Irish Chemical News

A Journal of the Institute of Chemistry of Ireland

Countdown to ECC9 has started for July 2024

Registration Here:- EuChemS 2024

Institiúid Ceimice na hÉireann
The Institute of Chemistry of Ireland
ICI Centenary 1922-2022
Patron: Michael D. Higgins, President of Ireland
The Professional Body Representing Chemists in Ireland
Ravensdale Road, Dublin D03 CY66. Web: www.instituteofchemistry.org

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A Message from the President

Dear Fellows, Members, Graduates and Associates,

In this issue, you will find more information on the upcoming 9th EuChemS Congress which will be held in the Convention Centre in Dublin 7-11 July. As you are well aware we have three Nobel laureates in Chemistry speaking, as well as 5 outstanding other Plenary lecturers. Our programme has been finalised and we have 64 Invited Lecturers and 16 ICI Invited Lecturers across the 8 themes, in addition to nearly 400 Oral Communications and 320 Flash Presentations. The programme will include approx. 800 poster presentations and a series of 15 workshops and mini symposia. We will have award lectures from the EuChemS Gold Medalist, the Young Investigator Medallist, the Division of Organic Chemistry Research Award (Alois Furstner) and the German Chemical Society Award (Leigh) and an ICI Special Plenary Lecture on Sunday 7th (de Silva). We plan to have an Industry Day on Wednesday 10th July and look forward to strong support from the (bio)pharmachemical and chemical industry across the island. The closing date for the Early Bird Registration has been extended to 12 March and I hope many of you have benefited from these reasonable rates. Many thanks to the hard work of our International Scientific Committee, chaired by Professor David Leigh from the University of Manchester, and our Local Organising Committee, co-chaired by Professor Thorri Gunnlaugsson and Professor Celine Marmion.

This issue will also feature new advances in Analytical Chemistry, some Open Access publications from Associate Professor Marcus Baumann (ICI Honorary Secretary), details of the Centre for Synthesis and Chemical Biology's (CSCB) 22nd annual conference in UCD on December 8th titled "Recent Advances in Synthesis and Chemical Biology" held in December 2023 and the upcoming Division of Biological and Medicinal Chemistry's "2nd Chemical Biology Ireland Conference", which will be held at the University of Galway July 22–23. In addition, some regular topics such as green hydrogen, EV batteries, material chemistry and CRISPR technology will also be featured.

Many thanks to the ICI Young Chemists' Network (YCN) who continue to work hard to provide support to the younger members of our community. Many thanks to Cathal Kelly from Queen's University Belfast who has retired from Vice-Chair and Wiktoria Brytan who will be moving to the role as Vice-Chair. Seán Byrne, University College Dublin, will be retiring as Chair in June and I thank him for his leadership over the past years. Please do get in contact with the YCN if there are issues you wish to highlight or events you wish to organise.

I wish to again thank our Editor, Patrick Hobbs, who continues to enlighten our community on national and international topics that are of most interest to our community. This is a significant undertaking and is much appreciated. I do hope you enjoy reading it.

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.

With best regards,

With best regards,

Professor Pat Guiry PhD FRSC FICI PRIA

President, Institute of Chemistry of Ireland

10th March 2024

Editorial

This is the first Issue of ICN for the New Year. We are well into it now, with a very exciting year ahead for the Institute. The European Chemistry Congress ECC 9, the largest chemical congress ever hosted by the Institute in Ireland is taking place in July. With eight major topics, three Nobel Prize speakers, five high profile Plenary speakers and a host of significant other speakers, it should be a great Congress. Register now for this 5-day event. The big social event of the Congress is the Congress Dinner, which will be hosted in Croke Park with all its amenities.

Across all areas of chemistry there is great activity with the volume of publications increasing by the month. There are links to articles in all disciplines of chemistry, biological and medicinal chemistry. The section on Analytical Chemistry introduced in the last Issue has grown with cutting edge applications and techniques.

I have introduced a new section highlighting peer reviewed publications by Irish chemists and chemists working in Ireland. This emerged after talking to Marcus Baumann, UCD, our Honorary Secretary who has kindly provided a list of papers he is an author of, published in open access journals. I want to expand this section to all other chemists in Ireland and will be asking colleagues on Council and further afield to contribute. I propose having two parts to this section, open access and subscription. Many chemists publish in subscription journals, and these will be included.

The Centre for Synthesis and Chemical Biology (CSCB) hosted the 22nd annual conference in UCD on December 8th titled “Recent Advances in Synthesis and Chemical Biology XXII”. The Centre for Synthesis and Chemical Biology is a collaboration in the chemical sciences between University College Dublin (UCD), Trinity College Dublin (TCD) and the Royal College of Surgeons in Ireland (RCSI). The UCD centre forms part of the UCD Conway Institute of Biomolecular and Biomedical Research. The centre was established in Dublin in December 2001. It has become an annual event and very well supported by the appropriate chemistry communities.

Another multidisciplinary international conference the “2nd Chemical Biology Ireland Conference”, University of Galway July 22–23 2024. This conference is organised by the newly established division of the Institute of Chemistry of Ireland – the Division of Biological and Medicinal Chemistry, a merger of Chemical Biology Ireland and Medicinal Chemistry Ireland. The research underpins this new discipline and has been conducted in Ireland, as elsewhere, for over a century under the more traditional banners of ‘biological chemistry’ and ‘bioorganic/bioinorganic chemistry’. The newly coined discipline is different in both scope and conviction. Owing to massive strides in synthetic chemistry and analytical technologies, we are now in a position where, given sufficient resources, almost any stable molecule can be made, and previously intractable complex mixtures can be characterised in situ.

Premier Publishing & Events will cohost four free to attend events, 28-29 May at RDS Simmonscourt, Dublin (See page 26).

Turning to the regular topics and in particular green hydrogen and EV batteries there has been a major change in outlook. Several car manufacturers such as Toyota and BMW amongst others are opting for hydrogen over full electric vehicles with the development of hydrogen engines. There is very little hydrogen infrastructure or the capacity to produce it. Electrolyser manufacturers are struggling to sell their products and the midterm picture is very confused. Competition from China with EVs is making life difficult for EU and American EV manufacturers. Sales of EV are static or fallen and some car dealers in Ireland will not take full EVs as trade ins.

Under “Climate Change, Environment”, Sustainability… there are a whole range of views, COP 28 Climate Conference held in the UAE has come and gone without big achievements. Some financial concessions were made to developing nations most affected by climate change.

In Science, Truth, Trust & Science Communication concerns continue with more retractions. Questionable peer review practice, paper mills, plagiarism all detracts from the genuine researchers and undermines thrust in science and scientists.

Material Chemistry & Science is very active, with increased scope and publications are growing. The room temperature superconductivity issue has raised its head again with the Korean researchers claiming that they are making progress and will publish a new peer reviewed paper in April. Others are working in this field so we will await their findings as well.

I have made a change to the title of the topic “Rechargeable Batteries & Technology” to “Rechargeable Batteries, Electrochemistry & Technology”. This topic is very active, and late in this Issue I have begun adding some electrochemistry articles to it. Next Issue will have more emphasis on electrochemistry articles instead of placing them in the chemistry section. The topic name will change to “Electrochemistry, Battery Chemistry and Technology”. In similar fashion the next time, there will be a change to the “Solar Cell Chemistry & Technology” topic to Photochemistry, Solar Cell Chemistry & Technology with reduced solar cell coverage.

The “Gene Editing and CRISPR” topic is moving more towards medicine with some treatments approved by the FDA and EMA. It has very exciting medical potential and has run its course from a chemistry perspective. It has gone from Nobel Prize to the clinic very quickly. Its disappointed we did not get either Chemistry Nobel Prize winner 2020, Emmanuelle Charpentier or Jennifer Doudna, to come to Dublin and speak at ECC 9.

I propose breaking down the “Chemistry and Related Sciences… topic further for example creating sub sections like General Chemistry, Synthesis and Catalyst Chemistry. Along with changes indicated above there will be seven formal chemistry topics. With further culling of the content the objective is to reduce the overall size of the publication and have more subsections to make browsing for content of interested, easier for individuals.

The “Siliconrepublic” section is paid access only and will be discontinued.

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

editor@instituteofchemistry.org

Institute of Chemistry of Ireland (chemistryireland.org)

Patrick Hobbs MSc, FICI, CChem, CSci, MRSC.
Editor
Irish Chemical News
6th March 2024

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

THE COUNTDOWN IS ON
Register Now
Early Bird Ending
EuChemS 2024

9th EuChemS Chemistry Congress - Choose Registration (eventscloud.com)

All registration fees are listed in Euro (€). There is no VAT on conference registrations in Ireland

REGISTRATION FEES	EARLY REGISTRATION (AVAILABLE UNTIL 8TH OF MARCH)	STANDARD REGISTRATION (AVAILABLE FROM 9TH OF MARCH UNTIL 23RD OF MAY)	LATE REGISTRATION (AVAILABLE FROM 24TH OF MAY)
EuChemS* and ICI** Member	€595.00	€695.00	€795.00
EuChemS* and ICI** Student Member	€385.00	€485.00	€585.00
Non Member	€695.00	€795.00	€860.00
Student Non Member	€485.00	€585.00	€685.00
Accompanying Person Fee	€200.00	€200.00	€200.00

The 9th EuChemS Chemistry Congress will have an exciting scientific programme with world-leading plenary speakers, invited speakers and short oral communications, supplemented with a series of poster presentations, focused around eight scientific themes.

Authors are invited to submit their abstracts under one of the following categories:

CONGRESS THEMES

Energy, Environment and Sustainability
Emerging Sustainable Chemistry, Technologies, Biomass Valorisation, Green Synthetic Methodologies, Circular Bioeconomy, Food

Physical, Analytical and Computational Chemistry
Machine Learning/AI

Advances in Synthetic Organic Chemistry
Asymmetric Methodology, Inorganic Methodology, Green Synthetic Methodologies

Chemistry Meets Biology for Health
Medicinal, Bioinorganic, Bioorganometallic, Radiochemistry, Food and Nutrition

Catalysis
Organometallic Catalysis, Organocatalysis, Biocatalysis, Photoredox Catalysis, Electrocatalysis

Supramolecular Chemistry
Chirality, Molecular Machines, Dissipative Systems, MOFs, Molecular Nanotopology, Sensors, Metallo-Supramolecular Chemistry, Molecular Logic, Host-Guest Chemistry, Self-Assembly Materials and Higher Order Structures

Nanochemistry/Materials
Organic and Inorganic, Material Science, Devices, Circuits, Systems, Neuromorphic Networks, and Bio-Inspired Computing

Education, History, Cultural Heritage, and Ethics in Chemistry

Institute of Chemistry of Ireland
EuChemS European Chemical Society
www.euchems2024.org

PLENARY SPEAKERS

Professor Dame Clare P. Grey
Energy, Environment and Sustainability
University of Cambridge
United Kingdom

Professor Véronique Gouverneur
Advances in Synthetic Organic Chemistry
University of Oxford
United Kingdom

Professor Sir David W. C. MacMillan
Catalysis
Princeton University
United States of America

Professor Omar M. Yaghi
Nanochemistry/Materials
University of California, Berkeley
United States of America

Professor Odile Eisenstein
Physical, Analytical and Computational Chemistry
CNRS – Université Montpellier
and University of Oslo
France, Norway

Professor Frances H. Arnold
Chemistry Meets Biology for Health
California Institute of Technology
United States of America

Professor Sir J. Fraser Stoddart
Supramolecular Chemistry
Northwestern University
United States of America

Professor Brigitte Van Tiggelen
Education, History, Culture Heritage,
and Ethics in Chemistry
Science History Institute
United States of America

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Various partnership packages are available and can be tailored to suit your organisation's specific needs and budget. Whether you seek prominent branding opportunities, exclusive networking events, or targeted marketing campaigns, we can customise a package that maximizes your return on investment. Contact us today: expo@euchems2024.org

registration@euchems2024.org +353 1 400 3626 www.euchems2024.org

9th EuChemS Chemical Congress 2023 (ECC-9)
Conference Secretariat: Keynote PCO
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Contact: Kasia Mahony
Email: expo@euchems2024.org

DOWNLOAD THE PROSPECTUS

9th EuChemS
CHEMISTRY CONGRESS
Dublin, Ireland 7–11 July 2024

ECC-9 INTERNATIONAL SCIENTIFIC COMMITTEE

Chair

Professor David A. Leigh – United Kingdom

Professor Patrick Guiry – Ireland – President of the Institute of Chemistry of Ireland and ECC-9 Chair

Professor Celine J. Marmion – Ireland – ECC-9 Local Organising Committee Co-Chair
Professor Thorfinnur (Thorri) Gunnlaugsson – Ireland – ECC-9 Local Organising Committee Co-Chair
Professor Artur M. S. Silva – Portugal – ECC-8 Chair
Professor Walter Leitner – Germany – Energy, Environment and Sustainability
Professor Christopher M.A. Brett – Portugal – Physical, Analytical and Computational Chemistry
Professor Bill Morandi – Switzerland – Advances in Synthetic Organic Chemistry
Professor Angela Casini – Germany – Chemistry Meets Biology For Health
Professor Martin Albrecht – Switzerland – Catalysis
Professor Stephen M. Goldup – United Kingdom – Supramolecular Chemistry
Professor Stefanie Dehnen – Germany – Nanochemistry/Materials
Professor Annette Lykknes – Norway – Education, History, Cultural Heritage, and Ethics in Chemistry
Dr. Maximilian Menche – Germany – EuChemS Young Chemists' Network Chair

