19.15	PL – EuChemS Gold medal 2020	ERCs 5x8min talks	ERCs 5x8min talks	ERCs 5x8min talks	
21:00	Welcome Party	POSTER SESSIONS		Social Dinner	



Conference Web Site:

http://www.euchems2022.eu

Check the ECC8 web site for updates and:

- **Registration**
- **Fees**
- **Bursaries & Support**
- **Location**
- **Accommodation**
- **EYCN Company Challenge**
- **Abstracts Submission**
- **Sponsorship**
- **Exhibitors**

EuChemS
European Chemical Society

EuChemS
European Chemical Society

9th EuChemS European Chemistry Congress to be held in 2022 in Dublin, Ireland, deferred to 2024

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

Ireland Section

The organisers expect over 1,500 delegates from around the globe to attend the event in The Convention Centre Dublin, in 2024. The five-day programme will consist of plenary and parallel lectures, poster sessions, symposia, networking events, and an industrial exhibition.

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

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

Under the new EuChemS the next Congress, ECC8 will be hosted by **The Portuguese Chemical Society** (SPQ), with the support of the **Portuguese Electrochemical Society** (SPE), invites you to attend this must go to series of European chemistry conferences, the **8th EuChemS Chemistry Congress (8ECC)**, to be held in Lisbon, Portugal, from 28th August to 1st September, 2022.

CHEMISTRY in Europe
Newsletter for European Chemistry, published by EuChemS

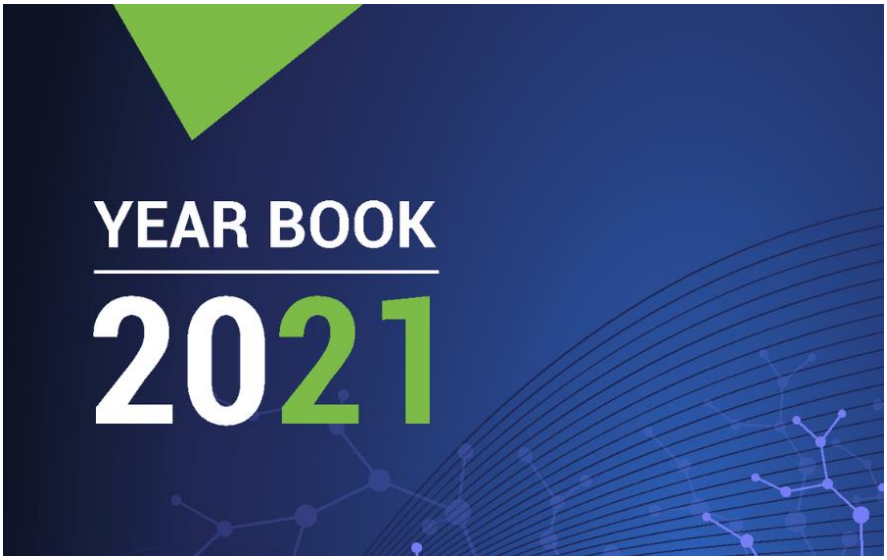
Chemistry in Europe

Chemistry in Europe is a EuChemS quarterly publication mainly intended for an audience of chemists, but everyone is welcome to subscribe! Its objective is to inform about research in Europe, to provide updates from EuChemS Member Organisations, and to look into policy-related developments.

Chemistry in Europe 2021 – 3
Challenges towards a sustainable future
https://www.euchems.eu/newsletters/chemistry-in-europe-2021-3

Chemistry in Europe 2021 – 4
IUPAC at its Second Century – Challenges and Opportunities
https://www.euchems.eu/newsletters/chemistry-in-europe-2021-4

Chemistry in Europe 2022 – 1
Coming Soon
Check: https://www.euchems.eu/chemistry-in-europe-archive



EuChemS Yearbook 2021 is out

Feb 14, 2022

Every year, the European Chemical Society (EuChemS) publishes a Yearbook to highlight major advancements of its chemistry community.

This annual report reflects on the impactful initiatives of EuChemS in policy areas, it looks back on the various meetings and events that were held throughout the year, as well as science communication accomplishments. It offers an insightful overview of EuChemS Professional Networks and their work. The Yearbook 2021 also proudly presents the winners of several EuChemS awards. This publication is a result of a collaborative work of a very many, coordinated by the Secretariat team, with the editorial written by Floris Rutjes, EuChemS President.

The EuChemS Yearbook 2021 is now available online!

EuChemS supports the Stick to Science initiative

Feb 21, 2022

In support of the Stick to Science initiative, the European Chemical Society (EuChemS) signed the online campaign for an open and inclusive European Research Area.
The signatories of the Stick to Science initiative urgently call for a barrier-free collaboration among the European research community and request the inclusion of the United Kingdom and Switzerland to the Horizon Europe framework programme.

Stick to Science

An online signature campaign for an open and inclusive European Research Area

The Stick to Science initiative has been set up by the European research community calling for open and barrier-free collaboration among Europe's research and innovation (R&I) actors, who all share the same values. The initiative is an active response to the delayed progression of association agreements with Switzerland and the United Kingdom (UK), which are being held up by political barriers that have nothing to do with science.

The signatories request that the European Council, Parliament, Commission, as well as European Union (EU) Member States, and the governments of the UK and Switzerland, recognise that advancement in R&I is best achieved when all actors in science and innovation work together across geographic boundaries. This has never been more important than now, as the world faces serious global challenges (e.g., mitigating pandemics, climate change, and addressing food security). Allowing political differences to prevent scientific collaboration is contrary to the interests of society at large.

The signatories urge the EU, the UK and Switzerland to rapidly reach association agreements so that the two countries can contribute scientifically and financially to the strength of Horizon Europe and to a truly open, inclusive and excellence-driven European Research Area.

Read more at:

Stick to Science – Put science collaboration before politics (stick-to-science.eu)

The Institute of Chemistry of Ireland

Irish Young Chemists' Network (IYCN)

After the ICI Postgraduate Chemistry Research Symposium held online in September 2020 was a success, an idea was put forward to establish an Irish Young Chemists' Network (IYCN) as part of the Institute of Chemistry of Ireland (ICI). This initiative was highly welcomed and encouraged by both the postgraduates in attendance of the online symposium and approved by the ICI Council Members during their Council meeting on the 1st October 2020.

The committee of the online research symposium was made up of postgraduate students from various institutions in Ireland. As this committee worked in great harmony together, and had already established connections while organising the symposium, it was suggested to keep this committee for the IYCN. The members were all happy and motivated to be part of the IYCN committee. Together, we have summarised some of the benefits of establishing the Irish Young Chemists' Network to include:

1) **Community, network and connection of young chemists**
2) **More opportunities for collaboration between early stage researchers**
3) **Organisation of conferences and events for young chemists**
4) **Opportunity for postgraduate students to present and discuss their work**
5) **A platform to promote upcoming positions suited for young chemists**

The committee feel strongly about the first benefit especially during these times. We feel that the mental health of young chemists, including postgraduate students, is critical and essential. A sense of community and closeness, particularly during moments like these, would surely be beneficial to their mental health. As the chair of the committee, I will work together with the wonderful team of postgraduate students to establish the IYCN, while liaising and updating the ICI Council periodically as well as continue to avail of their expertise and support.

Mark Kelada, B.Sc. MICI Ph.D.

ICI Young Chemist Representative and Chair of Irish Young Chemists' Network

The Institute of Chemistry of Ireland's
YOUNG CHEMISTS' NETWORK

Are you a chemist in Ireland aged between 18-35 years old? Want to be part of a exciting new network of young chemists and be part of a growing community? Join us today by emailing youngchemists@instituteofchemistry.org with your name, age, and where you study or work. If your institution is not listed below, you could even be part of our incredible committee.

Name	Position	Representation
Mark Kelada	Chairperson	Industry
Fionn Ó Fearghail	Secretary	TU Dublin/Industry
Joseph Byrne	Advisor (Non-Voting)	NUIG
Siobhán O'Flaherty	PRO	RCSI
Jessica O'Neill	PRO	DCU
Colm McKeever	Committee Member	MU
Niamh O'Mahoney	Committee Member	UCC
Syl Byrne	Committee Member	NUIG
Lukas Hallen	Committee Member	TCD
Lauryn Bracken	Committee Member	AIT
Keiran Logan	Committee Member	Ulster Uni
Nicolás Rojas Sanabria	Committee Member	UL
Ciara Davis	Committee Member	LIT
Eilidh Matheson	Committee Member	QUB

Credit | ETUC

Institute of Chemistry of Ireland Statement in Support of the People of Ukraine

The Institute of Chemistry of Ireland, the national body representing all chemists in Ireland, is deeply saddened at and fervently condemns the military invasion by Russia of Ukraine. The Institute stands in solidarity with the people of Ukraine including the members of the National Academy of Sciences of Ukraine and wider educational and scientific communities.

EuChemS statement on the invasion of Ukraine

Feb 28, 2022

The European Chemical Society (EuChemS) strongly condemns the violent invasion of Ukraine, and stands in solidarity with the people of Ukraine. We call upon local, national, European and world leaders to stop this violence and spare further loss of human life.

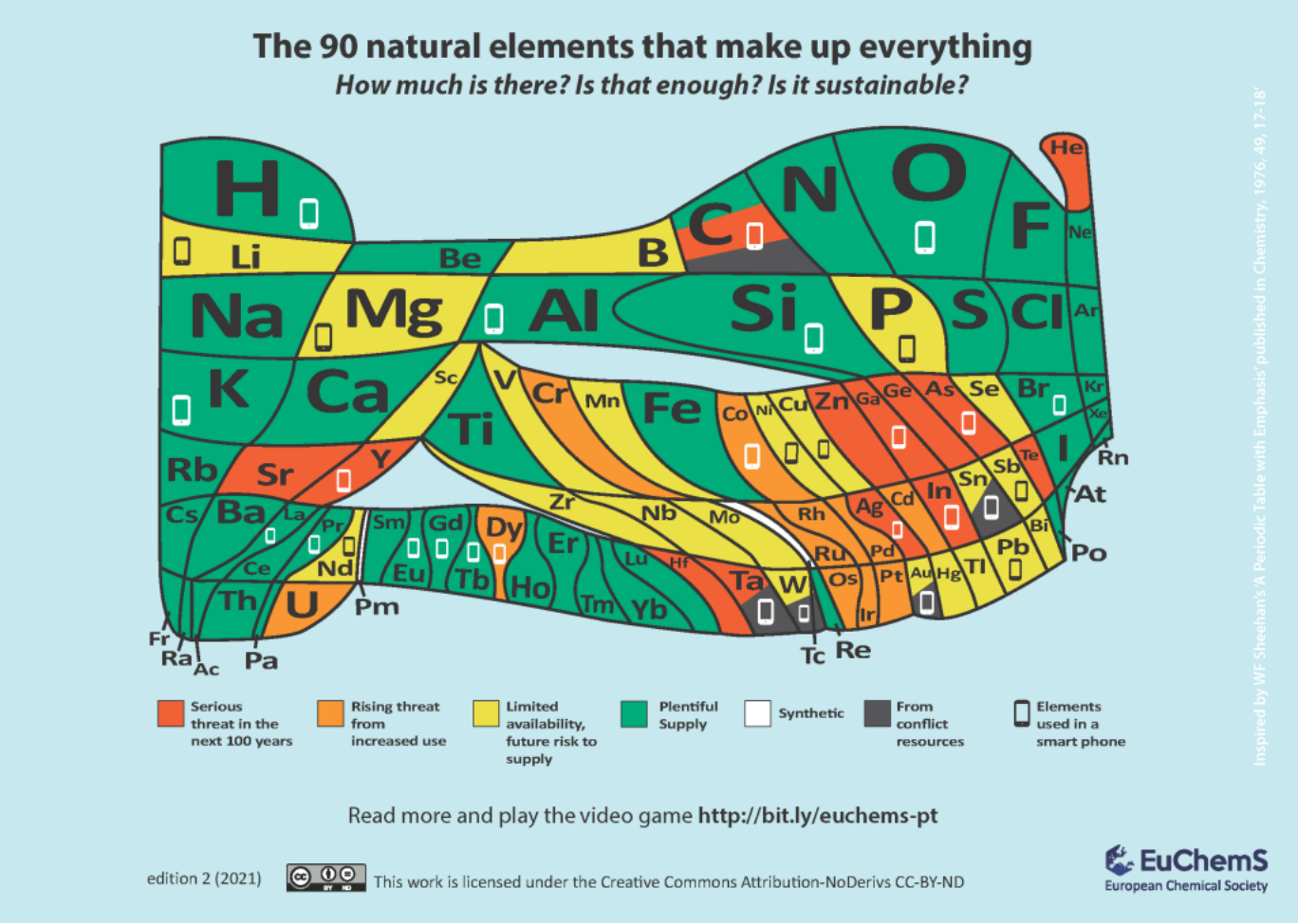
The advancement of science and innovations that find their way to society depends on a stable global order and peaceful collaboration among scientists from across nations. As an overarching European society, EuChemS stands for international dialogue and collaborative projects, and we continue to strive for exchange of scientific knowledge and opinions across national borders and cultures.

This statement is signed by EuChemS Executive Board members and EuChemS Secretary General: *Floris Rutjes, Pilar Goya, Eckart Rühl, Nicola Armaroli, Christophe Copéret,*

Nineta Hrastelj, Ioannis Katsoyiannis, Wolfram Koch, Renáta Oriňaková, Robert Parker, Rinaldo Poli, Cristiana Radulescu, Artur Silva, and Péter Szalay.

EuChemS
European Chemical Society

Updated version of the EuChemS Periodic Table released coinciding with COP 26

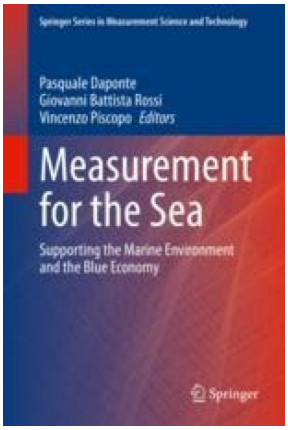


Carbon becomes tricolour

See Press Release:

https://www.euchems.eu/wp-content/uploads/2021/11/211103Press-Release_Periodic-Table.pdf

EuChemS
European Chemical Society



Measurement for the Sea pp 107-127| Cite as

Metrology for the Sea: Chemical Quantities

- Authors and affiliations
- **Nineta Hrastelj, Secretary General at the European Chemical Society**

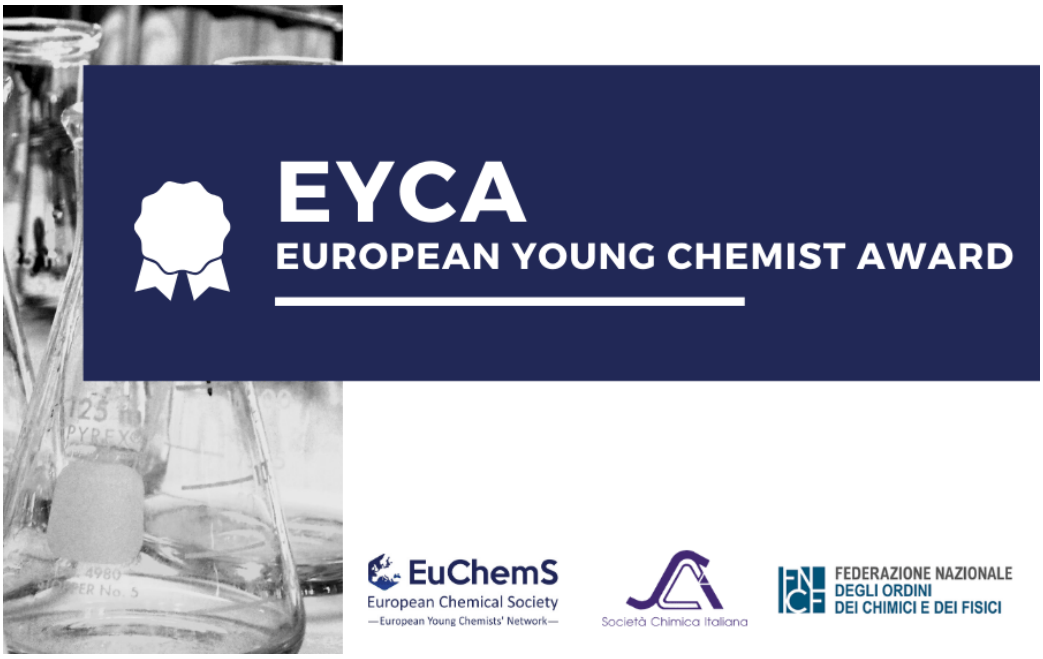
Part of the Springer Series in Measurement Science and Technology book series (SSMST)

Metrology for the Sea: Chemical Quantities | SpringerLink

Abstract

The chapter »Metrology for the Sea: Chemical Quantities gives an overview of the foundation for measurements in the chemical sciences and in particular those related to the sea. In this context, traceability, validation, and measurement uncertainty are explained, in addition to sampling and quality aspects. An overview of interconnected worlds of the chemical sciences, metrology, policy, standardization, accreditation, and science communication at national, regional, and global levels is provided. How measurements in chemical sciences work on examples that people can relate to, such as quality of bathing waters, classification of olive oils, accumulation of ^{210}Po in coastal waters, and in fish tissue in the Gulf of Trieste is demonstrated. Finally, the difference between a research and an accredited testing laboratory is described and the importance of discourse in a decision-making process is briefly explained.

EuChemS
European Chemical Society



European Young Chemists' Award

The aim of the European Young Chemists' Award (EYCA) is to showcase and recognize the excellent research being carried out by young scientists working in the chemical sciences. In particular the award is intended to honour and encourage younger chemists whose current research displays a high level of excellence and distinction. It seeks to recognize and reward younger chemists of exceptional ability who show promise for substantial future achievements in chemistry-related research fields.
The European Young Chemists' Awards (EYCA), which are sponsored by the Società Chimica Italiana (SCI) and the European Chemical Society (EuChemS), are given every two years during the EuChemS Chemistry Congress.