9th EuChemS
CHEMISTRY CONGRESS
Dublin, Ireland 7–11 July 2024

Co-Chairs:

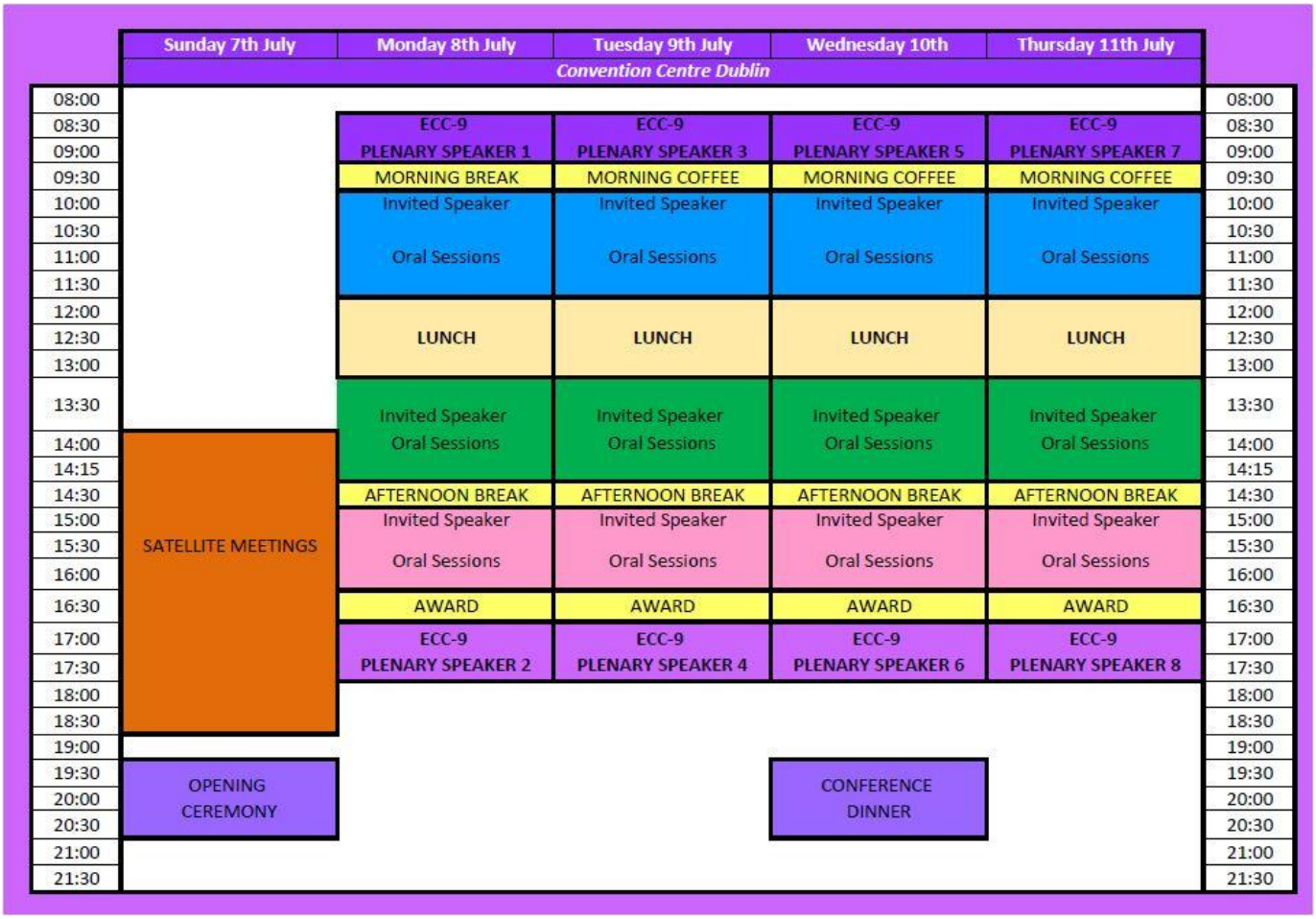
Professor Celine J. Marmion, RCSI University of Medicine and Health Sciences
Professor Thorfinnur (Thorri) Gunnlaugsson, Trinity College Dublin

Vice-Chair and Liaison Officer:

Patrick Hobbs MSc, Institute of Chemistry of Ireland Council Member

Matt Moran, Director of BioPharmaChem Ireland
Professor Steven E. J. Bell, Queen's University Belfast
Professor John Cassidy, Technological University Dublin
Dr. Robert B. P. Elmes, Maynooth University
Dr. Odilla E. Finlayson, Dublin City University
Professor Silvia Giordani, Dublin City University
Professor Patrick Guiry, University College Dublin
Dr Sarah Hayes, University of Limerick
Dr. John Keegan, Institute of Chemistry of Ireland Treasurer
Colm McKeever, Institute of Chemistry of Ireland Young Chemists' Network Chair
Professor Paul V. Murphy, University of Galway
Professor Susan J. Quinn, University College Dublin
Professor Isabel Rozas, Trinity College Dublin
Professor John Wenger, University College Cork

9th EuChemS Chemistry Congress – Schedule at a Glance



	Sunday 7th July	Monday 8th July	Tuesday 9th July	Wednesday 10th	Thursday 11th July	
	Convention Centre Dublin					
08:00						08:00
08:30		ECC-9 PLENARY SPEAKER 1	ECC-9 PLENARY SPEAKER 3	ECC-9 PLENARY SPEAKER 5	ECC-9 PLENARY SPEAKER 7	08:30
09:00						09:00
09:30		MORNING BREAK	MORNING COFFEE	MORNING COFFEE	MORNING COFFEE	09:30
10:00		Invited Speaker	Invited Speaker	Invited Speaker	Invited Speaker	10:00
10:30						10:30
11:00		Oral Sessions	Oral Sessions	Oral Sessions	Oral Sessions	11:00
11:30						11:30
12:00		LUNCH	LUNCH	LUNCH	LUNCH	12:00
12:30						12:30
13:00						13:00
13:30		Invited Speaker	Invited Speaker	Invited Speaker	Invited Speaker	13:30
14:00		Oral Sessions	Oral Sessions	Oral Sessions	Oral Sessions	14:00
14:15						14:15
14:30		AFTERNOON BREAK	AFTERNOON BREAK	AFTERNOON BREAK	AFTERNOON BREAK	14:30
15:00		Invited Speaker	Invited Speaker	Invited Speaker	Invited Speaker	15:00
15:30	SATELLITE MEETINGS	Oral Sessions	Oral Sessions	Oral Sessions	Oral Sessions	15:30
16:00						16:00
16:30		AWARD	AWARD	AWARD	AWARD	16:30
17:00		ECC-9 PLENARY SPEAKER 2	ECC-9 PLENARY SPEAKER 4	ECC-9 PLENARY SPEAKER 6	ECC-9 PLENARY SPEAKER 8	17:00
17:30						17:30
18:00						18:00
18:30						18:30
19:00						19:00
19:30	OPENING CEREMONY			CONFERENCE DINNER		19:30
20:00						20:00
20:30						20:30
21:00						21:00
21:30						21:30

9th EuChemS Congress (ECC-9), Dublin, Ireland, July 2024	
Energy, Environment and Sustainability (including Emerging Sustainable Chemistry Technologies, Biomass Valorisation, Green Synthetic Methodologies, Circular Bioeconomy, Food etc.)	
Plenary	Professor Dame Clare Grey
Convenor 1 (International Scientific Committee Member)	Professor Walter Leitner
Convenor 2	Professor Paul Anastas
Physical, Analytical and Computational Chemistry (including Machine Learning/AI)	
Plenary	Professor Odile Eisenstein
Convenor 1 (International Scientific Committee Member)	Professor Christopher M.A. Brett
Convenor 2	TBC
Advances in Synthetic Organic Chemistry (including Asymmetric Methodology, Inorganic Methodology, Green Synthetic Methodologies)	
Plenary	Professor Véronique Gouverneur
Convenor 1 (International Scientific Committee Member)	Professor Bill Morandi
Convenor 2	Professor Mariola Tortosa
Chemistry Meets Biology For Health (including Medicinal, Bioinorganic, Bioorganometallic, Radiochemistry, Food & Nutrition)	
Plenary	Professor Frances H. Arnold
Convenor 1 (International Scientific Committee Member)	Professor Angela Cassini
Convenor 2	TBC
Catalysis (including Organometallic Catalysis, Organocatalysis, Biocatalysis, Photoredox Catalysis, Electrocatalysis)	
Plenary	Professor Sir David W.C. MacMillan
Convenor 1 (International Scientific Committee Member)	Professor Martin Albrecht
Convenor 2	Professor Montse Dieguez
Supramolecular Chemistry and Stereochemistry (including Chirality, Molecular Machines, Dissipative Systems, MOFs, Molecular Nanotopology, Sensors, Metallo-Supramolecular Chemistry, Molecular Logic, Host-Guest Chemistry, Self-Assembly Materials, Higher Order Structures)	
Plenary	Professor Sir J. Fraser Stoddart
Convenor 1 (International Scientific Committee Member)	Professor Steven Goldup
Convenor 2	Professor Nathalie Katsonis
Nanochemistry/Materials (including Organic, Inorganic, Material Science, Devices, Circuits, Systems, Neuromorphic Networks, Bio-inspired Computing)	
Plenary	Professor Omar M. Yaghi
Convenor 1 (International Scientific Committee Member)	Professor Stefanie Dehnen
Convenor 2	TBC
Education, History, Cultural Heritage, and Ethics in Chemistry	
Plenary	Professor Brigitte Van Tiggelen
Convenor 1 (International Scientific Committee Member)	Professor Annette Lykknes
Convenor 2	TBC

Check website for updates: EuChemS 2024

We wish to thank the Institute following sponsors/exhibitors.

Publications from Irish Chemists or Researchers Working in Ireland. a) Open Access, b) Subscription

a)Open Access Papers

Continuous Flow Synthesis of Nitrosoarenes via Photochemical Rearrangement of Aryl Imines. *J. Org. Chem.* 2024, 89, 1, 617–623

22 December 2023
Continuous Flow Synthesis of Nitrosoarenes via Photochemical Rearrangement of Aryl Imines | The Journal of Organic Chemistry (acs.org)
Jorge García-Lacuna* and Marcus Baumann*
DOI: https://doi.org/10.1021/acs.joc.3c02362

Synthesis of Highly Reactive Ketenimines via Photochemical Rearrangement of Isoxazoles. Org. Lett. 2023, 25, 35, 6593–6597

24 August 2023
Synthesis of Highly Reactive Ketenimines via Photochemical Rearrangement of Isoxazoles | Organic Letters (acs.org)
Cormac Bracken and Marcus Baumann*
DOI: https://doi.org/10.1021/acs.orglett.3c02556

Modular Photochemical Flow Synthesis of Structurally Diverse Benzyne and Triazine Precursors

2 July 2023
Modular Photochemical Flow Synthesis of Structurally Diverse Benzyne and Triazine Precursors - García-Lacuna - 2023 - Advanced Synthesis & Catalysis - Wiley Online Library
Jorge García-Lacuna, Marcus Baumann
DOI: https://doi.org/10.1002/adsc.202300414

Flow photolysis of aryldiazoacetates leading to dihydrobenzofurans via intramolecular C–H insertion - Organic & Biomolecular Chemistry (RSC Publishing)

23 May 2023
Flow photolysis of aryldiazoacetates leading to dihydrobenzofurans via intramolecular C–H insertion - Organic & Biomolecular Chemistry (RSC Publishing) DOI:10.1039/D3OB00541K
Katie S. O'Callaghan a, Denis Lynch a, Marcus Baumann ORCID logo, Stuart G. Collins ORCID logo*a and Anita R. Maguire ORCID logo*ac
DOI: 10.1039/D3OB00541K

TBADT-Mediated C-C Bond Formation Exploiting Aryl Aldehydes in a Photochemical Flow Reactor

7 December 2022
TBADT-Mediated C-C Bond Formation Exploiting Aryl Aldehydes in a Photochemical Flow Reactor - Cruise - 2023 - ChemCatChem - Wiley Online Library
Adam Cruise, Dr. Marcus Baumann
DOI: https://doi.org/10.1002/cctc.202201328

b)Subscription Papers

None this period

UCD hosted a high-level conference in December on "Recent Advances in Synthesis and Chemical Biology"

See agenda below.