EYCA 2022

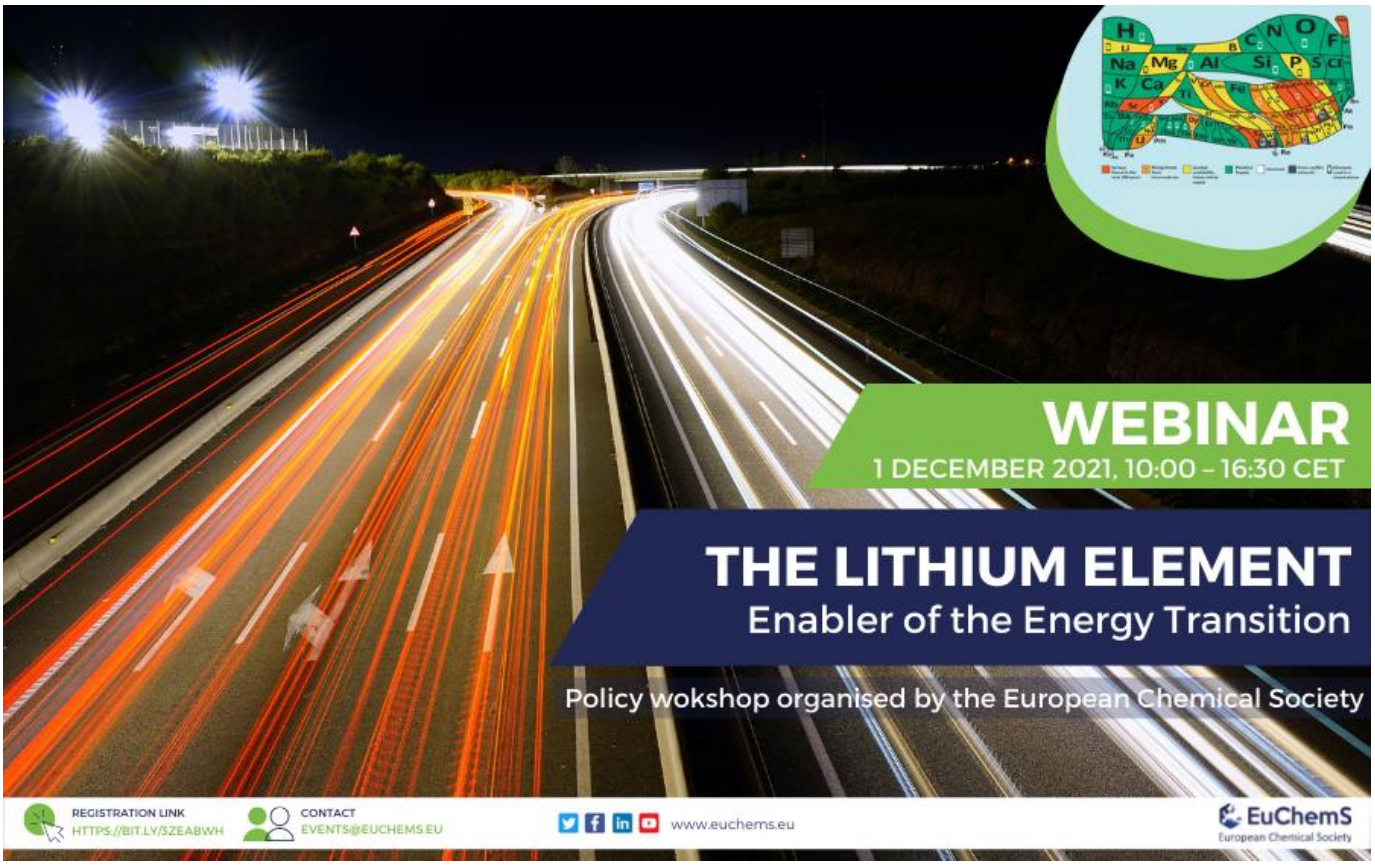
The call for the European Young Chemists' Award (EYCA) is currently open. You have until Thursday 30 June 2022 (20:00 CEST) to submit a nomination:

https://www.euchems.eu/awards/european-young-chemists-award

Before submitting a nomination, please carefully read the EYCA Guidelines HERE.

Nomination EYCA 2022

EuChemS
European Chemical Society



The Lithium Element – Enabler of the Energy Transition

The European Chemical Society, EuChemS broadcast a webinar 'The Lithium Element – Enabler of the Energy Transition', which will be held on **Wednesday 1 December 2021**, from **10:00** to **16:30 CET**.

This webinar echoed the successful workshop on the Carbon Element organized by EuChemS on 22 April 2021 (read more about it here).

The recordings are now available and you can watch both morning and Afternoon sessions here:-

Morning Session: https://youtu.be/-U_mOh90IKA

After Session: https://youtu.be/1yK2ylkGQ48

Programme outline

MORNING SESSION

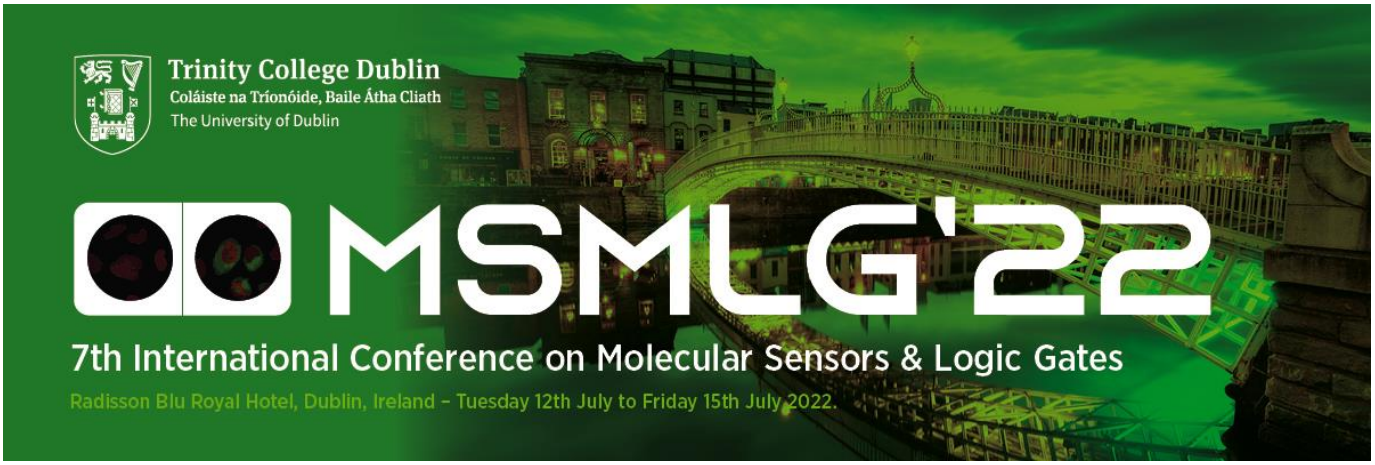
10:00 to 12:00 CET

– Welcome
Floris Rutjes, EuChemS President
– MEP Speech
MEP Speaker
– Developments of the EuChemS periodic table
David Cole-Hamilton, University of St. Andrews
– Lithium: reserves, resources and geopolitical issues
Fernando Rocha, University of Aveiro
10 MIN BREAK
– Lithium-ion batteries in the automotive sector
Kristina Edstrom, University of Uppsala
– Lithium batteries and the stationary applications
Luigi Lanuzza, Enel X
– **Panel discussion**
led by Katharine Sanderson, Science Journalist and Editor

AFTERNOON SESSION

13:30 to 16:30 CET

– Alternatives to Lithium-ion batteries
Philipp Adelhelm, Humboldt-University of Berlin
– Recycling Lithium-ion batteries
Paul Anderson, University of Manchester
– Lithium in ceramics
John C. Cochran, Corning Inc., Lexington, KY, USA
10 MIN BREAK
– The role of Europe in the expanding battery industry
Speaker from EC
– **Panel discussion**
led by Nicola Armaroli, CNR/EuChemS
– Closing
Floris Rutjes, EuChemS President



MSMLG 2022 - July 12th - July 15th 2022
Register now @ the Early Bird Rate

Reconnect with your colleagues at the MSMLG 2022 conference, Dublin, Ireland. Registration is now open with Early Bird reduced rates available until 14th April 2022.

Along with the conference registration you can book your accommodation, social events and tours.

Visit the conference website msmlg2022.org for further details.

REGISTER NOW

Call for Oral Abstracts Deadline 25th March 2022
Call for Poster Abstracts Deadline extended to April 2022

A gentle reminder that our Call for Abstracts will close on 25th March 2022. The oral and poster presentation sessions are an opportunity to share research, learn new concepts, network and exchange ideas, and stay current on relevant information. Research presented should pertain to the theme of the conference: "Sensors, Molecular Logic Gates, Imaging". The deadline for oral abstract submissions is 25th March 2022 after which date the oral abstracts will go for review, poster abstract submission will close in April 2022.

Click here for futher information on our Call for Abstracts

Speaker Announcement coming soon .....

We look forward to welcoming you to Dublin at the
7th International Conference on Molecular Sensors and Molecular Logic Gates!

Follow us on social media to stay up to date

@msmlg2020

Welcome to the official website of the **7th International Conference on Molecular Sensors and Molecular Logic Gates (MSMLG 2022)**.
MSMLG 2022 will take place in the Radisson Blu Hotel, Dublin, Ireland from Tuesday 12th July 2022 to Friday 15th July 2022.

MSMLG 2022 will provide a venue for sharing ideas and experiences together with opportunities for researchers in the fields of chemosensors and molecular machines to meet in person.

Dublin offers a rich cultural heritage that brims with history and art, complemented by an impressive range of restaurants, cafés, and shops. Supported by a solid reputation for education and innovation, the city has become the centre for many of Europe's leading institutions.

Ireland's scenic coastlines and picturesque mountains encompass Dublin, providing visitors both modern and ancient experiences for a memorable adventure.

Feicimid i mBaile Átha Cliath 2022! (See you in Dublin 2022)

Professor Thorfinnur Gunnlaugsson
Local Host
Trinity College Dublin, Ireland

Irish University & 3rd Level Chemistry News

Note:

The source material for the following section is provided by the relevant educational institutions. I will be endeavouring to improve this section of ICN by seeking timely updated feeds from the institutions.

I have reached out to heads of chemical sciences departments but the response has been poor. This is likely due to the pressure on everyone in chemistry departments. I ask Heads of Chemistry Schools/Departments to check their junk mail boxes and mark my email:

editor@chemistryireland.org as safe or never block sender!

Lot of goals and good achievements are being attained but we need to hear about them.

I can only include your good stories if you send them to me as they happen and I can coordinate them for inclusion in the next Issue of ICN which will be June 2022. These news items don't have to be long, even a paragraph can be useful and photos of high achievers or accomplishments and events are welcome.

The Kathleen Lonsdale RIA Chemistry Prize

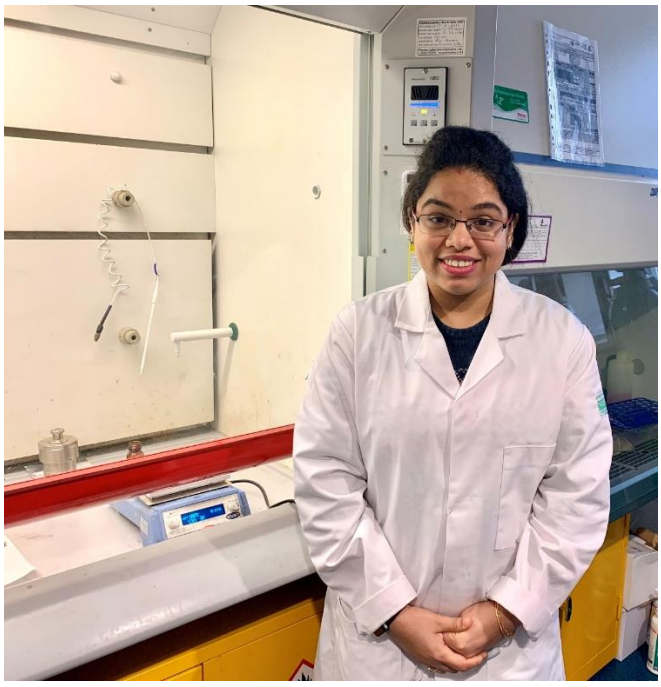
The Kathleen Lonsdale RIA Chemistry Prize, formally known as the Young Chemist Prize, was established at the Academy in 2000. Since its inauguration, the Royal Irish Academy works each year with the expert members of the Physical, Chemistry and Mathematical committee to select a winner based on **the most outstanding Irish PhD thesis in the general area of the chemical sciences.** The prize, kindly sponsored by Henkel, includes an **award of €2,000**. The winner will also be nominated by the Physical, Chemical and Mathematical Sciences Committee to compete amongst the top young chemists in the world in the **IUPAC-SOLVAY International Award for Young Chemists**.

https://www.ria.ie/grants-awards/prizes/kathleen-lonsdale-ria-chemistry-prize

Dr Priyanka Ganguly wins the Kathleen Lonsdale RIA Chemistry Prize 2022

January 28, 2022

Dr Priyanka Ganguly, a recent PhD graduate of the Institute of Technology Sligo, has been awarded the 2022 Kathleen Lonsdale RIA Chemistry Prize for the best chemistry PhD thesis in Ireland. This prestigious prize is named in honour of the famous Irish x-ray crystallographer Kathleen Lonsdale* and announced on 28th January to mark her birthday.



Dr Priyanka Ganguly's winning PhD research was work towards solving two fundamental challenges of the 21st century: sustainable energy production and environmental remediation of pharmaceutical effluents and antimicrobial disinfection. Her experimental work included the synthesis of novel nanomaterials and exploring their use as photocatalysts for hydrogen generation, degradation reactions and antimicrobial disinfection under visible light.

Dr Ganguly is currently working as a Marie Curie Early-Stage Researcher at the University of Glasgow. She described her reaction to the news that she had been selected for the Kathleen Lonsdale RIA Chemistry Prize 2022:

"I am extremely delighted to be the awardee from such a prestigious institution. Being recognised with such awards helps you to gain confidence to do better in upcoming years. Moreover, challenging situations of pandemics have made me realise the importance of the science we do and the progress that we make each day for a better future. It is an extremely humbling experience to be recognised by such a prestigious institution as the Royal Irish Academy, as it recognises all the hard work being done to date. Representing IT Sligo, soon to be the Atlantic Technological University, is an honour and it also shows that world-class research can be done in emerging universities."

Dr Ganguly's PhD research was carried out at IT Sligo and was supervised by **Prof. Suresh C. Pillai** and **Dr. Ailish Breen**.

Supervisor at IT Sligo, Professor Suresh Pillai said Priyanka not only carried out incredibly complex research but also shared her passion of Science with many students across the northwest region:

"In addition to her outstanding research accomplishments, Priyanka has demonstrated significant commitment to supporting and promoting research within IT Sligo and in the in the North-West region through active participation in public engagement initiatives. She was an ambassador for our teaching and research programmes at IT Sligo. Priyanka has worked as a volunteer for the Royal Society of Chemistry's Spectroscopy in a Suitcase scheme. This scheme provided leaving cert and high school students a hands-on opportunity to learn spectroscopic techniques (UV-Vis and FTIR). She has visited more than 20 different schools in the North-West region in the span of 18 months."

Lecturer in Biopharmaceutical Engineering Science at IT Sligo, Dr Ailish Breen said she was proud to have mentored Dr Ganguly through her research:

"Priyanka undertook a very technically challenging project with ease, but importantly maintained focus on real world applications. Her work output and publication record were exceptional and her research truly contributes to science. Priyanka's excellent contribution to science is being acknowledged in this award, but her contribution to the fabric of the research and larger community at IT Sligo must also be acknowledged. She radiated positivity, kindness, empathy and a willingness to welcome and help others and truly added to the research environment. She came to the research group while it was in its infancy and helped shape the collaborative culture that still exists in the group. Priyanka's graciousness coupled with her capability truly marks her a leader and we are proud to have mentored her in her time in IT Sligo."

Dr Ganguly is now moving to England to begin a new position at the London Metropolitan University but said she will fondly remember her experience at IT Sligo:

"My time in IT Sligo has been one of the memorable ones in my research life and career. I enjoyed my work and also enjoyed talking with students from different age groups. It has laid the foundation to transition to my postdoctoral time as a Marie Curie researcher at the University of Glasgow, UK and further moving to London Metropolitan University as a faculty.

Moreover, I had been mentored by my wonderful supervisors Prof Suresh C Pillai and Dr Ailish Breen, to not only do better research but to be a better human being. In the process, it has also led me to establish several new friends around the globe for life long and I can't signify its importance."

Professor Christine O'Connor, TU Dublin, chair of the assessment panel for the prize, commended the quality of this year's competition entries: "This years' Kathleen Lonsdale Prize applicants representing Universities/ Institutes across Ireland have been of an extremely high standard. To have such a high calibre of applicants following what has been a very disruptive time in their postgraduate research due to the pandemic, displays resilience and determination of both the Researchers and their Supervisors. The applicants demonstrated how their research aims to address global challenges and dissemination of the outputs in such high impact journals and scientific fora demonstrates Ireland as being world class in Chemical Sciences research."

Dr Ganguly will receive the winner's certificate and the €2,000 prize at a special ceremony of the Royal Irish Academy later this year. She will also be nominated by the Royal Irish Academy to represent Ireland in the 2022 IUPAC-Solvay International Award for Young Chemists. The Kathleen Lonsdale RIA Chemistry Prize is kindly supported by Henkel.

Dr Priyanka Ganguly (IT Sligo) was a winner of the Institute of Chemistry of Ireland Post Graduate Award 2020 and a Marie Curie Early Stage Researcher, University of Glasgow, Scotland.

***Lonsdale, Kathleen (1903–71):**

Kathleen Lonsdale in the DIB | Royal Irish Academy (ria.ie)

THE ROYAL IRISH ACADEMY IS IRELAND'S LEADING BODY OF EXPERTS IN THE SCIENCES AND HUMANITIES

Press Release: New funding of €1.725 million positions Ireland to lead in open research

14 February 2022

The Digital Repository of Ireland welcomes the announcement of Ireland's first national budget to advance open research practices.

A significant pool of funding has been designated to ramp up Ireland's progress in implementing an open research ecosystem. This funding marks Ireland's first national budget aimed at dramatically improving the pathways for sharing research, and building transparent practices into the very fabric of scientific discovery. The funding of €1.725 million from the Higher Education Authority (HEA) **has been announced** by the Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris, to support the activities of the **National Open Research Forum (NORF)** and has been allocated to the **Digital Repository of Ireland** (DRI) to distribute to key initiatives identified by the NORF.
Open research, also known as Open Science, is an umbrella term for a global movement to ensure that research publications, and the data behind the findings of the research process, are made freely and openly available to the public instead of being locked behind paywalls. The requirement for rapid sharing of research outputs has been made very clear to the world during the COVID-19 pandemic, where the pace of discovery is directly linked to saving lives. The Digital Repository of Ireland is a leader in Ireland's and Europe's open research ecosystem, providing a certified repository for preserving and openly sharing data, and actively participating in national policy discussion and international expert groups.

Dr Natalie Harrower, Director of the Digital Repository of Ireland, said:

> *This funding marks a crucial step for the Irish research ecosystem, and for Ireland's contribution to global knowledge production and exchange. The Department's commitment means that Ireland can play a leading role in Europe and beyond. Open research truly marks a paradigm shift in scientific workflows – the sooner research outputs are shared in standardised and transparent ways – the sooner others can build on these outputs for new discoveries. DRI is honoured to serve as NORF's coordinating organisation, and to continue working alongside such dedicated NORF colleagues to implement agreed priorities.*

In late 2020, DRI appointed Dr Daniel Bangert as Ireland's first National Open Research Coordinator, to coordinate the National Open Research Forum (NORF), a body of over 90 open scholarship experts and practitioners drawn from Ireland's higher education, research, and library communities. Dr Bangert has led the Forum and its five working groups through a detailed landscape analysis culminating in the National Open Research Landscape Report and a series of NORF Policy Briefs, launched today alongside Minister Harris's announcement. This work will also inform a National Action Plan for Open Research due to be published later this year.