"Recent Advances in Synthesis and Chemical Biology XXII"

Friday, 8th December 2023
UCD Village

9.00 am -9.15 am	Opening remarks – **Professor Helen Roche (UCD Vice-President for Research, Impact & Innovation)**
9.15 am - 10.15 am	**Chair: Assistant Professor Eoghan McGarrigle (UCD) – The Thermo Fisher Scientific Lecture** **Professor Jonathan Clayden (University of Bristol, UK)** *"Exploiting Conformational Dynamics: Defluorination, Deracemisation, and Directionality"*
10.15 am - 10.45 am	Coffee/Tea Break + Poster Session (Odd Numbers)
10.45 am - 11.45 am	**Chair: Professor Celine Marmion (RCSI, University of Medicine and Health Sciences) – The SSPC – SFI Research Centre for Pharmaceuticals Lecture** **Professor Clotilde Policar (Ecole Normale Supérieure-PSL, France)** *"Metal Complexes in Biological Environments: a New Frontier in Inorganic Chemistry — Focus on the Development of Catalytic Antioxidants with Therapeutic Interest"*
11.45am – 1 pm	**Chairs: Assistant Professor Marina Rubini (UCD) and Professor Aidan McDonald (TCD)** **Dáiríne Morgan (UCD**) - *Enantioselective Copper-Catalyzed Alkynylation of Quinolones Using Chiral P,N Ligands;* **Seán McKenna (TCD)** - *Lights, Capture, Extraction! A Photoaffinity Probe for Profiling the Metalloproteome in Live Cells*; **Eilidh Matheson (QUB)** - *Synthesis of Isoprenoid Probes to Explore Coenzyme Q10 and Menaquinone Protein Binding Interactions and for Drug Discovery*; **Dr Bhargava Reddy (UCD)** - *Visible-Light-Induced Difunctionalisation of Alkynes with Arylsulfinates* ; **Dr Bríonna McGorman (DCU)** – *Click Chemistry Based Gene-Targeted Therapeutics*; **Dr Dan Wu (RCSI)** - *Forecasting Vaping Health Risks through Neural Network Model Prediction of Flavour Pyrolysis Reactions*; **Ella Cooper (UCC)** - *The Alkylation of Ketones in Flow*; **Dr Jorge García Lacuna (UCD)** - *Photoexciting Nitroarenes in Flow: From Benzyne Precursors to Nitrosoarenes*.
1 pm - 2 pm	Lunch Break + Poster Session (Odd then Even Numbers)
2 pm - 3 pm	**Chair: Professor Eoin Scanlan (TCD) – The BiOrbic Research Centre Lecture** **Professor Stefan Oscarson (University College Dublin)** *"Towards New Carbohydrate-based Mucolytics, Antibiotics, and Vaccines"*
3 pm – 3.30 pm	Coffee/Tea Break + Poster Session (Even Numbers)
3.30 pm – 4.30 pm	**Chair: Associate Professor Marcus Baumann (UCD) – The Pfizer Lecture** **Professor Edward Anderson (University of Oxford, UK)** *"Taming the Reactivity of Small Ring Hydrocarbons"*
4.30 – 5.30 pm	**Chair: Professor Pat Guiry (UCD)– The Eli Lilly Lecture** **Professor Dale Boger (Scripps Institute, USA)** *"Maxamycins: Redesigned Vancomycins for Resistant Bacteria"*
5.30 pm	Closing Remarks: **Professor Pat Guiry, Director, Centre for Synthesis and Chemical Biology**

2nd Chemical Biology Ireland Conference
University of Galway
July 22–23 2024

Division of Medicinal and Biological Chemistry of the Institute of Chemistry of Ireland

Chemical biology—the study and manipulation of biological phenomena by using the mindset and tools of a chemist—is flourishing in Ireland. Of course, the type of research that underpins this relatively new discipline has been conducted in Ireland, as it has elsewhere, for over a century under the more traditional banners of 'biological chemistry' and 'bioorganic/bioinorganic chemistry'. However, the newly coined discipline is different in both scope and conviction. Owing to massive strides in synthetic chemistry and analytical technologies, we are now in a position where, given sufficient resources, almost any stable molecule can be made, and previously intractable complex mixtures can be characterised in situ. Chemists now have the tools and confidence to break and form bonds in biological environments with high spatiotemporal precision and monitor molecular interactions and events overtime—it is perhaps this capability that has allowed the discipline of chemical biology to hold its own and complement the tools of biochemistry, genetics, and molecular biology.

In 2019, with a critical mass in chemical biology research activities in Ireland being apparent, Chemical Biology Ireland was established and it's first conference, organised by Prof. Marina Rubini, was to be held in the summer of 2020 in UCD, Dublin. A wonderful line-up of international and national speakers was secured. For reasons that are obvious to readers, the conference was postponed to 2021 and again to the summer of 2022, when it finally came to pass. It was a fantastic sun-drenched 2-day event, which brimmed with excellent science, reinvigorated old networks and established new collaborations. For a report on this event, see the article linked here: https://www.eurpepsoc.com/a-report-on-the-1st-chemical-biology-ireland-conference. On the last day, just before everyone said their goodbyes, the baton was passed to Galway, the location for the 2nd Chemical Biology Ireland Conference in 2024.

The 2nd Chemical Biology Ireland Conference will take place next summer, July 22–23 2024 (falling on a Monday and a Tuesday) at the University of Galway. This conference is organised by the newly established division of the Institute of Chemistry of Ireland – the Division of Biological and Medicinal Chemistry, a merger of Chemical Biology Ireland and Medicinal Chemistry Ireland. This division is also enhanced through membership of the European Federation of Medicinal Chemistry and Chemical Biology. We have a stellar line-up of international and national speakers (see list below), who are leaders on the use of chemistry to interrogate and manipulate the function of enzymes, structural proteins, nucleic acids, glycans and metabolites. There will be particular emphasis on the chemical biology of carbohydrates and glycans, a nod to the rich history of research into these important biomolecules in Ireland, particularly in Galway. Indeed in 2024, it will have been 25 years since Galway hosted the 10th European Carbohydrate Symposium in 1999. However, the conference next summer will also feature research on the chemical biology of proteins, nucleic acids and secondary metabolites.

Delegates are encouraged to present a poster and early career researchers are invited to apply for one of six 20-minute oral presentation slots. There will also be social events to promote interaction, including an evening get-together and BBQ at one of Galway's award-winning bars - An Púcán, and an early-morning run/walk along the Salthill promenade overlooking Galway Bay. Also, the Galway International Arts Festival (July 15–28) will be in full swing.

For more information, to register and to submit an abstract, see the conference website, which is linked below. We are looking forward to seeing many of you in Galway next July.

https://universityofgalwaycbic.clr.events/event/134280:chemical-biology-ireland-conference-2024

List of Confirmed Invited Speakers

Parajmit Arora	*New York University, USA*
Emily Balskus	*Harvard University, USA*
Helen Blanchard	*University of Galway, Ireland*
Ashraf Brik	*Technion-Israel Institute of Technology, Israel*
Thomas Carell	*LMU-Munich, Germany*
Martin Fascione	*University of York, UK*
Sabine Flitsch	*University of Manchester, UK*
Carmen Galan	*University of Bristol, UK*
Jesús Jiménez Barbero	*CIC BioGUNE, Bilbao*
Jeet Kalia	*IISER, Bhopal, India*
Andrew Kellett	*DCU, Dublin, Ireland*
Andrea Rentmeister	*University of Münster, Germany*
Marina Rubini	*UCD, Dublin, Ireland*
Eoin Scanlan	*TCD, Dublin, Ireland*
Louise Walport	*Francis Crick Institute, London, UK*
Ulrika Westerlind	*Umeä University*, Sweden

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

Are you a chemist in Ireland aged between 18-35 years old? Want to be part of an 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.

ICI's Young Chemists Network Committee for 2023/2024

***Seán Byrne**, Chairperson of the ICI YCN, Director of the Institute of Chemistry Ireland, PhD student UCD.*

Email: sean.byrne6@ucdconect.ie , youngchemists@instituteofchemistryireland.org

Committee Members 2023/24

Seán Byrne
Chair
UCD

Cathal Kelly
Vice-Chair
QUB

Wiktoria Brytan
Secretary
UL

Hong Ann Gan
Treasurer
TUS

Neil Curtis
UCC

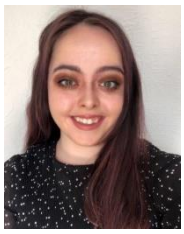
Róisín Byrne
DCU

Aaron McCormack
NUIG

Hanka Besic
NUIG

Kwadwo Asare Owusu
UL

Keela Kessie
MU



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UCD/ Trinity

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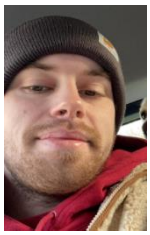
UCD

Alumenda Moreno Borralo
Trinity



Keane McNamee
MU

Sean Byrne is the Chair of ICI's Young Chemists Committee.

Premier Publishing &Events 2024 Ireland

The National Manufacturing & Supply Chain Conference & Exhibition

28th- 29th May 2024 | RDS Simmonscourt, Dublin

Details & Free Registration here:
https://www.manufacturingevent.com

Research & Innovation Ireland Conference 2024

28th & 29th May RDS, Simmonscourt, Dublin

Details & Free Registration here:
https://www.eventbrite.ie/e/research-innovation-ireland-conference-2024-tickets-680455559897

National Pharmaceutical & Life Sciences Expo

May 28th & 29th 2024 RDS Simmonscourt

Details & Free Registration here:
https://www.eventbrite.ie/e/national-pharmaceutical-life-sciences-expo-tickets-680307747787?aff=erelexpmlt

National Medtech & Biotech Summit 2024

28th&29th May RDS Simmonscourt

Details & Free Registration here:
https://www.eventbrite.ie/e/national-medtech-biotech-summit-2024-tickets-680302000597?aff=erelexpmlt

Institute of Chemistry of Ireland as a Co-Owner Benefits when you publish in PCCP

Physical Chemistry Chemical Physics
Phys. Chem. Chem. Phys.,
2024, **26**, 4769-4769
7 February 2024
DOI
https://doi.org/10.1039/D4CP90027H

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Scope

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

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

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

Chemistry and Related Sciences around the World

Bio-synthesized ZnO nanoparticles and sunlight-driven photocatalysis for environmentally-friendly and sustainable route of synthetic petroleum refinery wastewater treatment | Scientific Reports

27 November
Bio-synthesized ZnO nanoparticles and sunlight-driven photocatalysis for environmentally-friendly and sustainable route of synthetic petroleum refinery wastewater treatment | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-47554-2

Physicists discover molecule-like structure of nuclear ground state

28 November
Physicists discover molecule-like structure of nuclear ground state
DOI: 10.1103/PhysRevLett.131.212501

A General Group-Protection Synthesis Strategy to Fabricate Covalent Organic Framework Gels | Journal of the American Chemical Society (Subscription)

27 November
A General Group-Protection Synthesis Strategy to Fabricate Covalent Organic Framework Gels | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c09284

Research unveils nickel-based catalysts with remarkable economic feasibility

28 November
Research unveils nickel-based catalysts with remarkable economic feasibility (phys.org)
DOI: 10.1126/science.ade3179

Metal-organic framework boosts heterogeneous electron donor–acceptor catalysis | Nature Communications

27 November
Metal-organic framework boosts heterogeneous electron donor–acceptor catalysis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43577-5

Study shows the ability of some molecules to modify the surface of nanoparticles

28 November
Study shows the ability of some molecules to modify the surface of nanoparticles (phys.org)
DOI: 10.1021/acs.accounts.3c00139

In situ observation of a stepwise [2 + 2] photocycloaddition process using fluorescence spectroscopy

27 November
In situ observation of a stepwise [2 + 2] photocycloaddition process using fluorescence spectroscopy | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42604-9

Revolution in Organic Synthesis: Scientists Revive Century-Old Technique
26 November
Revolution in Organic Synthesis: Scientists Revive Century-Old Technique (scitechdaily.com)
DOI: 10.1002/anie.202310353

Associative pyridinium electrolytes for air-tolerant redox flow batteries | Nature
29 November
Associative pyridinium electrolytes for air-tolerant redox flow batteries | Nature
DOI: https://doi.org/10.1038/s41586-023-06664-7

Remote collaboration fuses fewer breakthrough ideas | Nature
29 November
Remote collaboration fuses fewer breakthrough ideas | Nature
DOI: https://doi.org/10.1038/s41586-023-06767-1

New silicon-based protecting group removable with blue light | Research | Chemistry World
29 November
New silicon-based protecting group removable with blue light | Research | Chemistry World

Theoretical work indicates that the future Electron Ion Collider can be used to measure the shape of atomic nuclei
29 November
Theoretical work indicates that the future Electron Ion Collider can be used to measure the shape of atomic nuclei (phys.org)
DOI: 10.1103/PhysRevLett.131.062301

Engineering non-precious metal electrocatalysts for cost-effective and environmentally responsible water splitting
30 November
Engineering non-precious metal electrocatalysts for cost-effective and environmentally responsible water splitting (phys.org)
DOI: 10.26599/NRE.2023.9120106

Unraveling the synergistic effects of Cu-Ag tandem catalysts during electrochemical CO2 reduction using nanofocused X-ray probes | Nature Communications
29 November
Unraveling the synergistic effects of Cu-Ag tandem catalysts during electrochemical CO2 reduction using nanofocused X-ray probes | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43693-2

Glyphosate: The much-criticised herbicide that's still used in Europe | Euronews
1 December
Glyphosate: The much-criticised herbicide that's still used in Europe | Euronews