Dr Daniel Bangert, National Open Research Coordinator, said:

> *The announcement of dedicated funds for the coordination and implementation of Ireland's national open research agenda is a recognition of open research as a priority for the research and innovation sector both nationally and internationally. I would like to thank the substantial effort and expertise that has been invested by members of the National Open Research Forum and the broader national research community to progress this policy agenda. I look forward to continuing engagement on the National Action Plan and its implementation.*

This new funding will enable Ireland to make significant national progress while also contributing to international ambitions such as those outlined by the *UNESCO Recommendation on Open Science* (2021).

Dr Mary Canning, President of the Royal Irish Academy (RIA), said:

> *We welcome this significant funding from the Department, and are pleased that the Digital Repository of Ireland, headquartered at the RIA, will play this key role in the National Open Research Forum. Our Academy members and committees have worked hard to raise awareness of open research as a public good, with particular attention to the social sciences and humanities, through national initiatives and international policy fora such as ALLEA (All European Academies) and the International Science Council. RIA publishing and research projects are committed to increasingly opening their outputs, and we recently made our Dictionary of Irish Biography into a fully open access resource. The Department's commitment to supporting an open research environment bodes well for the future of scholarship on this island.*

Notes

The Digital Repository of Ireland (DRI) is a national infrastructure for research data preservation and FAIR (Findable, Accessible, Interoperable and Reusable) sharing, as well as a research centre in digital archiving, digital preservation, and open research. The DRI repository stewards a rich variety of collections across the arts, humanities and social sciences that reflect Ireland's social and cultural heritage. The collections provide both sources for researchers and the public, as well as outputs from the research process itself ('research data').

The development of an open research ecosystem is one of DRI's key strategic priorities, and DRI actively contributes to policy formation, advocacy, training and infrastructure provision in this area. Twice certified as a trustworthy data repository by the international standard CoreTrustSeal, the DRI runs a range of research-funded projects, and actively participates in European networks such as the Digital Research Infrastructure for the Arts and Humanities (DARIAH), Europeana, and the Research Data Alliance (RDA). DRI has also contributed to policy formation via expert and working groups with the European Commission, the European Open Science Cloud (EOSC), the Organisation for Economic Co-Operation and Development (OECD), and the ALLEA European Federation of Academies of Sciences and Humanities. For more information, see 'Our Work' at **https://dri.ie/**

DRI is headquartered at the Royal Irish Academy (RIA), with staff at RIA, Trinity College Dublin (TCD), and Maynooth University (MU). DRI is funded directly by the Department of Further and Higher Education, Research, Innovation and Science via the HEA and the IRC. The Repository is available at: **https://repository.dri.ie/**

Open Research, also referred to as open science or open scholarship, is an approach to research based on open cooperative work, tools, and knowledge sharing for the benefit of science and society. Open research is an umbrella term for a variety of related practices, including open access to publications, open and FAIR (Findable, Accessible, Interoperable, Reusable) research outputs, and alternative methods for research evaluation. Such practices make research processes and their outputs available to the widest possible audience and aim to enhance the quality, efficiency, and impact of research.

Open research reflects a fundamental shift globally towards making research more transparent, collaborative, efficient and democratic. This includes a set of initiatives designed to transition from the standard practice of publishing research results in scientific publications on a subscription-only basis to making research freely available to the public. It spans open access to publications and data as well as research infrastructures for hosting and diffusing data so that others can more easily access, reuse, and build on research results. Open research is relevant to all research irrespective of field and purpose. The term 'open research' is synonymous with the term 'open science' and is used in the Irish context to clarify that all disciplines are included.

The National Open Research Forum (NORF) is co-chaired by the Higher Education Authority (HEA) and the Health Research Board (HRB) with secretariat from the Department of Further and Higher Education, Research, Innovation and Science (DFHERIS). It is coordinated by the National Open Research Coordinator, **Dr Daniel Bangert**, who is based at the Digital Repository of Ireland (DRI). DRI's Director **Dr Natalie Harrower** serves on the Core Oversight Group of the NORF Steering Group, Software Engineer **Dr Kathryn Cassidy** serves on the Infrastructures working group, and Digital Archivist **Kevin Long** serves on the FAIR working group. The funding announced today will be provided by the HEA to the DRI to address open research priorities.
NORF was established in 2017 to drive the national agenda for open research, following earlier work by the National Steering Committee on Open Access Policy (2012). NORF prepared Ireland's **National Framework on the Transition to an Open Research Environment**, launched by the Government of Ireland in July 2019. The National Framework outlines Ireland's objectives for open research in five strategic areas, which map to the current five working groups: open access to research publications, enabling FAIR research outputs, infrastructures for access to and preservation of research, skills and competencies, and incentives and rewards.
The role of NORF is to propose national actions to address the challenges of changing the Irish research system to strengthen, promote or better support open research practices. Across its Working Groups and Coordination Groups, the Forum combines the expertise of more than 90 representatives from policy, research funding, research performing, the library sector, enterprise, and other key stakeholders in the Irish research system.

The publications announced today are available at the following links:

- **National Open Research Landscape Report** (2021)
- **NORF Policy Briefs** (2021)

Contact for further information:
Dr Natalie Harrower, Director
Digital Repository of Ireland,
Royal Irish Academy,
19 Dawson Street,
Dublin 2
n.harrower@ria.ie

The 72nd Irish Chemistry Research Colloquium was hosted as a virtual event by the University of Limerick as an online conference on 17th and 18th of June 2021. The conference organisers were Professor Kevin M Ryan, Dr Hugh Geaney and Dr Shalini Singh from the Department of Chemical Sciences and Bernal Institute at the University of Limerick.

The programme was held over two days with a focus on Chemistry for Sustainability. The Keynote on the Thursday was Professor David Cole-Hamilton University of St Andrews, UK who gave a very inspiring talk on 'The Role of Chemists in a Sustainable World'.

The Keynote on Friday was Professor Tomislav Friscic, McGill University, Canada who spoke on "Promoting Green Chemistry and Sustainability through the Solid State: Sky is the Limit".

There was over 60 speakers across topics of Inorganic Chemistry, Organic Chemistry , Materials Chemistry, Analytical Chemistry, Biochemistry and Nanochemistry

Topics Day 1

Thursday 17th June

09h15 *Welcome Address* Professor Kerstin Mey, President, University of Limerick

09h30 Keynote Talk Prof David Cole-Hamilton University of St Andrews, UK
'The Role of Chemists In a Sustainable World'

10h15 Materials Chemistry (Each talk 15 mins + 5 mins questions)

Daniele Costa da Silva Alves, NUIM: *Development of chitosan/carbon nanotube sponge adsorbent to remove pollutants from H_2O*

Daniela Tomasino, RCSI: Glycosylated Nanoparticles via SET-LR-PISA

Natalia Garcia Domenech, TCD: Development of new nanofiltration membranes using 2D nanomaterials

11h15 Coffee Break

11h30 Inorganic Chemistry (Each talk 15 mins + 5 mins questions)

Aoibhín Cullen, DCU: *Singlet Fission in BODIPY copolymers; a photophysical, TD-DFT, electrochemical and hydrogen evolution study*

Adrian Sanz Arjona, TCD: *Mild Hydrothermal Synthesis of Zircon-type Silicates ($MSiO_4$) as Analogues to Radioactive Species*

Conor Kelly, UCD: *The Trigonal Prism: An Atypical Geometry for Mn^{II}*

12h30 'Thesis in 3' Session 1

Dan Kerr (DCU), Elliot Murphy (NUIG), Colm McKeever (NUIM), Chunchun Li (QUB), Cathal Caulfield (RCSI), Lorna Doyle (TCD), Erika Mooney (TUD), Louise Cooney (UCC), Georgios Papoutsidakis (UCD), Seamus Killian (UL), Abdulmoez Elkhbuli (NUIG), Yuanting Qiao (QUB)

13h15 Lunch Break

14h00 Organic Chemistry (Each talk 15 mins + 5 mins questions)

Luke Marchetti, NUIM: *Amidosquaramides: Towards New Horizons in Anion Recognition*

Kevin Sheehy, UCC: *Rationalising Ambident Reactivity using Marcus Theory*

Christopher Murnaghan, QUB: *Synthesis of advanced biomass models*

15h00 Nanochemistry (Each talk 15 mins + 5 mins questions)

Sean Hennessey, NUIG: *A Prototype Pyrene-Ruthenium Molecular Complex for the Creation of Innovative Photoactive Materials*

Gavin Irvine, QUB: *Biocompatible cross-linked star polymer model networks for drug delivery applications prepared by aqueous polymerisation*

Madhuri Dandamud, WIT: *Topical ocular drug delivery through surface-modified nanoparticles to treat age related macular degeneration*

16h00 Break

16h15 'Thesis in 3' Session 2

Dan (Chau Thuy) Nguyen (WIT), Michal Bartowski (DCU), Syl Byrne (NUIG), Stephen Barrett (NUIM), Anne McGrogan (QUB), Sheila Fitzgerald (RCSI), Adrian Sanz Arjona (TCD), Rory Whelan (TUD), Gerard Pareras (UCC), Jennie O'Loughlin (UCD), Vanya Petseva (UCD)

17h00 Close of Day 1

Topics Day 2

Friday 18th June

09h30 Keynote Talk Prof Tomislav Friscic, McGill University, Canada
"Promoting Green Chemistry and Sustainability through the Solid State: Sky is the Limit"

10h15 Analytical Chemistry (Each talk 15 mins + 5 mins questions)

Fionn O Fearghal, (TUD): *Exploring Shellfish By-Products as Sources of Blue Bioactivities*
Niamh O'Mahoney, (UCC): *Characterisation of Pharmaceutical Formulations using the novel technique Broadband Acoustic Resonance Dissolution Spectroscopy (BARDS).*
Esther Adegoke, (UL): *In situ TEM Studies of Nanocrystal Composition, Structure, and Phase.*

11h15 Coffee Break

11h30 Physical Chemistry (Each talk 15 mins + 5 mins questions)

Tanushree Mandal, (NUIG): *Mediated electrochemistry on electrodes with defined surface area for peroxidase-based sensors*
Eva Clemente, (RCSI): *Probing the glycans accessibility of the biomolecular corona*
Dorottya Krizsan, (UCD): *Dual Emitting Silica Coated Carbon Dot Probes for DNA Detection*

12h30 'Thesis in 3' Session 3

James Flynn (UL), Stephen O'Reilly (DCU), Ioannis Titilas (NUIG), Carl Fogarty (NUIM), Yaoguang Song (QUB), Niamh Curtin (RCSI), June Lovitt (TCD), Kate Byrne (TUD), Alex Lonergan (UCC), Niamh Geoghegan (UCD), Dan O Hearn (UL), Nataly Rey Munoz (UL), Eadaoin Casey (UCC)

13h15 Lunch & Business Meeting

14h00 Biochemistry (Each talk 15 mins + 5 mins questions)

Melisa Finnegan, (DCU): *Wearable colorimetric sensors for biodiagnostic applications*
Kim Shortall, (UL): *Immobilization of aldehyde dehydrogenase employing cofactor regeneration for use in biocatalysis*
Hollie Jenkins, (TUD): *Cytotoxicity of Copper(II) Complexes under Varying Oxygen Conditions*

15h00 'Thesis in 3' Session 4

Fernando Otero (UL), Kavnen Tseke (WIT), Miren Ruiz De Eguilaz (DCU), Ahmed Ahmed (NUIG), Roberta Pacifico (RCSI), June Lovitt (TCD), Eimear Heffernan (UCC), David Mulrooney (UCD), Ashutosh Sharma (WIT), Caytlin Boylan (NUIM), Samantha Bann (QUB)

16h00 Prizes & Close of Day 2

The 72nd Irish Chemistry Research Colloquium

UNIVERSITY OF LIMERICK OLLSCOIL LUIMNIGH | Department of Chemical Sciences

The winning talks were as follows (TIN Thesis in Three)

Talks
Materials Chemistry:
Daniela Tomasino, RCSI

Inorganic Chemistry:
Aoibhin Cullen DCU

Organic Chemistry:
Kevin Sheehy, UCC

Nanochemistry:
Gavin Irvine QUB

Analytical Chemistry:
Niamh O'Mahoney,

Physical Chemistry:
Tanushree Mandal,

Biochemistry:
Kim Shortall, (UL)

TIN Session 1:
Louise Cooney UCC
Michal Bartowski (DCU)

TIN Session 2:
Jennie O'Loughlin (UCD)
Elliot Murphy NUIG

TIN Session 3:
Alex Lonergan (UCC)
Yaoguang Song (QUB)

TIN Session 4:
Miren Ruiz De Eguilaz (DCU)
Fernando Otero (UL)

School of Chemistry

The 73rd Irish Universities Chemistry Research Colloquium

Preliminary Notice

The **Irish Universities Chemistry Research Colloquium** is run annually under the aegis of the **Institute of Chemistry of Ireland**.

University College Dublin will host the **73rd Colloquium** this year on the 15-16th June as the first full face-to-face meeting of chemists on the Island since the Covid pandemic.

It will be hosted by the **UCD School of Chemistry** in the **O'Brien Centre for Science**.

Further details are coming soon. Check UCD and the Institute's web sites:

UCD School of Chemistry

Institute of Chemistry of Ireland (chemistryireland.org)

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh
School of Chemistry
Scoil na Ceimic

UCC Professor appointed to leading role in Ireland's response to the COVID-19 pandemic

Prof John Wenger

j.wenger@ucc.ie Twitter: @johnwenger9

For the past year, Professor John Wenger from the School of Chemistry in UCC has been playing a leading role in advising the government on measures to reduce the risk of COVID-19 transmission. As a specialist in atmospheric chemistry and air quality, he quickly became aware of the airborne nature of the virus and started campaigning for improved ventilation of indoor spaces. Prof. Wenger engaged widely with the public through the media and in early 2021 was appointed Chair of a new Expert Group on Ventilation and its role in the prevention of COVID-19. The Group assessed the scientific literature and public health guidance issued around the world. They delivered a series of recommendations which were used by the Health and Safety Authority to develop improved guidelines on ventilation and related measures to reduce the risk of airborne transmission in the workplace. The advice from the Group was also instrumental in facilitating the Department of Education's decision to supply schools with CO_2 monitors to assess indoor air quality and ventilation in classrooms. The Group has continued to provide advice to the various government departments and agencies through the pandemic.

Along with UCC colleague, Dr Stig Hellebust, Prof Wenger has also been involved in conducting measurements of airborne particles, CO_2 levels and other parameters in a variety of places including airports, hospitals, dental clinics and meat processing plants. The results are used to assess indoor air quality in these environments and provide practical advice on the most appropriate measures and interventions (ventilation, air filtration etc.) for removing airborne particles, thereby reducing the transmission of COVID-19 and other respiratory viruses, such as influenza.

The School of Chemistry in UCC is pleased to announce that it has successfully renewed its Athena SWAN accreditation (Bronze) in the latest round of applications.

The Athena SWAN Charter framework supports work to transform gender equality in higher education (HE) and research and is increasingly used internationally as a quality mark for equality initiatives in HE. Charter members apply for institutional and departmental Athena Swan awards recognising their gender equality efforts.

Chemistry was among the first Schools in UCC, and nationally, to earn Athena SWAN accreditation. Over the past two years, the Schools' Athena SWAN self-assessment team, chaired by Dr Florence McCarthy, conducted self-assessment exercises and surveyed staff to evaluate the impact of a range of equality-focussed measures implemented by the School following their initial accreditation. The successful renewal effectively endorses their revised and updated equality action plans, which the School is now beginning to implement.

Dr Humphrey Moynihan, Head of the School of Chemistry, said "We are thrilled that the School of Chemistry has achieved renewal of its Athena SWAN Bronze award. This is the culmination of much hard work by Dr Florence McCarthy and the School EDI Committee and also reflects the commitment and enthusiasm for Athena SWAN principles throughout the School. We are looking forward to driving forward our action plan and working towards Silver award status in the coming years."

Dr Florence McCarthy, chair of the School of Chemistry's EDI Committee said: "We are delighted to have successfully renewed our Athena SWAN Bronze award. This reflects the commitment of staff in the School to equality, diversity and inclusion and the principles of Athena SWAN. The delivery of our action plan towards 2024 is now a key objective and one we look forward to implementing."

The awards will be formally announced by AdvanceHE Ireland in the forthcoming public announcement of the outcomes of the November 2021 Athena SWAN submission round.

DCU Appoints a New Head of the School of Chemical Sciences at Dublin City University

Professor Silvia Giordani joined the School of Chemical Sciences at Dublin City University as Professor Chair of Nanomaterials in 2018 and took on the role of Head of School in 2020.

Previously she received her PhD in Chemistry from the University of Miami, USA and carried out postdoctoral research at Trinity College Dublin (TCD) and at the University of Trieste, Italy. In 2007 she received the prestigious President of Ireland Young Researcher Award and was a Research Assistant Professor at TCD from 2007 to 2013.

In 2013 she founded and directed the new "Nano Carbon Materials" research lab at the Istituto Italiano di Tecnologia (IIT) and in December 2016 she was appointed Associate Professor in Organic Chemistry at the University of Turin, Italy. Her main research interests are in the design, synthesis, and characterization of a wide range of nanomaterials for applications in smart and responsive bio-related nanotechnologies.

She is the author/co-author of more than 130 manuscripts, reviews and book chapters. She is the recipient of many international prizes and honours including the L'Oreal UNESCO for Women in Science fellowship, the William Evans visiting fellowship from the University of Otago (New Zealand) and is a Visiting Scientist to the Bio-Nano Institute at Toyo University (Japan).

Her research has been featured in "Where I work" published in Nature on the 20th May 2021:

https://www.nature.com/articles/d41586-021-01322-2?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed:+nature/rss/current+(Nature+-+Issue)

New South East technological University will be formally established in May 2022

Minister Harris announces establishment of Technological University for South East in 2022

From Department of Further and Higher Education, Research, Innovation and Science

2 November 2021

Minister for Further and Higher Education, Research, Science and Innovation Simon Harris TD has today (Tuesday) announced a Technological University is to be established in the South East in the 2021/2022 academic year.

The application for such designation was made jointly on 30 April 2021 on behalf of the Institute of Technology Carlow and Waterford Institute of Technology (known as the TUSEI consortium) under the Technological Universities Act 2018.

Minister Harris said:

"This is a really exciting day for higher education in the South East region, signalling the establishment next year of a multi-campus university presence across the region.

"After years of debate, the establishment of this new technological university will become a reality next year, and the South East can look forward to it increasing higher education access, driving enhanced regional development and increasing opportunities for students, staff, business and enterprise, and local communities across Carlow, Kilkenny, Wexford and Waterford.

"We will continue to invest in this new university with new campuses in Wexford and Waterford. The footprint of this TU will be felt right across the region. Students graduating in the current academic year will be the first to do so in the region with locally sourced university qualifications."

The Minister concluded:

"I would like to warmly congratulate and sincerely thank the very many people from the two Institutions including their management, governing bodies, staff, students and the wider regional and community stakeholders who have enabled today's announcement and who can now look forward to an exciting future for this new university.

"I would like to thank the HEA, and the international advisory panel for their important roles in the assessment of the application. The HEA will now seek to finalise remaining operational elements in line with the advice of the advisory panel in preparation for establishment next year. The HEA will continue to keep me informed and advise me on these matters."

Minister Harris's Department will shortly be inviting expressions of interest for the roles of chairperson and two external members of what should become the first governing body of the new TU.

Welcoming the announcement, Tánaiste Leo Varadkar TD said:

"This is really excellent news for the South-East. It will make it easier for the IDA to secure foreign direct investment for the region and is sure to become an incubator for new Irish businesses which will become major employers in their own right. University of Limerick had a transformative effect on the city and Mid-West region. I believe the same can happen now in Waterford and the South-east."

Minister of State for Further Education and Skills Niall Collins TD said:

"This is the culmination of decades of work by Waterford and Carlow and it will finally become a reality next year. TUs have the power to transform regions and a TU serving the South East will be a game changer for Waterford and Carlow and the wider region."

Dr Alan Wall, chief executive of the HEA said:

“I greatly welcome the progress made by the Institute of Technology Carlow and Waterford Institute of Technology towards Technological University status. We look forward to working with both institutions towards their designation as Technological University in 2022.”

Our TU will be known as South East Technological University21

February 2022 will be remembered as a historic day for Waterford and the south east. We will remember it as the day Minister Simon Harris confirmed that our institute, along with our partners IT Carlow, will become a technological university on 1 May 2022.

We learned also that our new university will be known as South East Technological University. We learned that our new Chair will be Prof Patrick Prendergast whose standing in the academic and research community is extraordinarily high and he will be joined by Ruth Beadle from Sanofi and Jim Bergin from Glanbia Ireland as SETU governing body appointees.

Prof Willie Donnelly, President of WIT welcomes South East Technical University video:
Prof Willie Donnelly, President of WIT welcomes South East Technological University (SETU) - YouTube

How we say and write the new name

South East Technological University will be abbreviated to SETU. There are no dots or full stops in the abbreviation. SETU is pronounced by saying the individual initials rather than an acronym, i.e. S E T U. "South East" in South East Technological University is two standalone words with no hyphenation.

A quick list of do’s and don’t’s

- South East Technological University, not **the** South East Technological University
- South East Technological University, not South-East Technological University
- South East is two words and always uppercased as it is an official title of an organisation
- South East is not hyphenated in the title of the new entity

- The Irish version is Ollscoil Teicneolaíochta an Oirdheiscirt - please note that the "an" in the Irish is lower case while all the other words are uppercase

- In the second and subsequent instances (the shortened version of the name) it is SETU, not South East TU nor South-East TU

- SETU is pronounced as individual letters of the alphabet "S E T U", not "S EH TOO" nor "SEE TOO"

- Never use dots or full points ie never S.E.T.U.

- SETU is singular. Refer to SETU as "it" rather than "they"

- It was commonplace to refer to ‘the Institute’ in internal communications, this can be replaced by ‘the University’ or SETU

- Note for readability it's best to lower case south east when referring to the region i.e. the south east’s first university

Naming research

The naming of Ireland’s newest technological university is the result of a robust research and engagement process with strategic marketing agency MCCP.

The strategic communications and branding work included significant desk research; online surveys conducted with 2,500 staff, current students, prospective students and their parents; focus groups with prospective students and their parents; and a series of in-depth interviews with stakeholders in the region. This was followed by a testing phase.

Two common themes emerged: the south east provided a unique and strong sense of place and the new university should reflect its new status as a technological university and these together informed the name recommendation.

Developments in Third Level Education for Tallaght and West Dublin.

Since its foundation in 1992 as a RTC (Regional Technical College), the college in Tallaght has built up an impressive record supporting and focusing on the third level educational needs of youth in the Tallaght locale and West Dublin region. A major milestone for the Applied Science Department was the development of strong links with the Pharmaceutical Sector providing a range of skilled graduates through both full and part time educational courses. From the start students were offered a range of qualifications ranging from two year Higher Certificate programmes, progressing to degrees and post graduate PhD qualifications. These options were all part of a ladder system of qualifications allowing students to exit and re-enter at different levels depending on their needs.

As part of its evolution the college was renamed as the Institute of Technology Tallaght in 1998 and ultimately became a Technological University in 2019. This was created by amalgamating DIT, Institutes of Technology Blanchardstown and Tallaght. Ireland's first Technological University has now created a new Science School including departments from Chemical Sciences in DIT and Applied Science in Tallaght.

The Tallaght campus now has three new departments/disciplines specialising in BioPharmaceutical Science, BioPharmaceutical Manufacturing Technology and Forensic Science. The new school has a student population close to 1700 students covering both the City and Tallaght campuses.

An exciting addition to the school is the Forensic Science Discipline offering fully accredited qualifications and crime scene investigation experience, the only one of its kind in Dublin.

The BioPharmaceutical capability within the Tallaght campus includes a state-of-the-art pilot plant for creating a real-world processing experience for students, advanced PAT laboratory and fully equipped Analytical laboratories, where students get hands-on experience using advanced analytical instrumentation.

The new Science School will be pooling valuable academic/industrial expertise to expand our expert research teams and become a valuable resource. The Tallaght campus still provides valuable support for start-up companies in the Synergy Centre with 16 office units and further resources are provided by the CASH (Centre for Applied Science and Health) building, which includes start of the art research laboratories. The purpose of our new School of Science in TU Dublin is to "nurture creative, inquisitive and an entrepreneurial mind-set amongst our students. The objective is to make them career-ready whilst also ensuring an awareness of their wider role in society.

We will achieve this through research, public and private collaborations and sustainability-informed teaching and learning which is relevant, challenging and transformational. Our guiding principle for transformational learning will be excellence in all that we do." Our commitment to delivering quality education to the Tallaght region will continue and is now even stronger that we are a Technological University.

Technological University Dublin Tallaght Campus

New Head of Applied Science in TU-Tallaght Campus

Dr Edwin Carey is a recent appointment as Head of Department of Applied Science. He has over 30 years educational and research experience working in the Technological University, Dublin and 15 years working in the Pharmaceutical Industry before being appointed.

Previous education qualifications includes a BA(Mod) from TCD , MSc and PhD from UCD. Was one of the founders of SkillPad Ltd over 20 years ago specialising in eLearning/online solutions and creating specialised training for the Healthcare Industry.

Professor Denise Rooney is the new Head of Chemistry at Maynooth University

Members of the Chemistry team involved in the Virtual Labs HCl P3 Initiative at Maynooth University (From left to right: Professor Carmel Breslin, **Professor Denise Rooney**, Dr. Marwa Aly and Professor Frances Heaney)

Denise Rooney was awarded her BSc (hons) in Chemistry in 1987 from Queen's University Belfast. She obtained her PhD on the Time-Resolved Raman Spectroscopy and Photolysis of Transition Metal-Carbene Complexes in 1991 under the supervision of Prof John McGarvey at QUB. She then carried out post-doctoral research at the University of York with Prof Robin Perutz (FRS).

She took up a position as a lecturer in Inorganic Chemistry at Maynooth University in 1994. Her research has centred on Metal Complexes and Materials Chemistry. Recently with the widespread rise of antimicrobial resistance her research has centred on investigating the antimicrobial properties of novel metal complexes. Metal complexes have potential in this regard as they have access to unique modes of action and can adopt a range of coordination geometries and redox states allowing for greater variation than is possible for organic molecules.

She has published on compounds that show activity against a range of microbes, including bacteria of high concern i.e. *M. tuberculosis* and *Methicillin-resistant Staphylococcus aureus*. She is a member of the steering committee for the Kathleen Lonsdale Institute for Human Health Research at Maynooth University. Denise was elected as the Associate Dean of the MU Faculty of Science and Engineering in 2019 and she was appointed as Head of Department of Chemistry in March 2020.

She is committed to promoting an inclusive and equitable culture and she was involved with the Department receiving its Athena Swan Departmental Bronze Award in 2021 and she is a member of the

Faculty Equality, Diversity, and Inclusion Committee. Denise has a strong interest in both undergraduate and postgraduate education. She has acted as sole supervisor or as co-supervisor for 18 postgraduate research students.

Across her career her research has attracted funding from agencies such as SFI, EI, DAFM and the EPA. She was awarded the Dean of Graduate Studies Doctoral Supervision Award in 2019. She is a member of the Maynooth University Graduate Education Committee and the Faculty Teaching and Learning and Research Committees. She is currently leading, with MU Prof's Frances Heaney and Carmel Breslin, an exciting large scale HEA Human Capital Initiative Pillar 3 project on the use of Virtual Laboratories as a teaching tool for the chemical sciences. The project involves five higher education institutions, Maynooth University, Technological University of the Shannon: Midlands Midwest, Dundalk IT, University College Cork and Dublin City University.

This ambitious venture, with enterprise partners and education technology providers will involve up to 5,000 students across the five partner HEI's over its lifetime. The project will design a new curriculum to equip the next generation with the enhanced technical and work readiness skills critical for success in the modern chemical sciences sector.

Another for Maynooth University Chemistry Department was a paper in Nature in 2021:

Dr Elisa Fadda Associate Professor in the Chemistry Department is a computational chemistry was co-author of a paper in Nature on a study of SARS Co-V2 in 2021

ELISA FADDA	Nature Chemistry, **volume 13**, pages 651–659 (2021)	SARS-CoV-2 simulations go exascale to predict dramatic spike opening and cryptic pockets across the proteome	Zimmerman M.I.;Porter J.R.;Ward M.D.;Singh S.;Vithani N.;Meller A.;Mallimadugula U.L.;Kuhn C.E.;Borowsky J.H.;Wiewiora R.P.;Hurley M.F.D.;Harbison A.M.;Fogarty C.A.;Coffland J.E.;Fadda E.;Voelz V.A.;Chodera J.D.;Bowman G.R.

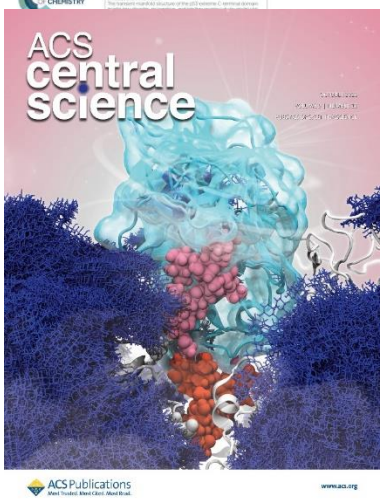
SARS-CoV-2 simulations go exascale to predict dramatic spike opening and cryptic pockets across the proteome.
24 May 2021
SARS-CoV-2 simulations go exascale to predict dramatic spike opening and cryptic pockets across the proteome | Nature Chemistry DOI https://doi.org/10.1038/s41557-021-00707-0

Amongst many other publications she made the front cover of PCCP in 2017 which is a RSC Journal in which the Institute has an interest, receiving a fee if an Irish Chemists publishes a paper in it.

PCCP, 19(32):21287-21296 28 August 2017

http://dx.doi.org/10.1039/C7CP02485A

Also featured in two other prestigious publications:



ACS Central Science (in collaboration with Prof Amaro at UCSD, 2020). And

Chemical Science (2022)

TUS
Technological University of the Shannon: Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne: Lár Tíre Iarthar Láir

University College Dublin
Ireland's Global University

RCSI

QUEEN'S UNIVERSITY BELFAST

lyit | Institiúid Teicneolaíochta Leitir Ceanainn
Letterkenny Institute of Technology

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

PMBrc
Pharmaceutical & Molecular Biotechnology Research Centre

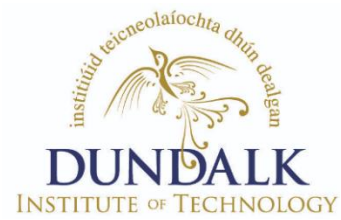
MTU
Ollscoil Teicneolaíochta na Mumhan
Munster Technological University


Institiúid Teicneolaíochta
Bhaile Átha Luain
Athlone Institute
of Technology


LIT
ACTIVE LEADERSHIP IN
EDUCATION, ENTERPRISE
AND ENGAGEMENT


GMIT
INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EO
GALWAY-MAYO INSTITUTE OF TECHNOLOGY


NUI Galway
OÉ Gaillimh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INSTITUTE OF TECHNOLOGY

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Physical Chemistry Chemical Physics
14 November 2021, Issue 42,
Page 24065 to 24520
https://pubs.rsc.org/en/journals/journalissues/cp#!issueid=cp023042&type=current&issnprint=1463-9076

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 19 national chemical societies. The journal is published by the Royal Society of Chemistry on a not-for-profit basis for the benefit of the whole scientific community.

Impact factor: 4.493*
Publishing frequency: 48 per year
Indexed in MEDLINE and Web of Science

Chemistry and related Science around the World

Chemistry and Related Technology

New computational approach predicts chemical reactions at high temperatures
1 December
https://phys.org/news/2021-12-approach-chemical-reactions-high-temperatures.html

Developing wafer-scale highly oriented graphene on sapphire
1 December
Developing wafer-scale highly oriented graphene on sapphire (phys.org)
http://dx.doi.org/10.1126/sciadv.abk0115

Nature Promises To Upend Plastics Recycling
1 December

Colour-changing magnifying glass gives clear view of infrared light
3 December
Colour-changing magnifying glass gives clear view of infrared light | University of Cambridge

125 years of synthetic graphite in batteries
3 December
125 years of synthetic graphite in batteries (innovationnewsnetwork.com)

OSU research analyses using direct ethanol fuel cells in auto industry
3 December
OSU research analyses using direct ethanol fuel cells in auto industry (innovationnewsnetwork.com)

Entanglements make hydrogel stiff and tough
26 November
Entanglements make hydrogel stiff and tough – Physics World

Scientists Have Created Ice-19, A Brand New State of Matter
2 December
https://interestingengineering.com/scientists-have-created-ice-19-a-brand-new-state-of-matter

Growing carbon footprint of plastics
2 December
Growing carbon footprint of plastics | ETH Zurich
https://doi.org/10.1038/s41893-021-00807-2

This Element Could Have Been Crucial to The Evolution of Complex Life on Earth

7 December
This Element Could Have Been Crucial to The Evolution of Complex Life on Earth (sciencealert.com)
https://doi.org/10.1073/pnas.2109865118

The Molecular Structure of Black Widow Spider Venom Is Revealed

7 December
The Molecular Structure of Black Widow Spider Venom Is Revealed | Technology Networks
See molecular structures:
https://doi.org/10.1038/s41467-021-26562-8

Cracking the Synthetic Code of Rare Molecules

7 December
Cracking the Synthetic Code of Rare Molecules | Technology Networks
More details see:
https://www.lunduniversity.lu.se/article/researchers-crack-synthetic-code-rare-molecules-sought-after-drug-development

Stabilization of Amorphous APIs

3 December
Stabilization of Amorphous APIs (pharmtech.com)
C. Challener, "Stabilization of Amorphous APIs," Pharmaceutical Technology 45 (12) 2021.

Teaching an old chemical new tricks

6 December
Teaching an old chemical new tricks - Cold Spring Harbor Laboratory (cshl.edu)

On-water surface synthesis of charged two-dimensional polymer single crystals via the irreversible Katritzky reaction

6 December
On-water surface synthesis of charged two-dimensional polymer single crystals via the irreversible Katritzky reaction | Nature Synthesis
https://doi.org/10.1038/s44160-021-00001-4

Nature Synthesis – New Journal

3 December
An introduction to Nature Synthesis - YouTube

How to tell a compelling story in scientific presentations

1 December
How to tell a compelling story in scientific presentations (nature.com)
https://doi.org/10.1038/d41586-021-03603-2

Three WIT faculty members awarded Irish Research Council Research Ally Prize | WLRFM.com

8 December
https://www.wlrfm.com/news/wit-staff-research-awards-224549

Novel Chemical Design Makes Hard Crystals Stretchy

8 December
Novel Chemical Design Makes Hard Crystals Stretchy | Dartmouth

Understand the real reasons reproducibility reform fails
6 December
Understand the real reasons reproducibility reform fails (nature.com)
https://doi.org/10.1038/d41586-021-03617-w

New Tech That Can Produce CO Could Help Climate and Industry
9 December
New Tech That Can Produce CO Could Help Climate and Industry | Lab Manager
Electrocatalytic Reduction of Low Concentrations of CO2 Gas in a Membrane Electrode Assembly Electrolyzer | ACS Energy Letters
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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.

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HB11 Energy | new Laser Hydrogen-Boron fusion energy

HB11 Energy | new Laser Hydrogen-Boron fusion energy | Australia | HB11 Energy develops Laser Hydrogen Boron-11 fusion to provide a new source of unlimited, clean, safe and reliable energy. Our mission is to generate electricity using laser-ignited non-thermal fusion.

About HB11 Energy

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About | HB11 Energy | new Laser Hydrogen-Boron fusion energy | Australia

e-Alert: February 2022

SFI Industry RD&I Fellowship

SFI is pleased to launch the **SFI Industry RD&I Fellowship 2022 Call**. This programme supports academic partnerships with industry. Grants can be awarded to academic researchers wishing to spend time in industry to support industry-informed research and the exchange of knowledge and expertise between academia and industry.

This programme will operate through a single call for proposals with **two** submission deadlines. The first submission deadline (Call A) is **18th May 2022** at 13:00 (Dublin local time). The second submission deadline (Call B) is **19th October 2022** at 13:00 (Dublin local time).

An information webinar will be held on **9th March 2022** at 11am. To register for the webinar and for full information of the programme and the 2022 Call please visit link below:

SFI Industry RD&I Fellowship Programme

Contact Us

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SFI Science in Ireland Barometer highlights the public's attitudes towards science

Download detailed report here: Science in Ireland Barometer 2020 (sfi.ie)

Highlights:

- 47% feel the COVID-19 situation has improved some aspects of their daily life
- Majority continuing to trust both science (93%) and scientists (81%)
- News consumption continues to be high but major change in types of news consumed

Monday 20 December 2021: Science Foundation Ireland's (SFI) has today published the second phase of its Science in Ireland Barometer findings, which reveal the attitudes of the Irish public towards science. The results of the survey show that public attitudes towards science remain extremely positive, with an overwhelming majority of people indicated that science is fascinating (97%), useful (97%) and essential (94%).

Irish trust in science has also remained strong in 2021, with the majority continuing to trust both science (93%) and scientists (81%).

The Barometer research findings show the ways in which the Irish population's science attitudes have shifted since the peak of the Coronavirus (COVID-19) pandemic in the summer of 2020, when the first phase of this research was conducted.

Notably, this second phase of the research highlights that more people agreed (47%) that the COVID-19 situation has improved some aspects of their daily life' compared to those who disagreed (40%).

Despite this, the research also shows that the COVID-19 pandemic has had a continued negative effect on people's mental health, with 9% more people (40%) reporting that their mental health has been negatively affected, compared to 2020 (31%).

News consumption continues to be high amongst respondents but there has been a major change in the public's interest in different types of news. The research shows that there has been a dramatic increase in

those surveyed indicating an interest in 'technology news' (+74%; 83% overall), 'health news' (+56%; 64% overall) and science news (+52%; 59% overall). Since 2020, there has also been a decrease (-13%; 27%) in the number of people who completely trust their primary COVID-19 news source.

Director of Science for Society, Science Foundation Ireland, Dr Ruth Freeman, said: "The Barometer offers us the opportunity to assess progress on our goal of empowering and inspiring deep public engagement with STEM – a key objective within Shaping Our Future: Science Foundation Ireland's Strategy 2025. Having a clear understanding of attitudes to science is invaluable to inform and shape how our work meets the needs of the people of Ireland.