Researchers decode aqueous amino acid's potential for direct air capture of CO_2
1 December
Researchers decode aqueous amino acid's potential for direct air capture of CO_2 (phys.org)
DOI: 10.1016/j.xcrp.2023.101642

Mechanistic Investigation of the Rhodium-Catalyzed Transfer Hydroarylation Reaction Involving Reversible C–C Bond Activation | Journal of the American Chemical Society
30 November

Mechanistic Investigation of the Rhodium-Catalyzed Transfer Hydroarylation Reaction Involving Reversible C–C Bond Activation | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c07780

High-valence metal-doped amorphous IrOx as stable electrocatalyst for acidic oxygen evolution reaction

27 November
https://phys.org/news/2023-11-high-valence-metal-doped-amorphous-irox-stable.html
DOI: 10.1016/S1872-2067(23)64517-6

A new β-cyclodextrin-based nickel as green and water-soluble supramolecular catalysts for aqueous Suzuki reaction | Scientific Reports

2 December
A new β-cyclodextrin-based nickel as green and water-soluble supramolecular catalysts for aqueous Suzuki reaction | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-48603-6

Selective C(sp3)–H arylation/alkylation of alkanes enabled by paired electrocatalysis | Nature Communications

2 December
Selective C(sp3)–H arylation/alkylation of alkanes enabled by paired electrocatalysis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43791-1

The forgotten D of DEI

3 December
The forgotten D of DEI | Nature Reviews Chemistry
DOI: https://doi.org/10.1038/s41570-023-00562-2

Making sense of chemical space network shows signs of criticality | Scientific Reports

4 December
Making sense of chemical space network shows signs of criticality | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-48107-3

Detoxifying gold mining

1 December
Detoxifying gold mining (phys.org)
DOI: 10.1016/j.clpl.2023.100050

The new method of ZnIn2S4 synthesis on the titania nanotubes substrate with enhanced stability and photoelectrochemical performance | Scientific Reports

2 December
The new method of ZnIn2S4 synthesis on the titania nanotubes substrate with enhanced stability and photoelectrochemical performance | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-48309-9

Single molecule makes a sensitive pressure and force sensor

15 November 2023
Single molecule makes a sensitive pressure and force sensor – Physics World

Direct probing of single-molecule chemiluminescent reaction dynamics under catalytic conditions in solution | Nature Communications

2 December
Direct probing of single-molecule chemiluminescent reaction dynamics under catalytic conditions in solution | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-43640-1

Click-chemistry polymer membranes for hydrocarbon mixture fractionation | Nature Materials

28 November
Click-chemistry polymer membranes for hydrocarbon mixture fractionation | Nature Materials
DOI: https://doi.org/10.1038/s41563-023-01684-0

As Bayer confronts mounting Roundup losses, all eyes on Philadelphia trial | Reuters

5 December
As Bayer confronts mounting Roundup losses, all eyes on Philadelphia trial | Reuters

Green catalysts: catalysing sustainability

8 November 2023
SCI - C&I Issue 10 2023 - Green catalysts: catalysing sustainability (soci.org)

Electrochemical nitrate reduction in acid enables high-efficiency ammonia synthesis and high-voltage pollutes-based fuel cells | Nature Communications

5 December
Electrochemical nitrate reduction in acid enables high-efficiency ammonia synthesis and high-voltage pollutes-based fuel cells | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43897-6

Another Class of Compounds to Watch Out For | Science | AAAS

5 December
Another Class of Compounds to Watch Out For | Science | AAAS

Ultralight ultrafast enzymes: Isotopes more powerful than previously thought

4 December
Ultralight ultrafast enzymes: Isotopes more powerful than previously thought (phys.org)
DOI: 10.1002/anie.202316488

Total Synthesis of (+)-Euphorikanin A via an Atropospecific Cascade | Journal of the American Chemical Society

5 December
Total Synthesis of (+)-Euphorikanin A via an Atropospecific Cascade | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c11000

Chemists create organic molecules in a rainbow of colours that could be useful as organic light-emitting diodes

5 December
Chemists create organic molecules in a rainbow of colors that could be useful as organic light-emitting diodes (phys.org)
DOI: 10.1038/s41557-023-01381-0

Role of Bis(phosphinimino)methanides as Universal Ligands in the Coordination Sphere of Metals across the Periodic Table | Chemical Reviews

4 December
Role of Bis(phosphinimino)methanides as Universal Ligands in the Coordination Sphere of Metals across the Periodic Table | Chemical Reviews (acs.org)
DOI: https://doi.org/10.1021/acs.chemrev.3c00336

Synthesis of Nirmatrelvir: Development of a Scalable Cobalt-Catalyzed Cyclopropanation for Manufacture of the Bicyclic [3.1.0]Proline-Building Block | Organic Process Research & Development

4 December
Synthesis of Nirmatrelvir: Development of a Scalable Cobalt-Catalyzed Cyclopropanation for Manufacture of the Bicyclic [3.1.0]Proline-Building Block | Organic Process Research & Development (acs.org)
DOI: https://doi.org/10.1021/acs.oprd.3c00251

Electrosynthesis of buckyballs with fused-ring systems from PCBM and its analogue | Nature Communications

5 December
Electrosynthesis of buckyballs with fused-ring systems from PCBM and its analogue | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43774-2

MetalDock: An Open Access Docking Tool for Easy and Reproducible Docking of Metal Complexes | Journal of Chemical Information and Modelling

4 December
MetalDock: An Open Access Docking Tool for Easy and Reproducible Docking of Metal Complexes | Journal of Chemical Information and Modeling (acs.org)
DOI: https://doi.org/10.1021/acs.jcim.3c01582

Pregnant women near farms had higher weedkiller levels during spraying season | Herbicides | The Guardian

6 December
https://www.theguardian.com/environment/2023/dec/06/weedkiller-pregnant-women-near-farms

Polarized hetero-structured luminant: The 'marriage' of 2D materials and 0D quantum dots

4 December
Polarized hetero-structured luminant: The 'marriage' of 2D materials and 0D quantum dots (phys.org)
DOI: 10.1038/s41377-023-01327-8

Cooperative supramolecular polymerization of styrylpyrenes for color-dependent circularly polarized luminescence and photocycloaddition | Nature Communications

4 December
Cooperative supramolecular polymerization of styrylpyrenes for color-dependent circularly polarized luminescence and photocycloaddition | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43830-x

Sunlight to Syngas: Revolutionizing Methane Reforming

5 December
Sunlight to Syngas: Revolutionizing Methane Reforming (scitechdaily.com)
DOI: 10.1093/pnasnexus/pgad347

Chiral, air stable, and reliable Pd(0) precatalysts applicable to asymmetric allylic alkylation chemistry | Nature Communications

5 December
Chiral, air stable, and reliable Pd(0) precatalysts applicable to asymmetric allylic alkylation chemistry | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43512-8

The silver bullet that wasn't: Glyphosate's declining weed control over 25 years

5 December

The silver bullet that wasn't: Glyphosate's declining weed control over 25 years (phys.org)
DOI: 10.1093/pnasnexus/pgad338

Quantitative biodistribution of nanoparticles in plants with lanthanide complexes | Scientific Reports

5 December
Quantitative biodistribution of nanoparticles in plants with lanthanide complexes | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-47811-4

Catalyst control over pentavalent stereocentres | Nature Communications

4 December
Catalyst control over pentavalent stereocentres | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43750-w

Aromaticity Reversal Induced by Vibrations in Cyclo[16]carbon | Journal of the American Chemical Society

1 December
Aromaticity Reversal Induced by Vibrations in Cyclo[16]carbon | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c10207

A dodecamethoxy[6]cycloparaphenylene consisting entirely of hydroquinone ethers: unveiling in-plane aromaticity through a rotaxane structure | Nature Communications

7 December
A dodecamethoxy[6]cycloparaphenylene consisting entirely of hydroquinone ethers: unveiling in-plane aromaticity through a rotaxane structure | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43907-7

MIT Scientists Develop New Process to Convert CO2 into Fuel | OilPrice.com

6 December
MIT Scientists Develop New Process To Convert CO2 into Fuel | OilPrice.com

Watch "Are there Undiscovered Elements Beyond The Periodic Table?" on YouTube

2022
https://youtu.be/prvXCuEA1lw?si=jjXiAXDEMhDI3NDW
Are there Undiscovered Elements Beyond The Periodic Table? (youtube.com)

Selective synthesis of tightly- and loosely-twisted metallomacrocycle isomers towards precise control of helicity inversion motion | Nature Communications

6 December
Selective synthesis of tightly- and loosely-twisted metallomacrocycle isomers towards precise control of helicity inversion motion | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43658-5

Element abundance patterns in stars indicate fission of nuclei heavier than uranium | Science

7 December
Element abundance patterns in stars indicate fission of nuclei heavier than uranium | Science
DOI: 10.1126/science.adf1341

Stabilizing ruthenium dioxide with cation-anchored sulfate for durable oxygen evolution in proton-exchange membrane water electrolyzers | Nature Communications

7 December
Stabilizing ruthenium dioxide with cation-anchored sulfate for durable oxygen evolution in proton-exchange membrane water electrolyzers | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43977-7

A highly proton conductive perfluorinated covalent triazine framework via low-temperature synthesis | Nature Communications

8 December
A highly proton conductive perfluorinated covalent triazine framework via low-temperature synthesis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43829-4

Team reviews phosphine ligand-induced structural transformation of metal nanoclusters

7 December
Team reviews phosphine ligand-induced structural transformation of metal nanoclusters (phys.org)
DOI: 10.26599/POM.2023.9140043

Why we need an academic career path that combines science and art

8 December
Why we need an academic career path that combines science and art (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03394-8

Researchers Aim to Decarbonize Chemical Industry by Electrifying It - IEEE Spectrum

4 December
Researchers Aim to Decarbonize Chemical Industry by Electrifying It - IEEE Spectrum

Watch "New experiment finds weird atomic nucleus with du…" on YouTube

8 December
New experiment finds weird atomic nucleus with dumbbell shape (youtube.com)

Ancient Stars Forged Elements Heavier Than Anything Ever Found in Nature : ScienceAlert

9 December
Ancient Stars Forged Elements Heavier Than Anything Ever Found in Nature : ScienceAlert
DOI: 10.1126/science.adf1341

Highly scalable photoinduced synthesis of silanols via untraversed pathway for chlorine radical (Cl•) generation | Nature Communications

9 December
Highly scalable photoinduced synthesis of silanols via untraversed pathway for chlorine radical (Cl•) generation | Nature Communications

Green Chemistry Breakthrough: Transforming Ammonia Into a Sustainable Nitrogen Source

8 December
Green Chemistry Breakthrough: Transforming Ammonia Into a Sustainable Nitrogen Source (scitechdaily.com)
DOI: 10.1038/s41557-023-01340-9

Clarifying solvent effect during photocatalytic glycerol conversion on TiO2/GQD as selective photocatalyst | Scientific Reports

9 December

Clarifying solvent effect during photocatalytic glycerol conversion on TiO2/GQD as selective photocatalyst | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-023-48781-3

Some Items of Interest to Process R&D Chemists and Engineers | Organic Process Research & Development

6 December

Some Items of Interest to Process R&D Chemists and Engineers | Organic Process Research & Development (acs.org)

DOI: https://doi.org/10.1021/acs.oprd.3c00460

Researchers unveil comprehensive collection of rhodamine-based fluorescent dyes

8 December

Researchers unveil comprehensive collection of rhodamine-based fluorescent dyes (phys.org)

DOI: 10.1021/jacs.3c05273

Potential bioremediation of lead and phenol by sunflower seed husk and rice straw-based biochar hybridized with bacterial consortium: a kinetic study | Scientific Reports

11 December

Potential bioremediation of lead and phenol by sunflower seed husk and rice straw-based biochar hybridized with bacterial consortium: a kinetic study | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-023-49036-x

Advances in Green Chemistry and Engineering (Series of open access articles)

30 July 2023

Advances in Green Chemistry and Engineering (nature.com)

Hydrogen-bonding and π-π interaction promoted solution-processable covalent organic frameworks | Nature Communications

11 December

Hydrogen-bonding and π-π interaction promoted solution-processable covalent organic frameworks | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-43905-9

Exclusive: Quantum Dots, From Old Colorful Glass To The Technology Of Tomorrow | IFLScience

10 December

Exclusive: Quantum Dots, From Old Colorful Glass To The Technology Of Tomorrow | IFLScience

Pyridine-mediated B–B bond cleavage of tetrahydroxydiboron to synthesize n-doped SWCNTs with long-term air stability | Scientific Reports

11 December

Pyridine-mediated B–B bond cleavage of tetrahydroxydiboron to synthesize n-doped SWCNTs with long-term air stability | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-023-48847-2

New insight on electrochemical reactions—advancing the green transition

11 December

New insight on electrochemical reactions—advancing the green transition (phys.org)

DOI: 10.1038/s41467-023-43300-4

Katalin Karikó and Ferenc Krausz Receive the Nobel Prize
11 December
Katalin Karikó and Ferenc Krausz Receive the Nobel Prize (hungarytoday.hu)

Properties of Metal Hydrides of the Iron Triad | Journal of the American Chemical Society
7 December
Properties of Metal Hydrides of the Iron Triad | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c08925