"It is also extremely important to understand the public's perception of how they value science in their everyday lives and their own scientific capabilities, so we can adapt as required. Given the prominence of science during Covid-19, it was extremely positive to see that the Irish population continued to value science strongly in their personal lives. In 2021, an even greater majority of people (+5%) agreed that it is important for them personally to be informed about science (91%). As we continue to live through the Covid-19 pandemic, it is important we have an increased understanding of its impact on our perceptions of science and daily lives."

In addition, the research shows that there has been a notable shift in peoples working lives since 2020, with 21% fewer people working from home (23%).

Phase 2 of the SFI Science in Ireland Barometer 2020 can be access here

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First Horizon Europe European research call results in €12 million in funding for Ireland

10 January 2022

Monday 10 January 2022: Eight Ireland-based researchers have each been awarded an average of €1.5 million in European Research Council (ERC) funding following the inaugural call for proposals, which come under Horizon Europe, the 9th EU funding programme for Research and Innovation.

Launched in late February 2021, the ERC Starting Grant funding announced today will fund transformational research in frontier science, leveraging top-tier, early career talent from across Europe and beyond to address global challenges. With a 24% increase in applications compared to the 2020 call, the 2021 ERC Starting Grant was the most competitive in ERC history, attracting over 4,000 applications. Female researchers won 43% of grants, an increase from 37% in 2020 and the highest share to date. Six of the Ireland-based awards were won by female researchers.

Spanning across all ERC domains, the eight Ireland-based awards represent a strong start in Horizon Europe after the success achieved through the last H2020 framework programme and reflects the exceptional standard of research talent in Ireland. As the National Delegate and one of the National Contact Points for ERC funding in Ireland, Science Foundation Ireland (SFI) congratulated the awardees on winning this world renowned award against stiff competition, with researchers in SFI Research Centres and Individual-led SFI research programmes successfully competing for ERC funding.

Dr Ciarán Seoighe, Deputy Director General of SFI said: "The 2021 ERC Starting Grants were the most competitive in history so it is particularly impressive to see Ireland double its number of awardees from 2020 to 2021 in this highly prestigious programme. Horizon Europe is a critical part of the funding landscape across all disciplines. Many congratulations to the eight awardees of the ERC Starting Grants. I hope Ireland-based researchers will continue to compete successfully across all programmes in the years ahead."

The new laureates will conduct their pioneering research across University College Cork (3), University College Dublin (2), University of Limerick (2) and Maynooth University (1).

Dr Maria Aburto, a former Marie Curie Individual Fellow at the Department of Anatomy and Neuroscience, and a researcher at the APC Microbiome Ireland SFI Research Centre, hosted by University College Cork (UCC), said: "The ambitious RADIOGUT (Radial Glia as Neurodevelopmental Mediators Of Gut Microbiota Signals) project aims to explore how our gut microbiota (the trillions of microbes that inhabit our gut) influences host brain and behaviour during perinatal life, which is a critical window of time when the brain and the gut microbiota develop simultaneously. I am delighted to receive this prestigious funding award from the European Research Council to lead this innovative high-impact science program to tackle an important unsolved and unexplored scientific question."

Dr Ailise Bulfin, a researcher at the University College Dublin (UCD) School of English, Drama and Film, said: "The scale of this ERC award means that my project can shed light not just on how the critical issue of child sexual abuse (CSA) is represented across the wide range of cultural works that depict it, but also on the ways that these works may affect their audiences. Throughout its conception the project has been generously supported by the insights and advice of survivors of CSA and support professionals who work with survivors. The award allows me to create knowledge that will be of benefit to these groups and to the wider community as it aims ultimately to illuminate how fictional works may shape public understandings of CSA, which in turn affect CSA prevention efforts and survivors' health outcomes.

Dr Eoghan Cunnane, a senior researcher at the School of Engineering, University of Limerick (UL) and co-founder of the start-up company Class Medical, said: "I am thrilled to receive this award and to begin establishing my own independent research group. It is a great honour for me to join the ranks of principal investigators on this island that I have admired for so long. This ERC funded project will allow me to continue working in the field of urological research on the increasingly important topic of male infertility."

Dr Sarah Guerin, a Molecular Modelling Researcher at SSPC, the SFI Research Centre for Pharmaceuticals at UL, said: " I am delighted to be awarded this grant and am excited to establish a world-leading research group in Ireland. The acceleration of eco-friendly piezoelectric technologies will be of huge importance to the Irish economy while greatly reducing the environmental impact of electromechanical sensing technologies worldwide. I look forward to attracting diverse talent to the west coast and pushing the boundaries of materials science research."

Dr Piotr Kowalski, a biomedical researcher leading a research group based at UCC's School of Pharmacy and a researcher at the APC Microbiome Ireland SFI Research Centre, said "I am thrilled by the support from the ERC allowing me to pursue transformative and impactful research tackling unmet health challenges. RNA-based drugs are a new class of biologics on the path to becoming a major platform in drug development, as evidenced by the recent success of the mRNA-based vaccines against SARS-CoV-2."

Dr Alice Mauger, a researcher at UCD's School of History, said "I am exceptionally grateful and delighted to receive this ERC Starting Grant. This funding will enable me to lead a team of talented researchers from the fields of alcohol and drugs history and the history of medicine, welfare and mental health to conduct ground-breaking research into the experiences and representations of the Irish using the lens of alcohol and drug use."

Dr Aisling McMahon, Associate Professor in Law at the Department of Law, Maynooth University, said: "I am delighted and honoured to be awarded this ERC grant. It will enable me to build a team of

researchers to develop a much-needed analysis of the bioethical implications of patents over technologies related to the human body for how we treat, use and modify the body. Ultimately, its aim is to reimagine European patent decision-making to embed such bioethical considerations within it for technologies related to the body, which I hope will have important conceptual and policy impacts for human health and flourishing more generally."

Dr Qian Lijuan, an Irish Research Council MSCA COFUND Fellow at the Department of Music, UCC, said "The rapid spread of digital media and globalized forms of entertainment brings a new threat to indigenous cultures. Working alongside musicians and cultural activists in China, I'll be researching how ethnic minority villagers can overcome this challenge through using mobile phones to sustain their languages, traditional songs, music and dances into the digital age. The award will be transformational in allowing me to see a long-term project through from initial set-up all the way to the measurement of social impact."

Irish researchers unlock breakthrough approach to repair peripheral nerve damage

17 January 2022

- *The team's approach mimics the body's own natural nerve repair processes to repair damaged nerves*
- *The novel device supported improved recovery responses at 8-weeks post implantation in pre-clinical studies*
- *Study part of an ongoing partnership between RCSI, AMBER and Integra LifeSciences, ensuring clinical relevance and pathway from lab to patient*

17th January 2022: Researchers from the RCSI University of Medicine and Health Sciences, AMBER, the SFI Research Centre for Advanced Materials and BioEngineering Research along with leading global medical technology company Integra LifeSciences, today announced new breakthrough for nerve repair therapies based on body's own processes in the journal Matrix Biology.

The pre-clinical study showed that use of extracellular matrix (ECM) supports improved nerve fibre regeneration across large nerve defects without the need for application of additional cells or growth factors. In these pre-clinical trials, the team's novel ECM-loaded medical device known as a 'nerve guidance conduit', was shown to support improved recovery responses at eight weeks following the repair of traumatic nerve lacerations with substantial loss of tissue.

The research team found that by fine-tuning the combination and ratio of ECM proteins and loading them into the nerve guidance conduit, it was possible to support increased pro-repair inflammation, increased blood vessel density, and increased density of regenerating nerves, all as compared to standard of care. By mimicking the body's nerve repair processes, this new approach may eliminate the need for additional stem cells and drug therapies.

Peripheral nerve injury is a major clinical problem and is known to affect more than 5 million people worldwide every year, leaving those afflicted with loss of motor or sensory function to muscles or skin. Current therapies to repair nerve damage involve transplanting the patients' healthy nerves to repair damage or implanting an artificial nerve guidance conduit. The team's novel patented approach to nerve repair has been shown to increase the density of regenerating long-nerve structures, known as axons, and to generate a strong increase in blood vessel density to better support the regenerating tissues.

Commenting on the results, **lead authors Drs Alan Hibbitts and Zuzana Kočí from the Tissue Engineering Research Group based at Dept of Anatomy and Regenerative Medicine at RCSI, and AMBER,** said: "In our lab-based trials, we discovered that at eight weeks post implantation our nerve guidance conduit had successfully improved the prognosis for nerve regeneration and repair over the current clinical gold standard. Our conduit supported clear improvements in nerve repair and blood vessel formation and most importantly, we saw that we could scale this up to approach very large nerve defects in our pre-clinical studies."

Regarding the success of this study, **Prof Fergal O'Brien, Principal Investigator on the project and Professor of Bioengineering and Regenerative Medicine, Head of Tissue Engineering Research Group at RCSI and Deputy Director of AMBER**, said the partnership between RCSI, AMBER and Integra LifeSciences was critical to ensure clinical relevance and a pathway from lab to patient.

"Working with Integra Chief Scientist, Dr Simon Archibald, the research had a clear focus – to create a device based on scientific excellence with improved outcomes that would translate well through regulatory assessment, into the clinical setting, and ultimately, patients. This provides a more direct route to market and therefore the potential for faster real-world impact in improving patient quality of life."

Dr Simon Archibald, Chief Scientist at Integra LifeSciences added: "We have partnered with Prof Fergal O'Brien and his team at RCSI to innovate new solutions in regenerative medicine since 2005, and over that time, we have rapidly accelerated the development and translation of new biomaterials. We are enthusiastic for the future potential of this iterative innovation to address long-gap nerve repair, building on our current leading clinical materials for short-gap nerve repairs. Placing Integra at the coalface of research enables us to bring our expertise to the heart of the scientific process and identify clinically relevant solutions based on cutting-edge science, to improve patient outcomes and the most efficient pathway from the lab to clinical setting."

Detailing his teams' plans, **Professor O'Brien** said: "Our new ECM-enhanced nerve guidance conduits are part of my team's ongoing research to address long peripheral nerve defects in partnership with Integra LifeSciences. The outputs from this project will address increasingly challenging nerve defect distances with the ambition to relieve the current clinical reliance on grafted nerves and move into the next phase of pre-clinical trials. Our partnership with Integra LifeSciences has been essential to this process, and we look forward to an ambitious programme of work that will advance continued enhanced treatments for nerve damage and injury."

Research funding organisations collaborate to improve assessment in grant funding

19 January 2022

Science Foundation Ireland (SFI) has announced the publication of a collaborative report produced by the SFI-led Funding Organisations for Gender Equality Community of Practice (FORGEN CoP) and the San Francisco Declaration on Research Assessment (DORA).

The report was produced following a joint workshop held for funding organisations in 2021, which explored strategies that can help to mitigate potential bias that can occur when narrative CVs are used in grant evaluation and to optimise their use in research assessment.

A narrative CV highlights research outputs and achievements, as opposed to providing lists of publications and grants, and can be used as an alternative approach to assess researchers. It focuses on the quality and relevance of these achievements in relation to the research proposed, rather than solely on quantity of outputs over time or metrics as a substitute for quality. The narrative CV also allows a wider breadth of research outputs to be included for evaluation. This approach may support researchers that have had non-linear career paths or career breaks by removing the focus on metricised research productivity, which can be affected by periods of leave.

The San Francisco Declaration on Research Assessment (DORA) recognises the need to improve the ways in which the outputs of scholarly research are evaluated beyond widely used journal impact factors. The declaration was published in 2012 and has become a worldwide initiative. SFI is a signatory of DORA and a member of the DORA funder discussion group which was set up in March 2020 to allow for further discussions and communication about research assessment reform.

The SFI-led FORGEN CoP has collaborated with DORA's funder discussion group to enable funding organisations to accelerate the development of new policies and practices leading to positive culture

change and best practice in gender equality in research and innovation funding. Methods to assess the applicant are key in grant evaluation as inequalities in the grant evaluation processes are more prevalent when assessments are focused on the researcher, as opposed to the research.

A short report that captures learnings from the workshop, and identifies a course of action to improve narrative CVs as a tool for assessment, can be accessed here.

DORA and FORGEN CoP-SFI have partnered with the Swiss National Science Foundation, and UK Research and Innovation to collectively build on this work, with a second workshop for research funders planned for February 2022. This workshop will aim to identify shared objectives for the use of narrative CVs in grant funding and determine how funding organisations can work collaboratively to monitor their effectiveness. If you work at a public or private research funding organisation and would like to participate, please email diversity@sfi.ie.

Dr Rochelle Fritch (Scientific Programme Manager, Research Policy, Science Foundation Ireland) leads the Funding Organisations for Gender Equality Community of Practice (FORGEN CoP) and represents SFI in the DORA funder discussion group.

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

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Researchers develop scalable graphene production method

21 January 2022

Researchers at AMBER, the SFI Research Centre for Advanced Materials and BioEngineering Research and Trinity's School of Physics, alongside colleagues in researchers at the Cambridge Graphene Centre, University of Cambridge, Newcastle University, the University of Stavanger, Norway today announced the development of next generation low-cost scalable production method for graphene in the Nature journal 2D Materials and Applications. Their process could substantially reduce graphene production costs to ~£20 per litre once scaled due to carbon's elemental abundance and produce multi-tonne quantities if successfully commercialised, far exceeding the current global graphene supply ~ 1 kilotonne. These cheap, scaleable production methods are needed to accelerate the adoption of graphene to industry and encourage graphene manufacture that has previously been hampered by high capital equipment and labour costs.

Graphene and other atomically thin '2D materials' are expected to find major commercial applications in the coming years due to their unique electrical, optical, mechanical, chemical and thermal properties. Graphene can be used as a barrier material for anti-corrosion, an additive for mechanical reinforcement in polymers, or as a conductive material in sensors. These applications will require high-quality defect free graphene supplied in vast quantitates far - exceeding current supply – and at low cost.

The teams approach is based on the process of exfoliation of graphite – an abundant bulk material commonly found in pencils – that is made up of layers of graphene. They have found a process by engineering the fluid dynamics to exfoliate graphene flakes from graphite with minimal defects due to the reduced turbulence of the system; such high-quality graphene is necessary for applications that require high conductivity, such as the electronics or energy storage industry. The new method not only produces high-quality graphene 'flakes' suitable for industrial commercialisation but is also a low-cost, in-line, and an enclosed process that is semi-automated, recycles unused graphite – making it super efficient.

Building on this approach the team created high-quality graphene inks and used household ink-jet printers to make conductive interconnects and lithium-ion battery anode composites that could potentially connect a battery to a textile sensor which could then be used to measure vital signs in the wearable health industry, amongst other applications. Given the applications in wearable electronics, textile electronics, composites and printed interconnects that could involve human contact with high concentrations of graphene the team worked with colleagues at the University of Stavanger, Norway, to determine the biocompatibility of the graphene inks. Repeated measurements showed no acute toxicity found when using the highest concentration of graphene in 48h cell culture treatments.

Lead author on the study Dr Tian Carey suggests this is just to start of investigations: "We have demonstrated energy storage composites and printed electronic components in our work however, there are many more applications that could be achieved with the graphene inks, such as reinforcement composites or printed sensors. Also graphene is just one example of a conductive 2D material; there are hundreds other lesser-known 2D materials which have different but complementary electronic behaviour that we can apply this process to and create a suite of inks with different but complementary properties".

Commenting on his team and collaborators success, **Prof Jonathon Coleman** added: "About ten years ago, I pioneered a simple method of making graphene from graphite through exfoliation in a household kitchen blender that has since been scaled and commercialised. In this work, we have adapted the method further for industrial application and shown we can produce high-quality graphene at low cost in a highly efficient manner that is easily scalable".

The study was funded by Science Foundation Ireland, a Marie Skłodowska-Curie Action Individual fellowship "MOVE" and supported by the Engineering and Physical Sciences Research Council (EPSRC), in the UK.

Irish scientist elected to prestigious American scientific society

31 January 2022

An Irish scientist, Professor JC Séamus Davis, has been elected to the rank of Fellow of the American Association for the Advancement of Science (AAAS), considered among the most distinct honours within the global scientific community.

Professor Séamus Davis leads a pioneering quantum research programme at UCC

Prof Davis, a physicist at University College Cork (UCC) and the University of Oxford, is recognised as one of the world leading experts in the field of macroscopic quantum physics. AAAS is the world's largest general scientific society and election to the society is reserved for those whose efforts on behalf of the advancement of science, or its applications, are scientifically or socially distinguished. This tradition stretches back to 1874, previous fellows have included Thomas Edison, Maria Mitchell and Ellen Ochoa.

A revolution in computing

Quantum technology is predicted to drive a revolution in computing. Such technology at present relies on superconductors operating at temperatures close to absolute zero, but to become commercially viable, room temperature quantum computing is needed. Prof. Davis' research has created several novel scientific instruments focused upon advancing this field.

Prof Davis receives the honour of his election to AAAS today for his seminal contributions to experimental quantum physics, particularly for detecting quantum interference of superfluid 3He, for the invention of spectroscopic imaging scanning tunnelling microscopy, and for its use in quantum visualization studies of high temperature superconductivity.

The astonishing beauty of quantum physics

Obtaining a BSc in Physics at UCC in 1983, Skibbereen native, Prof Davis would go on to become a global leader in the field of Quantum Matter. Previously Prof Davis was the James Gilbert White Distinguished Professor of Physical Sciences at Cornell University. In 2018 he joined UCC to spearhead a pioneering research programme to study Quantum Materials for Quantum Technology, in a joint appointment with the University of Oxford. This appointment was supported in Ireland through a Science Foundation Ireland (SFI) Research Professorship and an SFI Infrastructure Award, and in the UK via a European Research Council Advanced Grant Award.

Research by Prof Davis and his team at UCC and Oxford explores macroscopic quantum physics. Quantum mechanics is a branch of physics with increasingly important applications our technological society and economy. Yet this most fundamental theory of nature often feels as if it is a set of eerie and counterintuitive ideas of no direct relevance to our lives. One reason is that we cannot perceive the strangeness (and astonishing beauty) of the quantum mechanical phenomena all around us by using our own senses.

Prof Davis has invented new techniques and instrumentation that allow humans to visualize or perceive quantum phenomena directly. These techniques provide humans with direct access to, and thus better intuitive understanding of, the world of quantum physics, just at the time when quantum technology is coming to play a central role in science and the economy.

“I’m thrilled and honoured to join the Fellowship of AAAS and delighted by the recognition for these innovative approaches to exploring macroscopic quantum physics” commented **Prof Davis**.

Commenting, **Prof John O’Halloran, President of UCC** stated: “We are thrilled that Prof Davis has been elected Fellow of the American Association for the Advancement of Science (AAAS). The greatest accolades are those where peers and learned societies acknowledge and celebrate excellence. To be acknowledged by the AAAS is such an outstanding acknowledgment of his impactful research. We are proud to have such research talent as Prof. Davis in UCC and we look forward to continuing to support him to accelerate his cutting-edge research on quantum technologies.”

Welcoming the announcement, **Director General of Science Foundation Ireland, Prof Philip Nolan**, said: “I am delighted to congratulate Prof Davis on being elected as a Fellow of AAAS. As a distinguished SFI research Professor and alumnus of the SFI St. Patrick’s Day Science Medal, Prof. Davis’ world-leading expertise in quantum physics continues to enhance Ireland’s international reputation for excellence in research and innovation.”

“I’d like to congratulate Prof Séamus Davis on this prestigious Award which celebrates global leaders in science. It is a fitting honour for someone who has made such important discoveries in the area of quantum physics” commented **Prof John Cryan, Vice-President for Research & Innovation at UCC**.

SFI Annual Programmes Plan 2022

Science Foundation Ireland has published its **2022 Annual Plan**. This programme plan has been developed to align with the implementation of **SFI's strategy** *Shaping Our Future*.

Read it here:

SFI-Annual-Plan-2022.pdf

#BelieveInScience

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NPHET's Philip Nolan Takes up New Role as Head of SFI

17 January

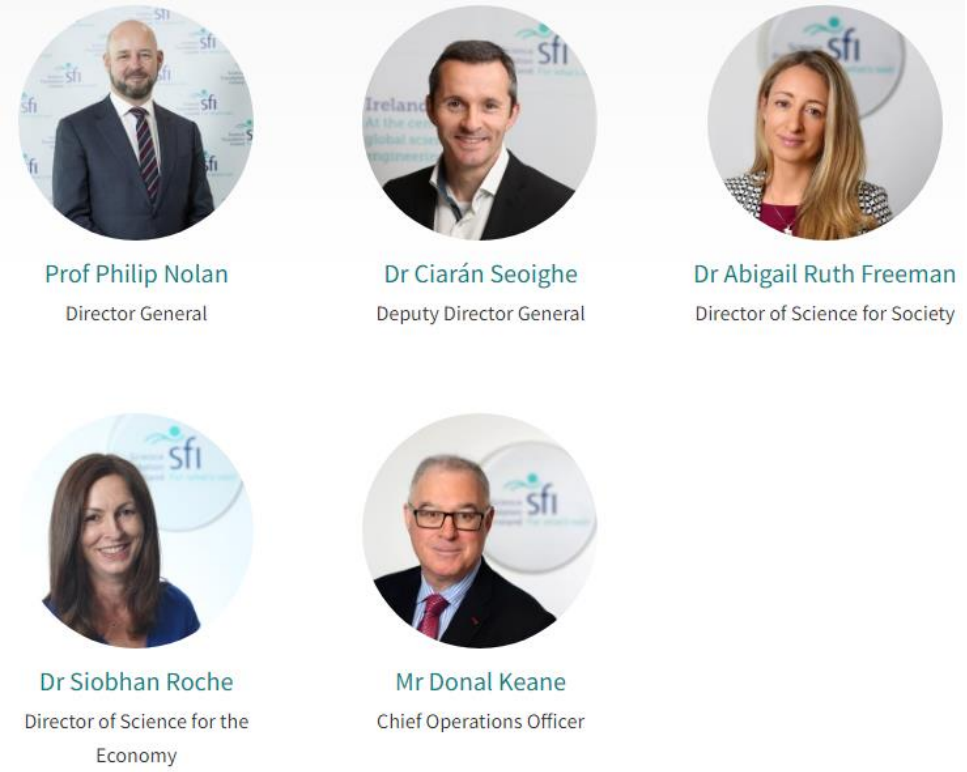
Former President of Maynooth University Prof Philip Nolan has commenced his appointment since January 17th as the new Director General of Science Foundation Ireland (SFI). He had accepted the appointment last year.

Full report from University Times:

NPHET's Philip Nolan Takes up New Role as Head of SFI – The University Times

The Board of Science Foundation Ireland (SFI), the state agency responsible for investment in research in the areas of science, technology, engineering, and mathematics, announced the appointment of its new Director General-designate (Chief Executive Officer) Professor Philip Nolan last October. He replaces Professor Mark Ferguson as Director General of Science Foundation since 2017 when he was reappointed after serving as Director since January 2012.

The Executive Committee of Science Foundation Ireland



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* Tracking SARS-CoV-2 variants

26 November 2021 & 24 January 2022

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First Head-to-Head Comparison of Pfizer and Moderna Vaccines

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Covid vaccine boosters will likely be needed every year, Pfizer chief says

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Covid vaccine boosters will likely be needed every year, Pfizer chief says (irishtimes.com)

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Novavax COVID vaccine is nearing approval – but what impact will it have?

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How bad is Omicron? What scientists know so far

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Why the UK shouldn't introduce mandatory COVID vaccination

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Mixing Pfizer, AstraZ COVID-19 shots with Moderna gives better immune response - UK study

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7 December

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Fresh research says Omicron lasts much longer on surfaces than other variants – but disinfecting still works

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IDA IRELAND'S COVID-19 RESPONSE PLAN

COVID-19 (CORONAVIRUS) RESPONSE PLAN

IDA Ireland remains open for business virtually across the globe.

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2. **Working** with colleagues across the Government system to plan for the next few weeks to ensure that companies can continue to operate in line with public health guidelines and in many cases provide critical products and services.

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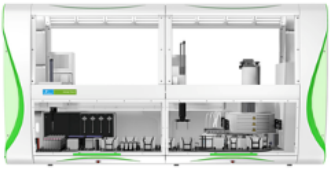

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Driving Recovery & Sustainable Growth 2021-2024

The global environment in which Ireland competes for foreign direct investment is constantly changing. As part of its new strategy, IDA Ireland plans to partner with clients for future growth through 170 RD&I and 130 training investments, to embrace the opportunities of a green recovery with 60 sustainability investments and to target a 20pc increase in client expenditure in Ireland to maximise FDI impact.

READ MOR

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IDA Ireland Announces Results for 2021 with Highest Increase in FDI Employment in a Single Year

20 December 2021

IDA Ireland, the inward investment promotion and development agency of the Irish Government, reported a record breaking year for FDI employment with significantly higher levels of Foreign Direct Investment (FDI) in 2021 compared with 2020 and strong gains recorded in both gross and net employment.

Performance 2021

- Numbers directly employed in multinational sector in Ireland reach 275,384 – the highest Foreign Direct Investment (FDI) employment level ever
- Substantial growth in FDI in 2021 with highest employment creation figures ever in a single year despite the continued impact of Covid-19
- 29,000+ new jobs created in 2021
- A net increase of almost 17,000 jobs year on year
- Results achieved in a challenging and volatile international environment
- 249 investments won in 2021 - 104 of them new name investments
- 53% - 133 of the 249 of investments won went to regional locations – with employment growth in every region of the country
- FDI employment has experienced staircase growth for over a decade despite turbulent global environment – IDA CEO

Outlook

- Recovery in global FDI started to take hold over course of 2021, however significant uncertainties and risks persist
- "Sustaining Ireland's FDI performance requires a continued focus on capacity constraints and competitiveness challenges" – IDA CEO

More details at:

IDA Ireland Announces Results for 2021 with Highest Increase in FDI Employment in a Single Year

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BD Expands Workforce at Drogheda, Ireland Production Facility to Support Growth of Pre-filled Flush Syringes

8 December

DROGHEDA, IRELAND (8 December 2021) – **BD (Becton Dickinson and Company),** a leading global medical technology company, announced the creation of 100 new jobs at its Drogheda facility on Donore Road. These jobs are part of a €62million investment in the site to upgrade equipment and expand the company's production of BD PosiFlush™ syringes.

Officially launching the new production facility, A**n Tánaiste, Leo Varadkar TD** said: "*I'm really happy to be in Drogheda today with BD, to announce this incredible expansion, which will be a real boost for the local community. €62million is being invested, with help from the Government through the IDA. 100 new jobs are being created and the fact that half of the posts have already been filled is a testament to the rich talent pool that is available in Drogheda. I wish the team the very best of luck with their growth plans,"*

The new 30,000-square-foot facility started production in September and 50 of the 100 new jobs have been filled. The remaining positions will be filled throughout 2022 and 2023 as the expansion of the facility continues. Key career opportunities include engineering, production, machine operations, logistics, management and administration.

Mr Liam Dillon, BD Medical Site Director in Drogheda, said the company's ongoing investment in the Drogheda facility reflects BD's commitment to manufacturing excellence and supply capacity, along with its dedication to its employees and the local Drogheda community.

"We currently employ over 240 associates (staff) at the plant. Many are the second generation of family members joining the company. We see this expansion as a commitment to the people who work here and to the local economy in Drogheda and surrounding areas," said Dillon. "We look forward to further building on our strong team in Drogheda to meet our customers' needs and also help BD achieve its purpose of advancing the world of health by supplying critical devices that support vascular care and maintenance practices."

The investment is supported by the Department of Jobs Enterprise and Innovation through IDA Ireland. Liam thanked the IDA for their support over the years.

CEO of IDA Ireland Martin Shanahan *said: "Today's announcement by BD is welcome news for the North East region. BD is a significant employer across Ireland where it has four sites, including here in Drogheda where it has been in operation for almost 60 years. Today's announcement exemplifies IDA Ireland's continued commitment to winning jobs and investment in regional locations. I wish to congratulate BD on today's announcement and acknowledge the substantial contribution the company has made to the Irish economy."*

Since BD started production on Donore Road in 1964, thousands of local people have been employed at the facility and billions of syringes and medical devices have been produced. The company has continually invested in technology, innovation and training. Over the past five years BD has invested over $150 million in its manufacturing plant in Drogheda, Co Louth.

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Lilly announces plans to invest €400 million in new biopharmaceutical facility in Limerick

28 January 2022

LIMERICK, IRELAND, 28 January 2022 – Eli Lilly and Company (NYSE: LLY), a global healthcare and biopharmaceutical leader, plans to invest over €400 million in a brand-new manufacturing facility in Limerick, the company and IDA Ireland announced. The investment project is subject to planning approval and the company will submit a planning application with Limerick City and County Council in the coming weeks.

The new facility will expand Lilly's manufacturing network for biologic active ingredients, support increased demand for existing Lilly products and play a key role in bringing Lilly's robust clinical pipeline, including its promising Alzheimer's portfolio, to patients around the world.

The proposed project is expected to create more than 300 new jobs for highly skilled workers such as engineers, scientists and operations personnel, who will use the latest biologics manufacturing technology to produce life-changing treatments that patients need to address health challenges. In addition, an estimated 500 additional positions will be required while the facility is under construction.

Tánaiste and Minister for Enterprise Trade & Employment Leo Varadkar TD said: "This is fantastic news for Limerick and indeed the entire region. The Mid-West has become a real hub for leading biopharma companies such as Lilly and I'm really pleased that the company has chosen Limerick for its new manufacturing centre, investing over €400m and creating 300 new, permanent jobs and a further 500 jobs during construction. Lilly produces crucial healthcare products which are making a huge difference to the lives of patients around the world fighting some of the world's most serious illnesses. This new manufacturing centre is a significant expansion of that work and I wish the entire team the very best with the project."

Ireland is home to a highly-skilled and reliable workforce and has established itself as a centre of excellence in life sciences and biopharmaceutical manufacturing. The close links that have been fostered

between the life sciences industry, communities, and universities with strong science, technology, engineering and math (STEM) programs in Limerick and across the country, make it the ideal location for Lilly's new facility.

Senior vice president and president, Lilly Manufacturing Operations Edgardo Hernandez said: "Over the past 40 years, we have continued to invest in Ireland in part because of supportive government policies that value life science innovation. This new Lilly campus in Limerick will allow us to expand our capacity to make innovative new medicines that can help treat some of the world's most serious illnesses. This facility will use the latest technology to support advancements in science, productivity and sustainability, further establishing Lilly as a global manufacturing leader."

CEO of IDA Ireland, Martin Shanahan *said: "An investment of this scale by Lilly is very welcome news for the Mid-West Region and indeed Ireland, where the global healthcare brand has had a presence since 1978. Lilly employs more than 2300 people in Cork and the decision to significantly expand its footprint into the Mid-West region with the proposed construction of a new biopharmaceutical manufacturing facility on a greenfield site in Limerick demonstrates the confidence Lilly has in Ireland and the region's strong talent pool. The regional economy will also substantially benefit from the approx. 500 jobs in the construction of this proposed facility. I wish to assure Lilly of IDA Ireland's continued support."*

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National Advanced Manufacturing Centre (AMC) achieves significant milestones

9 December 2021

Limerick, Ireland December 9th 2021 IDA Ireland has today announced several significant milestones relating to the Advanced Manufacturing Centre (AMC), a new world-class industry-led centre that will enable Irish based FDI and indigenous manufacturers accelerate the adoption of digital technologies into their factory floors and supply chains, allowing them to address real-world challenges and drive competitiveness.

The agency is announcing the appointment of Domhnall Carroll, Former Country Lead in Digital Industries at Siemens, as AMC's new Site Director, and a strategic partnership with ABB Limited as AMC's key technology partner for the delivery of a world-class Digital Factory solution for manufacturing clients.

Speaking about these announcements, Tánaiste & Minister for Enterprise, Trade & Employment Leo Varadkar said: "The story of Irish manufacturing is one of incredible transformation and progress. Today, the sector employs over 260,000 people. Companies at the top of their market in areas such as Biopharmaceuticals, MedTech, Electronics, Engineering and Industrial Technologies are operating across the country, 84% of which are outside of Dublin. The sector is constantly evolving and must keep pace with the relentless need to remain competitive. The Government is committed to ensuring that the right infrastructure and latest technology is available to the industry here to allow it to evolve and continue to thrive. The Advanced Manufacturing Centre is an important part of that and I welcome these latest milestones."

Announcing these significant milestones, Martin Shanahan, CEO of IDA Ireland said: "Enhancing Ireland's manufacturing capability is a strategic national priority and a core component of IDA's Strategy - Driving Recovery & Sustainable Growth 2021-2024. The Advanced Manufacturing Centre will support Ireland's manufacturing base in remaining at the forefront of digital transformation and ensure that Ireland

is recognised internationally as having a vibrant, collaborative, competitive and digitally-enabled industry base, ideally suited to delivering the next generation of manufacturing investments and commercialisation of research.
Domhnall Carroll brings with him extensive experience in manufacturing practice and advanced technology approaches and has first-hand practical and strategic knowledge of the challenges of digitisation within global manufacturing organisations
ABB is a global leader in the provision of products, systems and solutions that support the digital transformation agendas of industry globally. I am delighted they are partnering with the AMC to deliver a world-class technology offering for the Irish discrete manufacturing base."

Speaking about his appointment, Domhnall Carroll said: "The challenges for Ireland's manufacturing base are unprecedented. From the impact of Brexit and Covid 19 to the Global Dual Disruption associated with Sustainable Manufacturing & Digitisation, manufacturers are challenged to transform their business models and operations in a timely and cost-effective manner. The AMC is here to support such transformation and will provide a range of supports, from a Digital Transformation Showcase, an end-to-end physical production environment, a digital control (and digital twin) environment, technical expertise and upskilling, thereby delivering a practical, hands-on destination for companies to address the challenges and opportunities around digitisation."

Speaking about ABB's partnership and role in delivering the AMC, ABB Limited's Country Managing Director Stephen Doyle said: "ABB is honoured to be part of this high impact, national strategic investment for Ireland, and we look forward to providing Irish manufacturers with a best-in-class digital factory in the AMC, incorporating the latest advanced manufacturing technologies in an integrated and fully representative production environment, along with full Digital Twin capability.

This important project has received expert focus from across the ABB Global organisation and in conjunction with world-class, Irish-based technology integrators, Malone Group, Bonner, KAON Automation and RDS (Robotics & Drives), we look forward to supporting AMC, its clients and for many years to come."

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Enterprise Ireland opens 41st Student Entrepreneur Awards competition for entries

30 November 2021

Field of Vision wins Student Entrepreneur Awards 2021: Pictured, L-R: Tim Farrelly, Bachelor of Engineering student at Trinity College Dublin; David Deneher, BA in Computer Science and Business student at Trinity College Dublin and Omar Salem, Master of Aerospace Engineering student at Queen's University Belfast.

- **Awards are open to undergraduate and postgraduate students from across Ireland's third level institutions**
- **Closing date for entries is Friday, 11 March 2022**

Enterprise Ireland is inviting students from third-level institutions nationwide with an innovative business idea with real commercial potential to apply to this year's Student Entrepreneur Awards.

This year celebrates the 41st year of the Student Entrepreneur Awards which are co-sponsored by Cruickshank, Grant Thornton and the Local Enterprise Offices, and are part of a drive aimed at encouraging students from all academic disciplines to start their own business as a career option.

Ten finalists will be selected to compete for several awards such as the Cruickshank High Achieving Merit Award, the Grant Thornton High Achieving Merit Award and the Local Enterprise Office ICT Award.

The overall winner will share in a €35,000 prize fund and receive mentoring from Enterprise Ireland to develop the commercial viability of their concept. The other award winners will also receive expert advice and mentoring support from Enterprise Ireland and the programme sponsors to help them turn their ideas into a commercial reality.

Trinity College Dublin students Tim Farrelly and David Deneher along with Omar Salem, a student at Queen's University Belfast of Field of Vision won Enterprise Ireland's 2021 Student Entrepreneur of the Year Award for their haptic technology which enables visually impaired football fans to feel the action for themselves, without relying solely on a commentator's interpretation.

Other 2021 award winners included UCC student Marion Cantillon of Pit-Seal for her biofilm which eliminates the need for farmers to use plastic or tyres to seal pits and reduces methane emissions, and socially responsible clothing brand Pure Clothing created by Dublin City University student Peter Timlin and University of Limerick student Richard Grimes.

Richard Murphy, Manager LEO Support, Policy & Co-ordination Unit, Enterprise Ireland said: *"Each year, the Student Entrepreneur Awards receive more than 1,000 submissions from third-level students in colleges and universities all over Ireland and we are always impressed by the high-quality and ingenuity of the entries. Over the past four decades, the Awards have provided an important platform for young, aspiring entrepreneurs from across the country to showcase their innovative business ideas. The competition acts as a springboard for tomorrow's business leaders, and previous winners and finalists have gone on to achieve success both nationally and internationally. I would encourage anyone with an idea that they believe has commercial potential to enter this year's Awards and take that first step to business success."*

David Deneher of Field of Vision, winners of the 2021 Enterprise Ireland Student Entrepreneur of the Year, said: *"Participating in the Enterprise Ireland Student Entrepreneur Awards was an invaluable learning experience in our journey as a company. Winning the overall award provided us with the necessary confidence, exposure and funding to bring Field of Vision to the next level and Enterprise Ireland has provided continuous support since the Awards."*

The closing date for Student Entrepreneur Award entries is **Friday, 11 March 2022**. The award winners will be announced at a ceremony on Friday, 10 June 2022.

Entries to the Student Entrepreneur Awards 2022 can be made via www.studententrepreneurawards.com

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About Enterprise Ireland

Enterprise Ireland is the Irish government agency responsible for the development and growth of Irish companies internationally in order to grow exports and jobs. Enterprise Ireland works with entrepreneurs and businesses to help them to start-up, develop innovative products and services, and scale internationally. Enterprise Ireland facilitates access to international markets through its international office network, supports business strategy & management capability training and provides finance, investment and research expertise.
www.enterprise-ireland.com

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Minister Robert Troy leads delegation on Enterprise Ireland trade visit to Liverpool

2nd December 2021

Pictured with Minister Troy (second from right) during his trade visit to Liverpool: Sarah Mangan, Consul General North of England; Aileen Jones Interim Director for Strategic Delivery, Liverpool City Region Combined Authority; Mark Basnett, Managing Director, Liverpool City Region Growth Platform; Laura Brocklebank, Enterprise Ireland Senior Market Advisor and North of England Lead; Steve Rotheram, Mayor of the Liverpool City Region.