A bump worthy of a Nobel Prize
7 December
A bump worthy of a Nobel Prize | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01564-3

Quantum dot dot dot | Nature Nanotechnology
12 December
Quantum dot dot dot | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01586-x

Time Crystals: What They Are And Why You Should Care | IFLScience
12 December
Time Crystals: What They Are And Why You Should Care | IFLScience

2023: The year in innovation (not strictly chemistry related but plenty of interest for everyone)
8 December
2023: The year in innovation | McKinsey

'Head-scratcher': first look at asteroid dust brought to Earth offers surprises
12 December
'Head-scratcher': first look at asteroid dust brought to Earth offers surprises (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03978-4

Researcher leads breakthrough in production of green carbon monoxide using light
12 December
Researcher leads breakthrough in production of green carbon monoxide using light (techxplore.com)
DOI: 10.1039/D2EE03353D

DU Organic Chemistry Lab Explores New Territory with Molecular Probes | University of Denver
11 December
DU Organic Chemistry Lab Explores New Territory With Molecular Probes | University of Denver

A robin: inside her small dark eye, a quantum entanglement | Helen Sullivan | The Guardian
12 December
A robin: inside her small dark eye, a quantum entanglement | Helen Sullivan | The Guardian

Organic Syntheses | Science | AAAS
13 December
Organic Syntheses | Science | AAAS

Scientists use large scientific facilities to test the synthesis and characterization of polymeric nitrogen

12 December
Scientists use large scientific facilities to test the synthesis and characterization of polymeric nitrogen (phys.org)
DOI: 10.1016/j.enmf.2023.09.005

Polysulfonated covalent organic framework as active electrode host for mobile cation guests in electrochemical soft actuator | Science Advances

13 December
Polysulfonated covalent organic framework as active electrode host for mobile cation guests in electrochemical soft actuator | Science Advances
DOI: 10.1126/sciadv.adk975

Quantum dot dot dot | Nature Nanotechnology

12 December
Quantum dot dot dot | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01586-x

Electroreductive hydroxy fluorosulfonylation of alkenes | Nature Communications

13 December
Electroreductive hydroxy fluorosulfonylation of alkenes | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-44029-w

Study presents new pathway for electrochemically controlling ion selectivity

13 December
Study presents new pathway for electrochemically controlling ion selectivity (phys.org)
DOI: 10.1021/jacsau.3c00486

Next-generation nanocatalysts to revolutionize active electron transfer

13 December
Next-generation nanocatalysts to revolutionize active electron transfer (phys.org)
DOI: 10.1039/D3CC05242G

Direct Decarboxylation of Trifluoroacetates Enabled by Iron Photocatalysis - Fernández-García - Angewandte Chemie International Edition - Wiley Online Library

13 December
Direct Decarboxylation of Trifluoroacetates Enabled by Iron Photocatalysis - Fernández-García - Angewandte Chemie International Edition - Wiley Online Library
DOI: https://doi.org/10.1002/anie.202311984

Bowtie resonators that build themselves bridge the gap between nanoscopic and macroscopic

6 December
Bowtie resonators that build themselves bridge the gap between nanoscopic and macroscopic (phys.org)
DOI: 10.1038/s41586-023-06736-8

Closing a Gap in Nuclear Theory

13 December
Physics - Closing a Gap in Nuclear Theory (aps.org)

A Physics-Inspired Approach to the Understanding of Molecular Representations and Models | Theoretical and Computational Chemistry | ChemRxiv | Cambridge Open Engage

11 December
https://chemrxiv.org/engage/chemrxiv/article-details/6572ef1a5bc9fcb5c95aad41
DOI: 10.26434/chemrxiv-2023-0zx26

A Spectrum of Innovation: MIT Chemists Synthesize Colorful Organic Molecules

15 December

A Spectrum of Innovation: MIT Chemists Synthesize Colorful Organic Molecules (scitechdaily.com)

DOI: 10.1038/s41557-023-01381-0

Ratcheting synthesis | Nature Reviews Chemistry

15 December

Ratcheting synthesis | Nature Reviews Chemistry

DOI: https://doi.org/10.1038/s41570-023-00558-y

Quantum Leap: Princeton Physicists Successfully Entangle Individual Molecules for the First Time

11 December

Quantum Leap: Princeton Physicists Successfully Entangle Individual Molecules for the First Time (scitechdaily.com)

DOI: 10.1126/science.adf4272

Hot luminescence from single-molecule chromophores electrically and mechanically self-decoupled by tripodal scaffolds | Nature Communications

12 December

Hot luminescence from single-molecule chromophores electrically and mechanically self-decoupled by tripodal scaffolds | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-43948-y

Making and Testing The ANTI-SPICY Molecule (Capsazepine)

16 December

Making and Testing The ANTI-SPICY Molecule (Capsazepine) (youtube.com)

Site-selective chemical reactions by on-water surface sequential assembly | Nature Communications

14 December

Site-selective chemical reactions by on-water surface sequential assembly | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-44129-7

Three novel inorganic clusters accelerate chemical reactions to create carbon–carbon bonds

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Scientists develop new molecular system made from abundant element manganese for photooxidation

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Undated
UH Researcher Solving an Age-Old Mystery about Crystal Formation

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25 January
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Applying a small voltage to a catalyst can increase the rates of common reactions used in manufacturing, study finds

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Division of Medicinal and Biological Chemistry of the Institute of Chemistry of Ireland

Medicinal Chemistry, Chemical Biology & Life Sciences

Cutting Back on One Amino Acid Increases Lifespan of Middle-Aged Mice Up to 33% - ScienceAlert

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Explore the LVEM5 Benchtop Electron Microscope | Delong America

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Making a superconductor liquid–solid out of the vacuum with hundred-exatesla-strong magnetic fields

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New material opens up possibility of converting water pollutants into hydrogen gas

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Study probes unexplored combination of three chemical elements for superconductivity

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Physicists Discover Evidence of Time Being Reversible in Glass

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Physicists Discover Evidence of Time Being Reversible in Glass : ScienceAlert
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Scientists manufacture a surface that has virucidal properties but does not use any chemicals

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Bioinspired polymeric supramolecular columns as efficient yet controllable artificial light-harvesting platform

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Discovery Defies Our Understanding of Superconductivity

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Scientists mix and match properties to make new superconductor with chiral structure

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Scientists mix and match properties to make new superconductor with chiral structure (phys.org)
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Very small pores make a big difference in filtering technology

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New China LK99-Like Superconductor Research and Imminent Patent | NextBigFuture.com

Advanced measurements unravel nanoscale phenomena in tungsten diselenide

7 February

Advanced measurements unravel nanoscale phenomena in tungsten diselenide (phys.org)

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Deceptive orbital confinement at edges and pores of carbon-based 1D and 2D nanoarchitectures | Nature Communications

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Scientists shed light on the inner workings of a new class of unconventional superconductors (phys.org)

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Heavy fermions appear in a layered intermetallic crystal – Physics World

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Heavy fermions appear in a layered intermetallic crystal – Physics World

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Preparation and research of new black zirconia ceramics | Scientific Reports (nature.com)

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Metamaterial chimera nearly undetectable across visible light, microwave, and infrared spectra

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Scientists develop game-changing 'glass brick' that could revolutionize construction: 'The highest insulating performance'

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Scientists develop game-changing 'glass brick' that could revolutionize construction: 'The highest insulating performance' (thecooldown.com) and
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Monte Carlo simulations of spherocylinders interacting with site-dependent square-well potentials

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Recycling research finds new process to transform glass fiber-reinforced plastic into silicon carbide

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Biotechnology with a Chemistry Emphasis

Six Ways Machine Learning Will Transform the Biopharmaceutical Lifecycle
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Investors see a biotech comeback in 2024 as rates fall, deal-making picks up. Stocks to watch
28 December
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Biotech Buzz: What is BIRAC & How Does It Support Biotech Startups? (tice.news)

Why Is TikTok Parent ByteDance Moving Into Science and Drug Discovery?
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Why Is TikTok Parent ByteDance Moving Into Science and Drug Discovery? (forbes.com)

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Arena BioWorks launches in Cambridge to speed drug discovery

13 January
Arena BioWorks launches in Cambridge to speed drug discovery (statnews.com)

Two-substrate enzyme engineering using small libraries that combine the substrate preferences from two different variant lineages | Scientific Reports

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Scientists Film Plant 'Talking' to Its Neighbor, And The Footage Is Incredible

15 January
Scientists Film Plant 'Talking' to Its Neighbor, And The Footage Is Incredible : ScienceAlert
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Self-Replicating RNA Manufacturer Credits Perfecting the Bioprocess

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Bar-coding bacteriophages: New method could unleash powerful biotechnology applications

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Bar-coding bacteriophages: New method could unleash powerful biotechnology applications (phys.org)
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Optimizing bioplastics translation | Nature Reviews Bioengineering
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Novel strategy for ultrahigh density copper single atom enzymes developed for tumor therapies

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A general route to retooling hydrolytic enzymes toward plastic degradation – ScienceDirect

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Updated Covid vaccine has 54% effectiveness, new data suggest
1 February
Updated Covid vaccine has 54% effectiveness, new study suggests (statnews.com)

Fermentation revolution? Trash becomes treasure as bio-waste yields valuable acetone and isopropanol
31 January
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A new technology can make biofuels cheaper and greener than petroleum
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Puffed-up MOFs for improved drug delivery
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Puffed-up MOFs for improved drug delivery - American Chemical Society (acs.org)

Overconsumption of fructose by parents increases risk of cardiometabolic disease in offspring, study shows
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Overconsumption of fructose by parents increases risk of cardiometabolic disease in offspring, study shows (fapesp.br)

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Supramolecular polymers form tactoids through liquid–liquid phase separation | Nature
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Supramolecular polymers form tactoids through liquid–liquid phase separation | Nature
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ChemistryViews - The Magazine of Chemistry Europe

Many interesting articles and videos are available at:

https://www.chemistryviews.org
or
https://www.chemistryviews.org/category/chememag

EuChemS
European Chemical Society

There are many articles and updates in EuChemS Magazine plus. Two well written articles stand out for me, and their message is reflected in the ICN topic "**Science & Truth, Trust & Science Communication".** These are:

Standing for science in the era of social media and fake news

15 November

"Before the last global financial crisis, scientists were thought to be competent people who could be asked for a trustworthy judgement on a specialized topic. This changed after the banking and real estate sectors experienced the 2008 financial crisis, which caused a decline in trust in economic gurus. Nonetheless, due to consistent technological advancements, new developments in AI tools, and improvements in healthcare, faith in STEM (Science, Technology, Engineering, and Mathematics) has grown. **But public trust in science and scientists in general has been eroding recently**. Unquestionably, science was successful in combating the COVID-19 pandemic. In contemporary postmodern society, scientists are losing their privileged position as role models to other professionals. Why is this happening?"

By Shahzada Ahmad*, Manuel Doblare**,
*BCMaterials, Basque center for Materials, Applications and Nanostructures, Leioa, Spain, **Tissue Microenvironment lab (TME lab), Aragón Institute of Engineering Research (I3A), University of Zaragoza, Spain

The role of scientific communities in disarming misinformation

15 November 2023

"Covid vaccines contain microchips. 5G networks control our brains and cause cancer. The moon landing is fake. And, of course, world governments are full of lizard people. We all have heard conspiracy theories. Maybe their absurdities even elicited a chuckle, or we just scoffed at them before ignoring them. But for an increasing number of people, statements only barely less crazy than the ones above may sound credible - causing unnecessary harm, generating risks, and leading to significant political and social turmoil. Think about the reoccurrence of measles in anti-vaccination communities, the spread of the COVID pandemic due to disregard towards security measures, or the violence committed by followers of the Q-anon conspiracy in the United States.

By Marton Kottmayer,
European Chemical Society

You can read these two articles by clicking Read More in the magazine under Floris's editorial.

You can read more EuChemS news Items here:

https://www.euchems.eu/communication/news

EuChemS scientific Divisions and Working Parties enhance networking in their own fields of expertise and promote collaboration with other European and international organisations. See:

https://www.euchems.eu/divisions

EuChemS
European Chemical Society

Angela Agostiano started her term as EuChemS President

12 January 2024

On 1 January 2024, after one year in the position of President-Elect, Angela Agostiano formally began her Presidency of the European Chemical Society. She was elected in 2022, at EuChemS' General Assembly in Lisbon. She is following Floris Rutjes as President of the European Chemical Society (EuChemS), who will carry on with his activities as EuChemS Vice-President.

Angela Agostiano is a Full Professor of Physical Chemistry at the University of Bari, Italy. She was also the first female president of the Italian Chemical Society between 2017-2019, in which period she worked on increasing SCI's European and global reach by addressing societal and policy issues through chemistry. In addition, she is chairing the EuChemS Task Group on Inclusion and Diversity.

Strengthening EuChemS

As his term as EuChemS President ends on 31 December 2023, Floris Rutjes summarizes the last three years.

Floris Rutjes, November 15, 2023

While returning from Cyprus, chairing my last General Assembly as EuChemS President, it doesn't feel like my EuChemS activities are coming to an end. Looking back at the past four years in the Executive Board, one as President-Elect and three years as President, the first 30 months were largely dominated by COVID, resulting in few personal interactions and many online meetings and webinars. Yet, we adapted and got accustomed to new ways of interacting within EuChemS. It resulted in fewer in-person Executive Board meetings, adaptation of the constitution such that we can have virtual General Assemblies also under normal circumstances, and hybrid science and policy workshops from the European Parliament, thereby reaching a much bigger audience than before, to mention a few examples.

I am proud that under these difficult circumstances, EuChemS was able to maintain its activities and even increase the number of events and participation in science-policy outreach. After COVID, steadily all the regular activities were resumed, with the most rewarding one being the successful 8th EuChemS Chemistry Congress in Lisbon, where people could meet in person again after a long time.

Being three years EuChemS President may sound like a long time, but in my perception it passed very quickly. It takes time to, for instance, learn how the EuChemS organization really works, how exactly the divisions and working parties are organized, which policy activities we should be involved in, and which internal processes could be improved. A continuous goal of many of the changes that were implemented was to increase EuChemS' visibility and branding the name EuChemS. The acronym EuChemS is now always visible in the name of awards, there is a new monthly magazine that contains the name EuChemS, we have video clips explaining what EuChemS stands for and so on. We teamed up with the larger member societies in science-policy activities, such as the High-Level Roundtable on the Implementation of Sustainable Chemicals Strategy set up by the European Commission, Stick-to-Science and Coalition for Advancing Research Assessment (CoARA). And we changed our focus to sustainability, as with, for example, the EuChemS Periodic Table, which as of recently, no longer focuses solely on scarcity but also on sustainability as well.

The first three years I worked closely with the experienced board members Pilar Goya and Eckart Rühl, and continuing without them feels like a transition. Their successors, Angela Agostiano and Hans-Peter Lühti, however, have started full with enthusiasm and new ideas and that gives new elan to the board. Industrial participation has started, and there are new plans to invest in creating a stronger European chemistry community. Therefore, I am convinced that with this new team, as always supported by the dedicated EuChemS Office, we will continue with the Member Societies and the Professional Networks to further develop EuChemS into a stronger and more powerful player in the European chemistry arena.

EuChemS attends first science policy meetings of 2024

Ioannis Katsoyiannis met President of the European Commission Ursula Von Der Leyen and informed her about EuChemS activities. In parallel, EuChemS attended the workshop of the Zero Pollution Stakeholder Platform.

By Marton Kottmeyer, EuChemS
13 February 2024

On 24 January, Ioannis Katsoyannis, former EuChemS Executive Board Member, Immediate Past Chair of the EuChemS Division of Chemistry and the Environment and President of the Association of Greek Chemists accepted an invite by President of the European Commission Ursula von der Leyen, who hosted a reception for prestigious guests in the Berlaymont Building of the European Commission in Brussels. Ioannis Katsoyiannis informed her about the science-policy activities of EuChemS, in particular in relation to the EU Zero Pollution initiative, which had its first event of the year starting on the same day.

This event, titled “Zero Pollution Monitoring and Outlook Workshop” was organised by the European Commission’s Zero Pollution Stakeholder Platform (ZPSP). EuChemS is an invited member of this platform, hence Ioannis Katsoyiannis, and Science Communication and Policy Officer Marton Kottmayer attended this workshop.

After the opening by Joachim D’Eugenio from the Directorate General for Environment of the European Commission (DG ENV), attendees – representatives of stakeholder organisations, EU institutions and invited guests – could hear about the progress ZPSP made in the last year. The key topic was the work on the creation of the second edition of a monitoring and outlook report, a task undertaken by the Joint Research Centre (JRC) and the European Environment Agency (EEA). Therefore, EEA and JRC speakers presented on lessons learned, and harnessed the comments of attending stakeholders. On 25 January, speakers from the Committee of the Regions (CoR) and DG ENV addressed various topics, including the overlaps between the ZPSP and the Chemicals Strategy for Sustainability, of which EuChemS is also involved with as a stakeholder. Other topics during the discussion included the future of the ZPSP after the 2024 European elections, and elevating the Zero Pollution Agenda to the global level by collaborating with the United Nations.

New EuChemS Executive Board Members

At the EuChemS Annnual Meetings, the new elected and appointed members of the EuChemS Executive Board were confirmed.

By Marton Kottmayer, EuChemS

December 15, 2023

The new elected members are Péter Szalay and Aura Tintaru, while the new appointed members are Alexandra R. Albunia and Karsten Danielmeier. The appointed members are chemists from industry – their participation in the Executive Board is in line with EuChemS’ strategy in bringing European research in academia and chemical industry research closer together.

Aura Tintaru, from Romania, is a professor at the Centre Interdisciplinaire de Nanoscience of Aix-Marseille University, France. She is the Vice-President of the French Chemical Society, responsible for the international relations of the organisation. She is also a delegate of the EuChemS Division of Analytical Chemistry.

Péter Szalay is the Head of Chemistry Department and Professor at Eötvös Loránd University, Hungary. He is the recently elected President of the Hungarian Chemical Society. Within EuChemS, he served as the Chair of the Division of Computational and Theoretical Chemistry and a representative of Professional Networks until the end of 2022.

Alexandra R. Albunia is an Assistant Professor in Industrial Chemistry, member of the Italian Chemical Society and Senior Group Expert in Innotech and Technology organisation at Borealis Polyolefine GmbH.

Karsten Danielmeier is the current President of the German Chemical Society, and the Senior Vice President of Covestro, a German company producing polyurethane and polycarbonate raw materials.

The new members will begin their terms on 1 January 2024. EuChemS is delighted to welcome them at the Executive Board and looks forward to their contributions to European chemistry.

EYCA nominations open

Jan 15, 2024

Nominations for the EuChemS Young Chemist Awards opened on 15 January.

This award invites young chemists – PhD or Early Career – to showcase their research. We invite younger chemists of exceptional ability, who show promise for substantial future achievements in chemistry-related research fields, to nominate.

The nominations will be assessed by an international jury. Selected nominees will be invited to the 9th EuChemS Chemistry Congress, to be held in Dublin, on 7-11 July, to present their entries in the second round, after which, the winners will be presented at the congress.

EYCA is sponsored by the Società Chimica Italiana (SCI), the Royal Society of Chemistry (RSC) and Chemistry Europe.

Learn more and nominate

EuChemS participated in Young Chemists' meeting

On 29-31 January, the Royal Society of Chemistry (RSC) hosted the Delegate Assembly of the EuChemS Young Chemists' Network at the Burlington House in London, United Kingdom.

By Marton Kottmayer, EuChemS

February 13, 2024

EuChemS President Angela Agostiano, as Secretary General Nineta Hrastelj and Science Policy and Communications Officer Marton Kottmayer from the EuChemS Office joined the Delegate Assembly as invited guests.

During the opening of this annual meeting, Angela Agostiano presented some of EuChemS' activities, inviting input from EYCN colleagues and led a discussion on inclusion and diversity, building on her own personal experiences. In another session, Marton Kottmayer addressed how the upcoming European elections may affect science, and later, alongside Nineta Hrastelj, led a simulation exercise demonstrating the European policymaking process.

The event, organised by the Royal Society of Chemistry (RSC), had no shortage of high-quality discussions within the EYCN's teams, the outcomes of which were presented to all attendees. A highlight was Sir Martyn Poliakoff, who presented a passionate lecture on the periodic table, its history and his own life intertwined with it, also mentioning the EuChemS Periodic Table.

You can read more about the 2024 EYCN Delegate Assembly here.

EuChemS thanks EYCN for the invitation and congratulates EYCN Chair Claudia Bonfio and Secretary Tomasz Swebocki for putting an excellent programme and event together, jointly with RSC colleagues on behalf of which Helen Pain, RSC CEO welcomed and hosted us in London.

Third issue of EuChemS Magazine Plus is released

16 November 2023

On 16 November, the third issue of EuChemS Magazine Plus, an extended edition of the monthly EuChemS Magazine was published.

EuChemS Magazine Plus features a selection of articles and in-depth essays written by guest contributors from the European Chemistry Community. In our November issue, the Editorial by Floris Rutjes, discusses his years as the President of EuChemS, while his President's Column describes EuChemS' stance regarding PFAS Policy. In addition, you can learn about trust in science and countering misinformation in our two policy essays. You can also read summaries of our professional networks' conferences over the summer as well as of our Annual Meetings in Cyprus, and perspectives the German Bunsen Society as well as from the Hungarian Chemical Society, and gather information about the 9th EuChemS Chemistry Congress, Furthermore, in our research segment, you can get to know an innovative chemistry e-learning tool and GDCh's new global collaborations – as well as an interview with the 2023 EuChemS Lecture Award Recipient. Last but not least, you can also hear from our correspondents from C2W and ChemistryViews.

EuChemS Magazine is the monthly publication of EuChemS, summarising news about science policy and European Chemistry. However, every four months – three times a year – EuChemS Magazine Plus is published with more content from a wide range of authors.

Read EuChemS Magazine Plus

https://erc.europa.eu/homepage

ERC

ERC News, Events, Magazine, Podcast, and Publications

November
https://erc.europa.eu/news-events/news

Current position of the ERC Scientific Council on Artificial Intelligence | ERC

1 December
Current position of the ERC Scientific Council on Artificial Intelligence | ERC (europa.eu)

Current position of the ERC Scientific Council on Artificial Intelligence

1 December
Current position of the ERC Scientific Council on Artificial Intelligence | ERC (europa.eu)

European Research Council issues warning on AI's use in grant applications | Science|Business

19 December
European Research Council issues warning on AI's use in grant applications | Science|Business (sciencebusiness.net)

Switzerland and Horizon Europe | Science of snow | ERC-funded research in biodiversity

15 December
Statement by the ERC President on association of Switzerland to Horizon Europe | ERC (europa.eu)

Germany tops latest ERC Proof of Concept funding round - Research Professional News

18 January
Germany tops latest ERC Proof of Concept funding round - Research Professional News

240 researchers supported to turn their science into practice | ERC

18 January
240 researchers supported to turn their science into practice | ERC (europa.eu)

Proof of Concept Grants 2023: Examples of projects | ERC

18 January
Proof of Concept Grants 2023: Examples of projects | ERC (europa.eu)

Statement by the ERC Scientific Council on the next EU framework programme for research and innovation (FP10)

24 January
Statement by the ERC Scientific Council on the next EU framework programme for research and innovation (FP10) | ERC (europa.eu)

240 researchers supported to turn their science into practice

18 January

240 researchers supported to turn their science into practice | ERC (europa.eu)

Evaluation of research proposals: The why and what of the ERC's recent changes | ERC

21 February

Evaluation of research proposals: The why and what of the ERC's recent changes | ERC (europa.eu) and Evaluation_of_research_proposals.pdf (europa.eu)

European Research Council asks its grant holders to call for more money

29 February

European Research Council asks its grant holders to call for more money | Science|Business (sciencebusiness.net)

Analytical Chemistry Papers & Articles

High-Throughput Mass Spectrometry Platform Enables In Situ Screening of Fatty Acid-Producing Strains

27 November
High-Throughput Mass Spectrometry Platform Enables In Situ Screening of Fatty Acid-Producing Strains | Technology Networks
DOI: 10.1016/j.talanta.2023.125234

New Bacterial Identification Method Could Help Reduce Use of Antibiotics | Technology Networks

28 November
New Bacterial Identification Method Could Help Reduce Use of Antibiotics | Technology Networks
DOI: 10.1073/pnas.2305995120

Add Another Dimension for Analytical Intention (with additional articles)

30 November
Add Another Dimension for Analytical Intention | Technology Networks

Confident Metabolite Identification for Meaningful Results in Multiomics Analyses (with additional articles)

16 November 2023
Confident Metabolite Identification for Meaningful Results in Multiomics Analyses | Technology Networks

Scientists Test Out New Method for Identifying Small Microplastics (with additional article)

30 November
Scientists Test Out New Method for Identifying Small Microplastics | Technology Networks

Predicting Bordeaux red wine origins and vintages from raw gas chromatograms | Communications Chemistry

5 December
Predicting Bordeaux red wine origins and vintages from raw gas chromatograms | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01051-9

New Method for Prenatal Genetic Testing Developed

27 November 2023
New Method for Prenatal Genetic Testing Developed | Technology Networks
DOI: 10.1056/NEJMc2216144

Mid-infrared supermirrors with finesse exceeding 400,000

6 December
Mid-infrared supermirrors with finesse exceeding 400 000 | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43367-z

Development and application of fluorine doped bismuth vanadate reduced graphene oxide Nafion composite electrode as an electrochemical sensor for 4-chlorophenol | Scientific Reports

11 December
Development and application of fluorine doped bismuth vanadate reduced graphene oxide Nafion composite electrode as an electrochemical sensor for 4-chlorophenol | Scientific Reports (nature.com)

A Brief Look at Optical Diffuse Reflection (ODR) Spectroscopy

1 August 2023
A Brief Look at Optical Diffuse Reflection (ODR) Spectroscopy (spectroscopyonline.com)
DOI: 10.1080/05704928.2010.537004

Scientists Test Out New Method for Identifying Small Microplastics
30 November
Scientists Test Out New Method for Identifying Small Microplastics | Technology Networks