- **Seven Enterprise Ireland client companies will take part in a visit to**
- **the Port of Liverpool and UK ports operator Peel Ports**

Today Minister of State for Trade Promotion, Digital and Company Regulation, Robert Troy, leads a one-day trade visit to Liverpool. The visit, organised by Enterprise Ireland, will further strengthen Ireland's relationship with the North West of England and in particular, Liverpool City Region which is home to the UK base of a growing number of Irish companies.

The UK remains Ireland's largest export market, with Enterprise Ireland companies exporting to the value of €7.5bn in 2020. Liverpool and the wider North West region are particularly important, having a strong presence of Irish companies across a range of sectors and capabilities. This visit aims to highlight the commitment of Ireland and Irish companies to Liverpool and the North West and will explore opportunities for growth in the region.

The delegation and Enterprise Ireland client companies will visit the Port of Liverpool and UK ports operator Peel Ports, which will facilitate an opportunity for the companies to consider and explore business opportunities in the ports sector. The Liverpool City Region was selected as one of eight new freeport sites by the UK government March 2021.

A meeting will take place with Steve Rotheram, Mayor of the Liverpool City Region, where Minister Troy and Mayor Rotheram will discuss the historic and cultural ties between Ireland and Liverpool, and the strong partnerships and sectoral alignment that exist across industries.

The day also includes a visit to two Enterprise Ireland companies operating in Ellesmere Port and St. Helens:

CRS Refrigeration: The visit marks the official opening of CRS Refrigeration's new Ellesmere Port site. This is the company's second site in the UK, having already established a site in Bedfordshire. This expansion allows CRS Refrigeration to deliver their services and solutions faster to their UK customers, with the site holding existing stock ready for long-term hire. The site will serve as a manufacturing, distribution and servicing hub, and act as a base for the on-call service team throughout the UK.

John Tyrrell, Managing Director at CRS Refrigeration said, *"The UK has always been an important market for CRS. We've been doing business in the UK for many years and opening a new UK facility is a natural next step in our growth journey. The new premises will also facilitate more investment in engineering capability for specialist products and will support enterprise level customers for complex temperature-controlled solutions."*

Bevcraft Group: Bevcraft Group is a 'craft can' business first established in Mullingar which now includes operations across Ireland, the UK and the Netherlands and handles over 50m cans per annum. Bevcraft provides a range of services including mobile contract canning, can distribution, can decoration, testing, servicing and training. All services are unbundled so that craft beverage producers can 'pick and mix' the options that suit them.

Bevcraft Group opened a location in St. Helens in Merseyside in 2019 to serve and grow its UK customer base. The company has now announced the opening of a new £5m advanced manufacturing unit in Peterborough where Bevcraft Group will operate the very first direct-to-can digital printing plant in Europe.

Ciarán Gorman, Group Co-Founder and CFO at Bevcraft said, *"Entering the UK market is undoubtedly the best decision we have ever made. Two years ago, we were almost entirely focused on the Irish market – whereas in 2021 we will for the first time ever, see the majority of our revenues come from international markets.*

"A big part of this success has come from choosing the right location to establish an initial presence. Merseyside offered the perfect mix. It is very accessible from Ireland, has a competitive cost base relative to the rest of the UK and in its own right there are more people living within an hour of our warehouse than in all of Ireland."

Commenting on the trade visit, **Minister Robert Troy** said, *"Ireland continues to be a committed partner to the UK, and to the trading relationships that exist between our two nations. Our historical and cultural ties are strong in Liverpool and the North West of England, and this visit demonstrates Ireland's ongoing commitment to the region.*

"Ireland has built on its representation here recently, with Enterprise Ireland now having an office in Manchester, and the opening of the Consulate for the North of England earlier this year. The Irish government encourages Irish companies to consider how they can work with UK businesses and authorities in the North West region to achieve their ambitious goals in transport, infrastructure and sustainability through their innovative capabilities and solutions."

Tom Cusack, Head of International Sales and Partnering at Enterprise Ireland said, *"Enterprise Ireland is very committed to supporting our clients who wish to do business in the North West of England, having opened our Manchester office in 2019, and from where we continue to support both existing clients and clients who are new to the market. Many of these companies have strong capabilities across many sectors including engineering services, construction, materials handling and technology, therefore this visit to Liverpool is particularly important.*

"Across these and other sectors, Enterprise Ireland client companies continue to provide the capabilities and innovation that support the backbone of infrastructure and other projects in the UK. Working with partner companies and authorities in Liverpool, the North West and beyond, we believe Irish companies are well positioned to provide these partners with the products and services they need that enable them to thrive and compete both domestically and globally. We encourage our Irish client companies to discuss with us the opportunities that are available to them in the region."

Steve Rotheram, Mayor of the Liverpool City Region said, *"The Liverpool City Region has always been an open and outward-facing place. Ireland has a special place in the hearts of many of the 1.6m people who call our region home and, as we work to grow our economy, I want to build on our deep, historic links to help build a strong prosperous future for people on both sides of the Irish Sea.*

"As a western-facing port, our region is uniquely positioned to take advantages of the opportunities Ireland offers. While the UK is still coming to terms with the reality of being outside of the European Union, I want us to be at the forefront of trade and investment – and our ties to Ireland stronger than ever.

"Ireland is a really important trading partner for our region. Over 600 local businesses export over £300m of goods, with a further 400 importing too. It is fantastic to welcome Robert to Ireland's second capital today to discuss how we can build on those solid foundations."

Stephen Carr, Commercial Director at Peel Ports Group said, *"Even back to its earliest day, the history of The Port of Liverpool is intertwined with that of Ireland. Right through to the present day the Mersey estuary has been a key gateway for trade between Ireland and Britain with the Mersey estuary handling 33% of all trade in goods. Whether it is containerised goods transhipping to global destinations, ferry traffic on trailers moving retail and industrial products or bulk shipments of building materials and liquids, the Port of Liverpool is proud of the role it plays as a key enabler of the economy of Ireland."*

Other Enterprise Ireland client companies taking part in the visit include:

- **Buttimer Engineering:** A diversified mechanical engineering company, specialising in bulk materials handling systems and high-quality steel fabrication.
- **ByrneLooby:** An international, award-winning engineering and environmental consultancy with design and project management capabilities.
- **Combilift:** The largest global manufacturer of multi-directional forklifts and an acknowledged leader in long load handling solutions.
- **Inland Coastal and Marina Systems:** Manufactures and installs water-access solutions for the marine industry, enabling boats of all shapes and sizes to moor safely and securely.
- **Net Feasa:** A fully licensed and trusted wireless service provider, specialising in the design and deployment of IoT networks for the global supply chain.
- **Vilicom**: Designs and implements innovative mobile connectivity solutions across a number of industries.
- **William O'Brien:** Offers a full suite of services from crane hire and contract lifts to bespoke turnkey heavy lift engineering solutions across a wide range of sectors.

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Notes to Editor

This trade visit and associated events has been organised in line with Irish and local market Covid-19 regulations and travel requirements.

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Redesdale Group launches a new €75m food and beverage fund

3rd December 2021

- **Fund focused on investing in the future of food, beverage and nutrition companies, led by ambitious entrepreneurs**

Redesdale Group today is launching the Redesdale Food & Beverage Fund, a new €75m fund, which will invest in the future of food & beverage by providing seed and early stage capital to Irish food entrepreneurs. The Fund brings together some of Ireland's most accomplished financiers, food sector leaders and commercial scientists and has recently completed a first close of €27m.

Enterprise Ireland's €15m investment through its Seed & Venture Capital Programme is anchoring the Fund. The Fund's backers include leading locally-owned businesses Musgrave Group and Monaghan Mushrooms. Lord Abbett, a leading US asset management company, Coca-Cola and Tate & Lyle will also participate.

Commenting on the announcement of the new fund, the **Tánaiste and Minister for Enterprise, Trade and Employment Leo Varadkar T.D.** said:

"This Fund, which will see €75m invested in Irish food start-ups, is a real boost for the next generation of Irish food entrepreneurs. I'm extremely proud of the fact that we produce enough food to feed nine times our population. We want that to continue and we must do what we can to help those with a new business in the food and drink sector get their idea off the ground. This Fund is the first of its kind and I'm really looking forward to seeing the new ideas that it supports."

Simon Cummins, chairman of Redesdale Group, said *"The food start-up sector in Ireland is fuelled by a strong entrepreneurial culture and underpinned by world class research but access to capital remains a challenge. Our mission is to provide start-up capital to help realise the ambitions of a new generation of food sector leaders in this country. I am delighted that we are joined in that mission by such a powerful group of domestic and international investors".*

Speaking on behalf of Enterprise Ireland, CEO, Leo Clancy, said *"The Food HPSU Team in Enterprise Ireland works with exciting food start-ups which have the potential to become scalable, sustainable, exporting food and beverage companies. The Redesdale Food Fund is an important development in the food funding arena, and we are delighted to support it. The creation of a food specific fund and availability of that essential early stage capital will speed the growth of the next generation of ambitious Irish food and beverage companies."*

Doug Sieg, Managing Partner of Lord Abbett, said, *"As a firm committed to securing a sustainable future for our clients, our people, and our world, we are truly excited about joining with other investors to fund the next generation of food sector leaders. Together, we have the power to fuel the innovation that will improve the well-being of the world's population."*

Noel Keeley, CEO of Musgrave Group said *"Musgrave is delighted to extend its support to emerging Irish food and beverage businesses through its investment in the Redesdale Fund, providing much needed growth capital to local entrepreneurs that are pushing the boundaries of innovation in our sector. As consumers become more conscious of food choices, Musgrave is proud to be backing local producers as they seek to meet the demands of shoppers into the future; as an Irish business we have a history of supporting other Irish businesses, independent retailers, SME's and local producers. In addition to our Food Academy programme, which currently supports 290 Irish food and beverage producers, this investment is yet another example of Musgrave's support for local Irish producers, food leadership and home grown food innovation."*

Agnese Filippi, Ireland Country Manager for Coca-Cola said *"Coca-Cola's planned participation in the Redesdale Food & Beverage Fund will build on the support that we have provided to the indigenous Irish food and drink industry over the past five years through our successful Thrive programme. In partnership with Enterprise Ireland we have supported fast growth and ambitious Irish companies as they start to scale. Our involvement in Redesdale is a natural evolution of this relationship and puts us in a position to support high potential early stage businesses in a new and impactful way."*

Victoria Spadaro-Grant, President, Innovation & Commercial Development, Tate & Lyle said *"We are delighted to participate in this new fund, representing another important investment in our global open innovation programme. Tate & Lyle's goal is to provide support and investment to entrepreneurs and innovators across the food sector in Ireland to help unlock new ideas and technologies which will meet growing consumer demand for heathier food and drink."*

The Redesdale Team

The Investment Team includes **Michael Cantwell,** former Head of Food in Enterprise Ireland, **Owen Murphy**, a leading venture capitalist, **John Stapleton**, a food entrepreneur well-known for his success with New Covent Garden Soup and Little Dish, as well as **John Conroy**, co-founder and former CEO of Merrion Capital. **Eamonn Coghlan**, former world champion at 5,000m, is the Fund's Marketing Manager.

Niall FitzGerald KBE, former Chairman and CEO of Unilever plc and Chairman of Olam Food Ingredients, chairs the advisory board to the Fund. **Stan McCarthy,** former CEO of Kerry Group plc, is Chairman of the Investment Committee.

The team is optimistic about the opportunities in food & beverage in Ireland. **John Conroy** said: *"The importance of securing the food supply chain was underlined during the pandemic. Underneath, there are profound changes in the nature and sourcing of food & beverage products, as food plays an increasingly important role in individual and governmental health strategies and as we seek to move to a more sustainable future. Ireland is at the forefront of that change in food & beverage".*

For more information on the fund visit https://www.redesdalefoodfund.ie/

Enterprise Ireland will be hosting a joint webinar on 16th December with the fund team to discuss the overall funding landscape for food companies. The webinar will discuss Enterprise Ireland supports and advice available to start-ups in the Food and Beverage Sector and the role that the Redesdale fund will play in that ecosystem.

Key speakers include Stan McCarthy (Redesdale Food Fund), Sinead Crowther (Founder & CEO of Soothing Solutions), Michael Cantwell (General Partner, Redesdale Food Fund) & Nicola NicPhaidin (Manager HPSU, Enterprise Ireland).

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Most Powerful Space Telescope Ever Built Successfully Launched

29 December

Irish technology and innovation play important role in landmark project

Damien English TD, Minister of State for Business, Employment and Retail, congratulated the Dublin Institute for Advanced Studies (DIAS) and Irish companies, Réaltra Space Systems Engineering and Nammo Ireland for their contributions to the landmark James Webb Space Telescope mission, which was successfully launched from Europe's Spaceport in Kourou, French Guiana earlier today.

The James Webb Space Telescope (Webb) is an international project led by NASA with its partners the European Space Agency (ESA) and the Canadian Space Agency (CSA).

Webb is the next great space science observatory following Hubble, designed to answer outstanding questions about the Universe and to make breakthrough discoveries in all fields of astronomy. Webb will see farther into our origins: from the formation of stars and planets, to the birth of the first galaxies in the early Universe.

The Irish contribution to the project included providing the infrared filters on one of the telescopes four instruments and the corresponding imaging software, the onboard video system to monitor successful separation of the telescope from the launcher, and structural supports for the engine that powers the Ariane 5 rocket.

Professor Tom Ray of DIAS is Co-Investigator for the Mid-InfraRed Instrument (MIRI), part of the telescope's instrument suite. Out of the four instruments, MIRI is the only one covering the mid-infrared wavelength range (from 5 to 28.3 microns). MIRI will produce mid-infrared images and spectra with an unprecedented combination of sharpness and sensitivity.

Prof Ray and his team were responsible for providing MIRI's infrared filters, which breaks up the light into its various components, and also for developing imaging software that will be used to analyse the instrument data sent back to Earth by the spacecraft and produce scientific images.

Réaltra Space Systems Engineering designed and manufactured the video system mounted on the Ariane 5 launch vehicle which relayed high-definition video images of the separation of the launcher's fairing (that encloses and protects the Webb telescope during launch) and of the telescope separation as it headed on the start of the journey to its final orbit location. This is the first time the video system has been used, having originally been developed for the Ariane 6 launch vehicle, the successor to Ariane 5, due for its first flight in 2022.

Nammo Ireland also provided structural supports for the Vulcain engine that powers Ariane 5, and will also manufacture components for both the Vulcain and Vinci engines on the new Ariane 6 launch vehicle.

The participation of DIAS, Réaltra Space Systems Engineering and Nammo Ireland in the Webb mission is enabled through Ireland's membership of ESA. Ireland manages its investment in space primarily through the Department of Enterprise, Trade and Employment (DETE) and Enterprise Ireland, which supports and guides Irish industry and research institutes in developing technologies through ESA programmes, and in commercialising these technologies in the worldwide space market.

Minister English said "It was wonderful to see the successful launch of the James Webb Space Telescope, with images of the spacecraft starting its long journey streamed back to Earth by Irish technology and relayed around the world. I also eagerly anticipate the ground-breaking science that will be enabled by Webb, with Irish scientists at the heart of uncovering the secrets of the formation of our Universe."

Leo Clancy, CEO, Enterprise Ireland, congratulated the Irish companies and scientists involved in the mission, noting that Ireland can be justifiably proud of its world-class scientific and technical capabilities in space science. "Irish companies have consistently shown that they can deliver innovative technologies to the space sector. Webb is the most ambitious space mission for many years, if not decades, and it is fitting that Ireland has played such a prominent role in the Ariane 5 launch, and also in the scientific instruments on the telescope itself."

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Companies supported by Enterprise Ireland increased net employment by 11,911 in 2021 - highest jobs gain in a single year

11th January 2022

- 68% of new jobs were created outside of Dublin.
- Enterprise Ireland publishes new three-year strategy for Irish business with ambition to create 45,000 new jobs by 2024 and increase exports to €30bn www.strategy2022.enterprise-ireland.com
- €61.6m funding approved for 341 Covid-19 impacted companies in 2021

Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar, TD, and Enterprise Ireland, today announced that net jobs created in companies supported by Enterprise Ireland increased by 11,911 in 2021.

This is the highest annual increase in net employment reported by Enterprise Ireland.

Employment increased across all economic sectors, with particularly strong jobs growth reported in Life Sciences (14%), Business Services (12%) and Digital Technology (10%).

The positive jobs figures saw increases in employment across all regions in Ireland, with, for example, employment increasing by 9% in the North West and by 7% in the South East. In total, 68% of new jobs created were outside of Dublin.

In total, 20,342 new jobs were created by companies supported by Enterprise Ireland, resulting in a net job increase of 11,911 when job losses are taken into account. Total employment by companies supported by Enterprise Ireland in 2021 was 207,894.

Speaking at the launch today, Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar, TD, said:

"Over 200,000 people now work in Enterprise Ireland client companies. That's almost as many people working for multi-nationals. It's great to see Irish exporting companies performing so strongly last year notwithstanding the disruption to trade caused by Brexit and the pandemic. There was a net increase in employment of almost 12,000.

"I am particularly pleased that jobs growth occurred in all regions with almost 70% of new jobs growth occurring outside of Dublin and particularly strong growth in the north-west and south-east. This is an extra-ordinary performance and I want to thank the Enterprise Ireland team for their phenomenal work in the year gone by. We are well on our way to meeting our target of having 2.5m people at work in Ireland by 2024."

Commenting on the launch today Minister of State for Business, Employment and Retail Damien English, stated:

"The positive job creation results announced today are a testament to the talent, resilience and innovation of businesses operating in Ireland today. In conjunction with the dedicated and determined Enterprise Ireland team, they have tackled head on the impact of the pandemic to support and grow employment opportunities throughout the country. The strong regional performance evident in these results is very welcome news.

"I am encouraged by Enterprise Ireland's new strategy which fits with the ambitions of our enterprise community to grow business, grow jobs, and grow into new markets. It supports Government's National Economic Plan which has a strong focus on creating more and better jobs, and in ensuring that job creation occurs throughout the country. It also recognises the many lessons learned in dealing with the difficulties of the pandemic over the last two years. I particularly welcome the commitment that both Enterprise Ireland and the LEOs, working together, will ensure that companies of all sizes will be provided with a flexible service model in response to their growth and development needs.

In welcoming Enterprise Ireland's end of year positive results, Minister of State for Trade Promotion Digital and Company Regulation, Robert Troy said:

"Enterprise Ireland has been a stalwart in sustaining enterprise throughout a very difficult year for business. Together we managed to overcome these barriers by commencing once again a number of important physical trade missions throughout 2021 to the Eurozone area, the Gulf region and the U.K. and reignited our transatlantic relationships with Canada and the U.S. Despite the great challenges I am delighted that nearly 1,400 new overseas contracts were completed in 2021 and 184 Enterprise Ireland assisted companies have entered new markets.

"In collaboration with the Local Enterprise Offices, great strides have also been made in accelerating the pace of innovation, digitalisation, and transition to a low carbon economy. I am happy that these core ambitions are also at the heart of Enterprise Irelands new strategy launched today and that Enterprise Ireland and the LEOs will continue to be an integral part of balanced regional development in the future".

Commenting on the job results Enterprise Ireland CEO, Leo Clancy, said:

"Enterprise Ireland has been working with businesses throughout the country to ensure they can quickly recover from the impact of Covid-19 and continue to adapt to the new trading relationship with the UK. It is very important and welcome to see job growth in every key economic sector and every region.

"Our core focus for the coming years will be on helping our clients realise further growth resulting from the significant opportunities that a recovering global economy presents for the benefit of every community in Ireland."

Other key achievements supporting jobs in 2021 highlighted in the End of Year Statement issued by Enterprise Ireland included:

- 125 new start-up companies supported
- 1,375 overseas contracts secured with Enterprise Ireland assistance and the resumption in September 2021 of physical trade missions.
- €61.6m in funding approved for 341 Covid-impacted companies in 2021
- 218 companies received funding of more than €100,000 to support other projects in 2021.
- €14.6m was approved for 1,048 projects under the Ready for Customs Grant.

Today also saw the launch of Enterprise Ireland's new three-year strategy, entitled '*Leading In A Changing World'*.

The strategy sets out five key strategic ambitions for Irish enterprise and for Enterprise Ireland over the period 2022-2024 and beyond:

- Export-focused Irish enterprises delivering growth across all regions
- Ireland as a world-leading location to start and scale a business
- Irish enterprises achieving competitive advantage through customer-led innovation and digitalisation
- Irish enterprises leading globally on sustainability and achieving climate action targets
- Enterprise Ireland providing world-leading service to the companies it supports.

The strategy sets an ambitious target of creating 45,000 jobs over the next three years, increasing exports by Enterprise Ireland client companies to €30bn.

Commenting on the strategy, Tánaiste Leo Varadkar said:

"The Government has an ambitious vision for the future of our economy. We want to bring job opportunities and growth to all parts of Ireland increasing total employment to a record high of 2.5 million by 2024. We want to restore and then go beyond pre-pandemic employment levels, creating secure, long-term jobs in new and exciting areas. To ensure our economy is diversified and future-proofed against shocks this means going for growth across a broad range of sectors including exports, construction, the public sector and the care economy, the new green economy, digital, tourism and services.

"This Strategy being published today fully aligns with that vision. I'm especially pleased to see the efforts being made to diversify our export markets, increase the number of start-ups by 20% and to improve our productivity. These will all add to the resilience of Irish businesses, preparing them to continue to succeed in an increasingly competitive global market."

Enterprise Ireland CEO Leo Clancy said:

"Enterprise Ireland's strategy 2022-2024, Leading in a Changing World, is set in a time of remarkable change for business. Business is being transformed by factors such as climate change, the accelerated adoption of technology, and changing trends in globalisation in a way that presents unprecedented market opportunities, notwithstanding ongoing challenges for companies.

"To succeed in changing times, Irish enterprises must invest to strengthen capability and competitiveness, respond quickly to changing consumer preferences, innovate ahead of competitors, and be flexible and open to changing business models.

"Resilient, internationally focused, and productive Irish enterprises are critical to the future growth of the Irish economy, supporting livelihoods and contributing to prosperity throughout Ireland. Enterprise Ireland's strategy 2022-2024, Leading In A Changing World, sets out the key initiatives we will undertake to deliver on the ambitions for Irish enterprise."

For more, visit www.strategy2022.enterprise-ireland.com

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Notes for Editors:

- Enterprise Ireland 2022 – 2024 Strategy, Leading in a Changing World
- Short promotional video
- Enterprise Ireland's End of Year Statement 2021

Regional breakdown of employment growth 2021:

Region	Employment	Increase
Dublin	66,704	7%
Mid East	20,426	4%
Midlands	11,416	4%
Mid West	24,312	5%
North East	18,606	5%
North West	6,797	9%
South	24,962	6%
South East	20,003	7%
West	14,668	9%

Sector analysis of employment growth 2021:

Sector	Employment	Increase
Food	56,589	2%
ICT & IS	55,777	9%
Industrial, Life Sciences & Consumer	95,528	7%

In line with Enterprise Ireland's new strategy, a revision of the population of companies included in the Annual Employment Survey was undertaken, including companies recently acquired or those whose strategy or need to engage with Enterprise Ireland had changed. As a result, the changes to the baseline survey population reduced the total employment in Enterprise Ireland client companies to 207,894 in 2021.

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siliconrepublic

UCD researchers are investigating hydrogen as a way to heat Irish homes

18 November 2021

UCD's Energy Institute and Gas Networks Ireland are collaborating on a project that could see Irish homes embrace hydrogen energy.

Researchers from the University College Dublin Energy Institute (UCDEI) are working with Gas Networks Ireland on a project investigating the potential use of hydrogen as a domestic energy source.

The research team is trying to find out if we could warm our homes and cook our dinners with hydrogen in the future, testing household appliances to see how they perform when powered by varying levels of hydrogen and natural gas blends.

To continue reading go to:

UCD researchers are investigating hydrogen as a way to heat Irish homes (siliconrepublic.com)

Article by:

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Limerick facility gets €1.9m funding boost for medical device manufacturing

17 November 2021

US-headquartered ITW, which acquired the Limerick Filtertek facility in 2007, plans to develop new medical device products there.

ITW Medical is pumping €1.9m into its Filtertek facility in Limerick for the development of next-generation medical device products.

The company is part of the larger ITW manufacturing brand. ITW is a Fortune 250 company headquartered in Illinois, which manufactures specialised industrial equipment, automotive components, various consumables and related service businesses.

It acquired the Filtertek facility in Newcastle West, Co Limerick, in 2007.

To continue reading go to:

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Irish scientists discover tap water protects against microplastics

12 November 2021

Irish scientists have discovered that tap water can form a coating on plastic materials over time that prevents harmful microplastics from being disseminated and consumed by us.

The research was conducted by scientists from AMBER, the Science Foundation Ireland (SFI) research centre for advanced materials and bioengineering research, and published in the Chemical Engineering Journal.

Prof John Boland of AMBER and the Trinity College Dublin (TCD) School of Chemistry, who co-led the study, said that his team found items such as plastic kettles develop a protective skin after being in regular contact with tap water, preventing the release of microplastics.

To continue reading go to:

Irish scientists discover tap water protects against microplastics (siliconrepublic.com)

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The Irish hands behind the world's most powerful telescope

17 December

We spoke to Prof Tom Ray of DIAS who helped build the infrared instrument on the James Webb, a telescope he thinks can revolutionise the field of astrophysics.

On Christmas Eve 2021, the largest and most powerful telescope ever built, the James Webb Space Telescope, will launch into space to study the universe like never before. Key to its observations will be infrared technology developed with the help of scientists in Ireland.

Developed by NASA, the European Space Agency (ESA) and the Canadian Space Agency, the telescope named after the former NASA administrator will succeed the agency's flagship Hubble mission to observe some of the most distant objects in the known universe.

The James Webb telescope is scheduled for launch on 24 December from the Guiana Space Centre in South America. Once launched, it will begin its 10-year journey in space observing early stars, galaxies and nearby dust clouds to better understand how they formed.

Improved infrared technology, developed with the help of scientists….

To read more go to:
The Irish hands behind the world's most powerful telescope (siliconrepublic.com)

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10 worst CO2 emitters in Europe, according to Dublin start-up

16 December

According to CarbonSpace's findings, just 10 countries are responsible for 92pc of the region's total carbon footprint.

New data from Dublin-based emissions monitoring start-up CarbonSpace has revealed the 10 worst carbon emitters in Europe. Germany is top of the list, followed by the UK and Italy.

The start-up's research also found that the EU's carbon emissions had shrunk by 9pc since 2015, but this represents just a fraction of the legally binding target to reduce emissions by at least 55pc below 1990 levels by 2030.

CarbonSpace, which uses AI to determine and track the carbon footprints of businesses, released the data today (16 December). Its research into carbon emissions by countries has been validated by the European Space Agency (ESA), which funded the company through its AI kick-start accelerator.

To continue reading go to:

10 worst CO2 emitters in Europe, according to Dublin start-up (siliconrepublic.com)

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Dublin's Exergyn nets $35m funding for thermal management tech

20 January

Exergyn plans to bring its thermal management tech to market, with the aim of reducing emissions and eliminating refrigerant gases.

Dublin-based start-up Exergyn has raised $35m in a Series A funding round to help roll out its thermal management technology.

To continue reading go to:

Dublin's Exergyn nets $35m funding for thermal management tech (siliconrepublic.com)

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Irish scientists develop low-cost way to produce graphene

21 January

Researchers created a biocompatible graphene ink and used household printers to make electronic components.

Scientists in Ireland have developed a new low-cost method to produce graphene, which could accelerate adoption of the strong and light ‘wonder material’.

To continue reading go to:

Irish scientists develop low-cost way to produce graphene (siliconrepublic.com)

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ERC president Maria Leptin shares her top advice for researchers

12 January

Maria Leptin discusses what she hopes to achieve as president of the European Research Council, the critical role of science communication, and what researchers need to know when applying for grants.

This week, the European Research Council (ERC) awarded its first research grants under Horizon Europe, the EU's research and innovation programme and the successor to Horizon 2020.

To continue go to:

ERC president Maria Leptin shares her top advice for researchers (siliconrepublic.com)

Article by:

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siliconrepublic

Eight Irish researchers bag starter grants from European Research Council

10 January

The European Research Council (ERC) has awarded its first research grants under Horizon Europe. Almost 400 researchers have been awarded a total of €619m.

The grants are worth, on average, around €1.5m per researcher. The selected proposals cover a wide range of disciplines, from the medical applications of AI, to the science of controlling matter by using light, to designing a legal regime for fair influencer marketing.

Female researchers won around 43pc of grants, an increase from 37pc in 2020 and the highest share for such funding to date.

To continue reading go to:
Eight Irish researchers bag starter grants from European Research Council (siliconrepublic.com)

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Irish university research to take centre stage in new RTÉ series

23 December

A six-part documentary series called Change Makers will celebrate innovative research projects from Ireland's universities starting in January 2022.

The Irish Universities Association has teamed up with national broadcaster RTÉ and New Decade TV to make a six-part documentary series exploring university research projects.

To continue reading go to:
Irish university research to take centre stage in new RTÉ series (siliconrepublic.com)

Article by:
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RCSI to build €22m education and research facility in Dublin

24 January

The centre, due for completion in February 2024, will provide extra space for translational research and be home to a new paediatric allergy research hub.

RCSI University of Medicine and Health Sciences is investing €22m in a new education and research centre at Connolly Hospital in Blanchardstown.

To continue reading go to:

RCSI to build €22m education and research facility in Dublin (siliconrepublic.com)

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Cork researchers' new chemo method could revolutionise cancer treatment

4 February

Researchers are conducting clinical trials of a new chemo treatment with lithium to stop cancer cells from repairing.

A collaborative research project based in Cork is testing a potential new way of treating oesophageal, gastric and colorectal cancers.

To continue reading go to:

Cork researchers' new chemo method could revolutionise cancer treatment (siliconrepublic.com)

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2022 Events

Resister here: National Sustainability Summit

The **National Sustainability Summit**, is being held on **25th-26th May 2022** at the **Citywest Hotel, Saggart, Co.** in **Dublin**, will focus on the new opportunities for businesses and enterprising individuals arising from the Government's recently published Climate Action Plan, which aims to achieve a cleaner, safer and more sustainable future for Ireland.

Embracing every relevant sector – electricity, enterprise, housing, heating, transport, agriculture, waste, and the public sector – the Climate Action Plan identifies how Ireland will achieve its 2030 targets for carbon emissions, and puts the country on a trajectory to achieve net zero carbon emissions by 2050. Adopting the same model as the Government's Action Plan for Jobs, it sets out over 180 actions, together with hundreds of sub-actions that need to be taken.

For example, the Climate Action Plan aims to: move to 70% renewable electricity by 2030 – currently only 30% of our electricity comes from renewable sources; introduce 950,000 electric vehicles onto our roads and deliver a nationwide charging network; ban the sale of petrol/diesel cars from 2030; deliver reductions in greenhouse gas emissions in agriculture; and eliminate non-recyclable plastic while imposing higher fees on the production of materials which are difficult to recycle.

Other actions include: the delivery of an intensive programme of retrofitting to install 400,000 heat pumps in homes and businesses, replacing existing carbon-intensive heating systems; the establishment of a new Microgeneration Scheme, allowing homeowners to generate their own electricity and sell any excess back to the National Grid; a new Retrofit Plan to retrofit 500,000 homes, with large groups of houses being retrofitted by the same contractor to reduce costs, smart finance, and easy pay back methods; and the expansion of the network of cycling paths and 'Park and Ride' facilities to ease congestion.

Irish companies across all industrial and commercial sectors are looking to reduce their ecological footprints and are already pursuing sustainability strategies. Of course, the adoption of sustainability practices can also lead to improving operational efficiency by reducing costs, such as water and energy, and waste.

In addition to covering the challenges and opportunities presented by the Climate Action Plan, the National Sustainability Summit, which is part of the 2022 **National Manufacturing Conference & Exhibition**, will enable visitors to keep up-to-date with the latest trends, innovations, best practice and new technological solutions available.

The Summit will address areas such as optimising water usage, renewable energy, sustainable packaging and waste minimisation, and moving towards a circular economy. It will also highlight how the power of data and technology can be harnessed to achieve more transparent supply chains.

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THE NATIONAL PHARMACEUTICAL & LIFE SCIENCES EXPO

The National Pharmaceutical and Life Sciences Expo

25th-26th May 2022 | Citywest Hotel, Saggart, Co. Dublin

The **National Pharmaceutical and Life Sciences Expo** is being held in the **Citywest Hotel, Saggart, Co. Dublin** on **25th-26th May 2022**

Register here: https://www.pharmaandlifesciences.com

This gathering of over 1000 senior management from the pharmaceutical and life-sciences sector offers an opportunity for the pharma and life science sector to gather and keep up to date with the latest innovations, best practice and new technology solutions

Over 30 speakers and 50 exhibitors will inform and educate and inform the delegates who have network and listen to key note talks.

Sectors Attending

– Pharma
– Biotech,
– Med-tech
– Diagnostics
– Animal health

Why Attend

– Educational seminars on the latest industry issues
– Key insights from industry thought leaders & service providers
– First-hand case studies from leading Irish and global pharmaceutical and life science companies
– Hands-on demonstrations of the latest solutions in the technology showcase
– Excellent networking opportunities with peers throughout the day
– Meet over 50 exhibitors that can meet your needs

Who Visits

– Manufacturing director
– Plant manager

– R&D Director
– NPD director
– Warehouse Manager
– Facility manager
– Production head
– Procurement Directors
– Engineering Director
– Technical Director
– Energy Manager
– Sustainability director
– Scientists
– Data Analysts

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Join the National Manufacturing & Supply Chain Conference & Exhibition

25th-26th May 2022 | Citywest Hotel, Saggart, Co. Dublin

Register here: National Manufacturing Event Conference & Exhibition

Free registration is now open for the **8th National Manufacturing & Supply Chain Conference** and **Exhibition** which will be held at the **Citywest Hotel, Saggart, Co. Dublin** on the **25th** and **26th** of **May 2022**. It has been a turbulent year with Economic activity in the manufacturing sector ascended to a new peak on the back of record rates of growth in output and new orders and another severe lengthening in suppliers' delivery times. The volume of new orders received by Irish manufacturers rose at the fastest in many decades. Companies have reported strong inflows of new work as customers reopened and lockdown restrictions began to loosen.

The event will cover various topical themes including:

Industry 4.0, 3D Printing, Digital Manufacturing, Smart Factory, Lean & Continuous Improvement, Robotics & Automation, Industrial Blockchain, Research & Development, Precision Engineering, QEHS, Supply Chain & Logistics, Sustainability, Food & Beverage Engineering, Pharmaceutical and Life Sciences, Reliability, Maintenance & Asset Management. Procurement, Government Policy and Industrial Strategy, Exports, Skills & Training and much more. The manufacturing sector employs 260,000 people and plays pivotal role in global supply chain from engineering to computers and medical technologies.

In addition to Brexit and the global trading environment, other issues high on the agenda at the event include the challenges and opportunities provided by constantly changing customer demands, the rapid pace of technological advances in areas such as artificial intelligence, machine learning and robotics, along with heightening environmental concerns and intensifying competition both domestically and in international markets.

We have assembled an impressive line-up of manufacturing leaders, academics and government agencies who will engage in a stimulating blend of key note addresses and debates. The event will also feature an extensive exhibition showcasing the latest technological solutions and business services.

Visitors interested in improving the performance of their business can listen to case studies and technical presentations from leading global and local manufacturing experts, and meet with providers of cutting edge technology.

Economic activity in the manufacturing sector ascended to a new peak this year month on the back of record rates of growth in output and new orders and another severe lengthening in suppliers' delivery times, according to fresh data.

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Join the Northern Ireland Manufacturing & Supply Chain Conference & Exhibition

7th April 2022 | Titanic Exhibition Centre, Belfast

Register here: Register | The Northern Ireland Manufacturing & Supply Chain Conference & Exhibition

Join us at the **2022 Northern Ireland Manufacturing & Supply Chain Expo** is being held in the **Titanic Exhibition Centre, Belfast** on **7th** of **April** to hear from an impressive line-up of manufacturing leaders, academics and government agencies who will engage in a stimulating blend of key note addresses and debates.

Creating an Innovative Manufacturing & Supply chain Ecosystem

New approaches and technology have been introduced in recent years that have created significant organisational and process improvements. The aim of the conference is to showcase such innovative approaches and to disseminate the cutting edge research that underpins them.

The conference will be of interest to senior management, established practicing engineers and researchers together with those that are much earlier in their careers.

Delegates have registered from leading food, pharmaceutical, medical, chemical, electronics and engineering manufacturing sectors.

Manufacturers small and large from across the Northern Ireland will gather to challenge political decision makers to deliver a business environment which manufacturing deserves. Delegates attending the conference will:

– gain industry insights to help their business plan ahead
– share good practice and learn from each other's experience
– connected with senior business leaders to find new business opportunities
– meet with key technology providers in the dedicated exhibition area

Key Topics included:

Procurement, Lean Manufacturing, Control & Automation, Supply Chain Optimisation, Information Technology Logistics,Energy Management, Facilities Management Sustainability, Project Management, Health & Safety Warehouse Management, Materials Handling & Robotics

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Awards 2021

Cancelled due to the Pandemic but resume in 2022

Visit: https://www.awards.manufacturingevent.com

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Awards 2022

Premier Publishing and Events in association with Irish Manufacturing Research are proud to present Ireland's Manufacturing and Supply Chain Awards, May 25th 2022 Citywest Hotel. The awards build on the sell out success of the National Manufacturing & Supply Chain Exhibition & Conference which saw 6,000 delegates in attendance in 2020.

The awards will highlight the implementation of smart thinking to enable competitive manufacturing. Recognising Ireland's capacity to deliver world class manufacturing and attract inward investment.

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Attending the

IMR Manufacturing & Supply Chain Awards

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