Is Your Hair Routine Releasing Harmful Chemicals Into the Air?
28 November
Is Your Hair Routine Releasing Harmful Chemicals Into the Air? | Technology Networks
DOI: 10.1021/acs.est.3c05156

AI Can Tell a Wine's Vineyard With 100% Accuracy
5 December
AI Can Tell a Wine's Vineyard With 100% Accuracy | Technology Networks
DOI: doi:10.1038/s42004-023-01051-9

Sugar Analysis Could Reveal Different Types of Cancer
13 December
Sugar Analysis Could Reveal Different Types of Cancer | Technology Networks
DOI: doi: 10.1016/j.crmeth.2023.100652

New Analysis Tools for Detecting Food Fraud
8 December
New Analysis Tools for Detecting Food Fraud | Technology Networks
DOI: 10.1016/B978-0-12-817242-1.00010-5

Detecting Air Pollutants to Combat Climate Change
19 July 2023
Detecting Air Pollutants To Combat Climate Change | Technology Networks
DOI:10.1002/anie.202207447

Molecular Spectroscopy Evolves To Meet Changing Pharma and Biopharma Needs
19 May 2022
Molecular Spectroscopy Evolves To Meet Changing Pharma and Biopharma Needs | Technology Networks

Researchers review miniaturized electrochemical sensor technologies for rapid heavy metal detection
12 December
Researchers review miniaturized electrochemical sensor technologies for rapid heavy metal detection (phys.org)
DOI: 10.1016/j.ccr.2023.215487

A colorimetric detection of Hg2+ based on gold nanoparticles synthesized oxidized N-methylpyrrolidone as a reducing agent | Scientific Reports
14 December
A colorimetric detection of Hg2+ based on gold nanoparticles synthesized oxidized N-methylpyrrolidone as a reducing agent | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-49551-x

Cryo-Electron Microscopy at Just One-Tenth the Cost - IEEE Spectrum
14 December
Cryo-Electron Microscopy at Just One-Tenth the Cost - IEEE Spectrum

Explore the LVEM5 Benchtop Electron Microscope | Delong America (Commercial Ad)

December?
Explore the LVEM5 Benchtop Electron Microscope | Delong America

Elucidating the structure-stability relationship of Cu single-atom catalysts using operando surface-enhanced infrared absorption spectroscopy | Nature Communications

14 December
Elucidating the structure-stability relationship of Cu single-atom catalysts using operando surface-enhanced infrared absorption spectroscopy | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-44078-1

A Brief Look at Optical Diffuse Reflection (ODR) Spectroscopy

1 August 2023
A Brief Look at Optical Diffuse Reflection (ODR) Spectroscopy (spectroscopyonline.com)
DOI: 10.1080/05704928.2010.537004

Novel Approach Unveils Elemental Composition and Properties of Recycled Printed-Circuit Board (PCB) Powder

4 December
Novel Approach Unveils Elemental Composition and Properties of Recycled Printed-Circuit Board (PCB) Powder (spectroscopyonline.com)
DOI: 10.1016/j.sab.2023.106819

The Surface-Specificity of IRRAS in Studying Soluble Organic Acids: An Interview with Alexandra Deal

22 November 2022
The Surface-Specificity of IRRAS in Studying Soluble Organic Acids: An Interview with Alexandra Deal (spectroscopyonline.com)
DOI: 10.1177/00037028231200903

Mapping protein states and interactions across the tree of life with co-fractionation mass spectrometry | Nature Communications

15 December
Mapping protein states and interactions across the tree of life with co-fractionation mass spectrometry | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-44139-5

Recent advances in developing electrochemical (bio)sensing assays by applying natural polymer-based electrospun nanofibers: A comprehensive review – ScienceDirect

(February 2024)
Recent advances in developing electrochemical (bio)sensing assays by applying natural polymer-based electrospun nanofibers: A comprehensive review - ScienceDirect
DOI: https://doi.org/10.1016/j.microc.2023.109799

Researchers develop new electrochemical chemosensor for fast, effective diagnosis of a lethal pulmonary disease

15 December
Researchers develop new electrochemical chemosensor for fast, effective diagnosis of a lethal pulmonary disease (phys.org)
DOI: 10.1021/acsanm.3c04130

Infrared Spectroscopy of Polymers X: Polyacrylates

1 January
2023

Infrared Spectroscopy of Polymers X: Polyacrylates (spectroscopyonline.com)

Infrared Spectroscopy Reveals Sorption Mechanism of Organic Compounds on Mineral Composite Material

5 July 2023
Infrared Spectroscopy Reveals Sorption Mechanism of Organic Compounds on Mineral Composite Material (spectroscopyonline.com)
DOI: 10.1016/j.saa.2023.122758

Artificial Intelligence in Analytical Spectroscopy, Part I: Basic Concepts and Discussion

1 February 2023
Artificial Intelligence in Analytical Spectroscopy, Part I: Basic Concepts and Discussion (spectroscopyonline.com)

The 2023 Emerging Leader in Molecular Spectroscopy Award

1 September
The 2023 Emerging Leader in Molecular Spectroscopy Award (spectroscopyonline.com)

High-Sensitivity Mid-IR Absorption Spectroscopy for Proteins in Aqueous Solution

5 May 2023
High-Sensitivity Mid-IR Absorption Spectroscopy for Proteins in Aqueous Solution (spectroscopyonline.com)
DOI: 10.1021/acs.analchem.0c04091

Improving Diagnosis of Eye Disease Using Spectroscopy

18 December
Improving Diagnosis of Eye Disease Using Spectroscopy | Technology Networks
DOI: 10.1117/1.JBO.28.12.126004

Simultaneous quantification of seven glycols in antifreeze liquids using direct liquid injection gas chromatography coupled with mass spectrometry

22 December
Simultaneous quantification of seven glycols in antifreeze liquids using direct liquid injection gas chromatography coupled with mass spectrometry - Danila - 2024 - Rapid Communications in Mass Spectrometry - Wiley Online Library
DOI: https://doi.org/10.1002/rcm.9686

In operando NMR investigations of the aqueous electrolyte chemistry during electrolytic CO2 reduction

6 December
In operando NMR investigations of the aqueous electrolyte chemistry during electrolytic CO2 reduction | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01065-3

Predicting Bordeaux red wine origins and vintages from raw gas chromatograms | Communications Chemistry

5 December
Predicting Bordeaux red wine origins and vintages from raw gas chromatograms | Communications Chemistry (nature.com)
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Migration and aggregation of Pt atoms on metal oxide-supported ceria nanodomes control reverse water gas shift reaction activity | Communications Chemistry

5 December

Migration and aggregation of Pt atoms on metal oxide-supported ceria nanodomes control reverse water gas shift reaction activity | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01064-4

A broad-spectrum gas sensor based on correlated two-dimensional electron gas | Nature Communications

21 December
A broad-spectrum gas sensor based on correlated two-dimensional electron gas | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-44331-7

Non-Specific Calibration Combined with Helium Collision Mode for Elemental Screening

1 August 2023
Non-Specific Calibration Combined with Helium Collision Mode for Elemental Screening (spectroscopyonline.com)

Revolutionary Mid-Infrared Supermirrors Pave the Way for Breakthrough Sensing Technologies

8 December
Revolutionary Mid-Infrared Supermirrors Pave the Way for Breakthrough Sensing Technologies (spectroscopyonline.com)
DOI: https://doi.org/10.1038/s41467-023-43367-z

A Water-soluble, Cell-permeable Mn(II) Sensor Enables Visualization of Manganese Dynamics in Live Mammalian Cells | Inorganic Chemistry | ChemRxiv | Cambridge Open Engage

29 December
A Water-soluble, Cell-permeable Mn(II) Sensor Enables Visualization of Manganese Dynamics in Live Mammalian Cells | Inorganic Chemistry | ChemRxiv | Cambridge Open Engage
DOI: https://doi.org/10.26434/chemrxiv-2023-d4fp9-v2

Quantum plasmonics pushes chiral sensing limit to single molecules: a paradigm for chiral biodetections | Nature Communications

2 January
Quantum plasmonics pushes chiral sensing limit to single molecules: a paradigm for chiral biodetections | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42719-z

A New Approach for Sensor Design

28 December
A New Approach For Sensor Design (semiengineering.com)

Tissue-integrated sensitive glucose nanosenor uses inactive glucose oxidase enzyme for continuous monitoring

2 January
https://phys.org/news/2024-01-tissue-integrated-sensitive-glucose-nanosenor-inactive.html
DOI: 10.1002/anie.202311476

Biochemical assessment of spironolactone oral suspension in human plasma using ultra-performance liquid chromatography-tandem mass spectrometry: Application toward pharmacokinetic study

3 January
Biochemical assessment of spironolactone oral suspension in human plasma using ultra-performance liquid chromatography-tandem mass spectrometry: Application toward pharmacokinetic study - Rajendran - SEPARATION SCIENCE PLUS - Wiley Online Library

DOI: https://doi.org/10.1002/sscp.202300174

Analysis of N- and O-linked site-specific glycosylation by ion mobility mass spectrometry: State of the art and future directions - Girgis - PROTEOMICS - Wiley Online Library

3 January
Analysis of N- and O-linked site-specific glycosylation by ion mobility mass spectrometry: State of the art and future directions - Girgis - PROTEOMICS - Wiley Online Library
DOI: https://doi.org/10.1002/pmic.202300281

A New X-Ray Analysis of Rembrandt's 'The Night Watch' Reveals a Hidden Base Layer

3 January
A New X-Ray Analysis of Rembrandt's 'The Night Watch' Reveals a Hidden Base Layer (artnet.com)

Researchers 3D print components for a portable mass spectrometer

4 January
Researchers 3D print components for a portable mass spectrometer | MIT News | Massachusetts Institute of Technology

Detecting Covid-19 Using Visible or Near-Infrared Spectroscopy and Machine Learning

15 December2023
Detecting Covid-19 Using Visible or Near-Infrared Spectroscopy and Machine Learning (spectroscopyonline.com)
DOI: https://doi.org/10.1016/j.saa.2023.123735

Infrared Spectroscopy of Polymers X: Polyacrylates

1 January
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Artificial Intelligence in Analytical Spectroscopy, Part I: Basic Concepts and Discussion

1 February 2023
Artificial Intelligence in Analytical Spectroscopy, Part I: Basic Concepts and Discussion (spectroscopyonline.com)

High-Sensitivity Mid-IR Absorption Spectroscopy for Proteins in Aqueous Solution

5 May 2023
High-Sensitivity Mid-IR Absorption Spectroscopy for Proteins in Aqueous Solution (spectroscopyonline.com)

Advancements in Non-Invasive Analysis of Historical Metal Artifacts

19 December 2023
Advancements in Non-Invasive Analysis of Historical Metal Artifacts (spectroscopyonline.com)
DOI: 10.1016/j.sab.2023.106808

The Future of Diagnostics (White Paper downloadable)

14 August 2023
The Future of Diagnostics | Whitepaper | Technology Networks

Identifying and Characterizing PFAS Compounds

19 December 2023
Identifying and Characterizing PFAS Compounds | Technology Networks

RepoRT: a comprehensive repository for small molecule retention times | Nature Methods

8 January
RepoRT: a comprehensive repository for small molecule retention times | Nature Methods
DOI: https://doi.org/10.1038/s41592-023-02143-z

Spectroscopy Meets Shale: Terahertz Waves Unlocking Oil Secrets

8 January
Spectroscopy Meets Shale: Terahertz Waves Unlocking Oil Secrets (scitechdaily.com)
DOI: 10.1016/j.enrev.2023.100041

Process for the optical analysis of trace gases optimized

9 January
Process for the optical analysis of trace gases optimized (phys.org)
DOI: 10.1038/s41598-023-44195-3

Research team reports observing vibrational spectra of a single protein with infrared nanospectroscopy

10 January
Research team reports observing vibrational spectra of a single protein with infrared nanospectroscopy (phys.org)
DOI: 10.1021/acs.nanolett.3c03479

Improving Diagnosis of Eye Disease Using Spectroscopy

18 December 2023
Improving Diagnosis of Eye Disease Using Spectroscopy | Technology Networks
DOI: 10.1117/1.JBO.28.12.126004

Single Protein Observed Using Infrared Near-Field Optical Microscopy

10 January
Single Protein Observed Using Infrared Near-Field Optical Microscopy | Technology Networks
DOI: 10.1021/acs.nanolett.3c03479

Dexcom's new continuous glucose monitor is a health tech gadget with purpose

11 January
Dexcom's Stelo CGM is a health tech gadget with purpose - The Verge
https://www.theverge.com/2024/1/11/24034098/Dexcom-stelo-cgm-diabetes-health-tech-ces-2024

When mass spectrometry redefines the pharma industry

12 January
When mass spectrometry redefines the pharma industry (news-medical.net)

Proving It's Clean with Analytics

2 January
Proving It's Clean with Analytics (pharmtech.com)

New Urine Test Could Enable Early Lung Cancer Detection

8 January
New Urine Test Could Enable Early Lung Cancer Detection | Technology Networks
DOI: 10.1126/sciadv.adj9591

Neutron Imaging: A peek inside (Commercial article)

7 January
Readers react to neutron imaging and the expanding definition of loneliness (sciencenews.org)

Discover Biolayer Interferometry as an AAV Analytics Solution

January (Commercial article)
Gene Therapy Brochure - HI RES Version (hubspotusercontent-na1.net)

Broadband miniaturized spectrometers with a van der Waals tunnel diode | Nature Communications

17 January
Broadband miniaturized spectrometers with a van der Waals tunnel diode | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-44702-8

New Luminescent Sensor Detects “Forever Chemicals” in Water

19 January
New Luminescent Sensor Detects “Forever Chemicals” in Water | Technology Networks
DOI: 10.1021/acs.analchem.3c04289

Innovative membrane platform enables analysis 'down to a handful of gas atoms'

22 January
Innovative membrane platform enables analysis 'down to a handful of gas atoms' (phys.org)
DOI: 10.1126/sciadv.adj6417

(PDF) REVIEW ON ANALYTICAL METHODS FOR THE CHARACTERIZATION OF GRAPHENE STRUCTURES AND TOXICITY PROFILES

January 2024
https://www.researchgate.net/publication/377411383_REVIEW_ON_ANALYTICAL_METHODS_FOR_THE_CHARACTERIZATION_OF_GRAPHENE_STRUCTURES_AND_TOXICITY_PROFILES

Enabling distributed quantum sensors for simultaneous measurements in distant places

22 January
Enabling distributed quantum sensors for simultaneous measurements in distant places (phys.org)
DOI: 10.1038/s41467-023-44204-z

Fingerprinting biomolecules with the help of sound

22 January
Fingerprinting biomolecules with the help of sound (phys.org)
DOI: 10.1016/j.bios.2023.115498

Miniaturized spectrometer with intrinsic long-term image memory | Nature Communications

23 January
Miniaturized spectrometer with intrinsic long-term image memory | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-44884-1

New sensor detects chemicals that impair thyroid gland

23 January
https://phys.org/news/2024-01-sensor-chemicals-impair-thyroid-gland.html
DOI: 10.1002/chem.202302968

Total organic carbon measurements reveal major gaps in petrochemical emissions reporting | Science

25 January
Total organic carbon measurements reveal major gaps in petrochemical emissions reporting | Science
DOI: 10.1126/science.adj6233

Detection, Quantification, and Isomer Differentiation of Per- and Polyfluoroalkyl Substances (PFAS) Using MALDI-TOF with Trapped Ion Mobility

22 January
Detection, Quantification, and Isomer Differentiation of Per- and Polyfluoroalkyl Substances (PFAS) Using MALDI-TOF with Trapped Ion Mobility | Journal of the American Society for Mass Spectrometry (acs.org)
DOI: https://doi.org/10.1021/jasms.3c00369

Researchers Develop Wider Bandwidth Quantum Infrared Spectroscopy

26 January
Researchers Develop Wider Bandwidth Quantum Infrared Spectroscopy | Technology Networks
DOI: 10.1364/OPTICA.504450

In Situ Single-crystal X-ray Diffraction Studies of Physisorption and Chemisorption of SO2 within a Metal–Organic Framework and Its Competitive Adsorption with Water

26 January
In Situ Single-crystal X-ray Diffraction Studies of Physisorption and Chemisorption of SO2 within a Metal–Organic Framework and Its Competitive Adsorption with Water | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c11847

Sub-cycle multidimensional spectroscopy of strongly correlated materials | Nature Photonics

24 January
Sub-cycle multidimensional spectroscopy of strongly correlated materials | Nature Photonics
DOI: https://doi.org/10.1038/s41566-023-01371-1

Scientists show that quantum infrared spectroscopy can achieve ultra-broadband spectroscopic measurements

25 January
Scientists show that quantum infrared spectroscopy can achieve ultra-broadband spectroscopic measurements (phys.org)
DOI: 10.1364/OPTICA.504450

Functional Electrospun Nanofibrous Hybrid Materials for Colorimetric Sensors: A Review | ACS Omega

25 January
Functional Electrospun Nanofibrous Hybrid Materials for Colorimetric Sensors: A Review | ACS Omega
DOI: https://doi.org/10.1021/acsomega.3c08318

Visual Recognition of Volatile Organic Compounds by Photonic Nose Integrated with Multiple Metal-Organic Frameworks

28 January
Visual Recognition of Volatile Organic Compounds by Photonic Nose Integrated with Multiple Metal-Organic Frameworks - Gao - Small - Wiley Online Library
DOI: https://doi.org/10.1002/smll.202308641

A faster, more efficient imaging system for nanoparticles

30 January
A faster, more efficient imaging system for nanoparticles (phys.org)
DOI: 10.1002/advs.202305284

Diagnostic Test Detects Ovarian Cancer With 93% Accuracy

30 January
Diagnostic Test Detects Ovarian Cancer With 93% Accuracy | Technology Networks

DOI: 10.1016/j.ygyno.2023.12.030

Time-resolved chemical monitoring of whole plant roots with printed electrochemical sensors and machine learning | Science Advances

31 January
Time-resolved chemical monitoring of whole plant roots with printed electrochemical sensors and machine learning | Science Advances
DOI: 10.1126/sciadv.adj6315

Infrared Sensors Can Now Peer Around Corners - IEEE Spectrum

1 February
Infrared Sensors Can Now Peer Around Corners - IEEE Spectrum

A new mass analyzer shakes up the proteomics field | Nature Biotechnology

1 February
A new mass analyzer shakes up the proteomics field | Nature Biotechnology
DOI: https://doi.org/10.1038/s41587-024-02129-y

3D atomic structure from a single X-ray free electron laser pulse | Nature Communications

1 February
3D atomic structure from a single X-ray free electron laser pulse | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-45229-8

Researchers develop gold nanowire spectroscopy system to reveal how trions are generated (Subscription)

1 February
Researchers develop gold nanowire spectroscopy system to reveal how trions are generated (phys.org)
DOI: 10.1021/acs.nanolett.3c03920

Two-Dimensional Fluctuation Correlation Spectroscopy (2D-FlucCS): A Method to Determine the Origin of Relaxation Rate Dispersion | ACS Measurement Science Au

1 February
Two-Dimensional Fluctuation Correlation Spectroscopy (2D-FlucCS): A Method to Determine the Origin of Relaxation Rate Dispersion | ACS Measurement Science Au
DOI: https://doi.org/10.1021/acsmeasuresciau.3c00048

High harmonic spectroscopy retrieves electronic structure of high-pressure superconductors

2 February
High harmonic spectroscopy retrieves electronic structure of high-pressure superconductors (phys.org)
DOI: 10.1073/pnas.2316775121

Biodegradable sensor monitors levels of pesticides via direct contact with surface of fruit and vegetables

2 February
Biodegradable sensor monitors levels of pesticides via direct contact with surface of fruit and vegetables (phys.org)
DOI: 10.1016/j.bioadv.2023.213676

Unsupervised machine learning combined with 4D scanning transmission electron microscopy for bimodal nanostructural analysis | Scientific Reports

5 February

Unsupervised machine learning combined with 4D scanning transmission electron microscopy for bimodal nanostructural analysis | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-024-53289-5

Process for the Optical Analysis of Trace Gases Optimized

2 February
Process for the Optical Analysis of Trace Gases Optimized | Technology Networks
DOI: 10.1038/s41598-023-44195-3

Correcting PCR amplification errors in unique molecular identifiers to generate accurate numbers of sequencing molecules | Nature Methods

5 February
Correcting PCR amplification errors in unique molecular identifiers to generate accurate numbers of sequencing molecules | Nature Methods
DOI: https://doi.org/10.1038/s41592-024-02168-y

Optics & Photonics News - Quantum Infrared Spectrometry Paves Way for Ultra-Compact Devices

1 February
Optics & Photonics News - Quantum Infrared Spectrometry Paves Way for Ultra-Compact Devices (optica-opn.org)
DOI: 10.1364/OPTICA.504450

Sensors Illuminate Alzheimer's Proteins for Earlier Detection

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Quantum Batteries Could Provide a New Kind of Energy Storage by Messing With Time : ScienceAlert
DOI: https://doi.org/10.1103/PhysRevLett.131.240401

Breaking Causality: The Revolutionary Power of Quantum Batteries

21 December
Breaking Causality: The Revolutionary Power of Quantum Batteries (scitechdaily.com)
DOI: 10.1103/PhysRevLett.131.240401

We can't save the world with electric cars | Euronews

26 December
We can't save the world with electric cars | Euronews

Sodium Ion Batteries: An Emerging Alternative for Energy Storage

25 December
Sodium Ion Batteries: An Emerging Alternative for Energy Storage (ts2.pl)

Shaking Up the Power Play: How Sodium-Ion Batteries Spark a New Energy Revolution
25 December
Shaking Up the Power Play: How Sodium-Ion Batteries Spark a New Energy Revolution (ts2.pl)

The Solid-State Battery Revolution: Are We Charged Up for a Power Shift?
22 December
The Solid-State Battery Revolution: Are We Charged Up for a Power Shift? (ts2.pl)

Design of high-performance and sustainable Co-free Ni-rich cathodes for next-generation lithium-ion batteries - Ge - SusMat - Wiley Online Library
26 December
Design of high-performance and sustainable Co-free Ni-rich cathodes for next-generation lithium-ion batteries - Ge - SusMat - Wiley Online Library
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Researchers Develop Promising Approach To Smaller, More Powerful, Safer Electric Vehicle Batteries – CleanTechnica
27 December
Researchers Develop Promising Approach To Smaller, More Powerful, Safer Electric Vehicle Batteries - CleanTechnica

New battery tech will slash charging times and boost EV range before the decade is out
27 December
New battery tech will slash charging times and boost EV range before the decade is out | Live Science

New Process Could Boost Solid-State Battery Production | ASSEMBLY
29 December
New Process Could Boost Solid-State Battery Production | ASSEMBLY (assemblymag.com)

Visualized: Inside a Lithium-Ion Battery - Elements by Visual Capitalist
27 December
Visualized: Inside a Lithium-Ion Battery - Elements by Visual Capitalist

QuantumScape's solid-state batteries offer 500k km, no range loss
3 January
QuantumScape's solid-state batteries offer 500k km, no range loss (electrek.co)

Structural regulation of halide superionic conductors for all-solid-state lithium batteries | Nature Communications
2 January
Structural regulation of halide superionic conductors for all-solid-state lithium batteries | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43886-9

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3 January
Solid-State Batteries: A Game Changer for a Sustainable Future (isp.page)

Vanadate-Based Fibrous Electrode Materials for High Performance Aqueous Zinc Ion Batteries - Wang - Advanced Science - Wiley Online Library
4 January
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4 January
Aqueous Battery Solves Lithium's Problems | Hackaday

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New Chemistry Set To Give Tesla's 4680 Battery Cells a Significant Energy Density Boost – autoevolution
4 January
New Chemistry Set To Give Tesla's 4680 Battery Cells a Significant Energy Density Boost - autoevolution

JAC Group delivers first EVs with sodium-ion battery
6 January
JAC Group delivers first EVs with sodium-ion battery - ArenaEV

Harvard Spinoff Lobs Solid State Battery Bomb at Fossil Fuels
9 January
Harvard Spinoff Lobs Solid State Battery Bomb At Fossil Fuels (cleantechnica.com)

New material found by AI could reduce lithium use in batteries - BBC News
9 January
https://www.bbc.com/news/technology-67912033

Cathode innovation makes sodium-ion battery an attractive option for electric vehicles
8 January
Cathode innovation makes sodium-ion battery an attractive option for electric vehicles (techxplore.com)

Fast cycling of lithium metal in solid-state batteries by constriction-susceptible anode materials | Nature Materials (Subscription)
8 January
Fast cycling of lithium metal in solid-state batteries by constriction-susceptible anode materials | Nature Materials
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First battery prototype using hemoglobin developed
9 January
First battery prototype using hemoglobin developed (techxplore.com)
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Assessment of Critical Stack Pressure and Temperature in Li-Garnet Batteries - Klimpel - Advanced Materials Interfaces - Wiley Online Library
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Automaker develops first-of-its-kind 'golden' EV battery — could it replace lithium in the EV revolution?

9 January
Automaker develops first-of-its-kind 'golden' EV battery — could it replace lithium in the EV revolution? (thecooldown.com)

Chinese Firm developed Nuclear Battery that can Produce Power for 50 years – Sri Lanka Guardian

10 January
Chinese Firm developed Nuclear Battery that can Produce Power for 50 years – Sri Lanka Guardian (slguardian.org)

Anker's Colossal Battery Pack Can Power Your Entire Home

10 January
Anker's Colossal Battery Pack Can Power Your Entire Home (lifewire.com)

Cobalt-free composite-structured cathodes with lithium-stoichiometry control for sustainable lithium-ion batteries | Nature Communications

10 January
Cobalt-free composite-structured cathodes with lithium-stoichiometry control for sustainable lithium-ion batteries | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-44583-3

Researchers develop long-cycle, high-energy sodium-ion battery

12 January
https://techxplore.com/news/2024-01-high-energy-sodium-ion-battery.html
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Li-ion batteries with silicon anodes could store 65% more energy | TechHive

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Li-ion batteries with silicon anodes could store 65% more energy | TechHive

Tesla 4680 Battery Chemistry Upgrade for 20% Energy Improvement in First Half of 2024 | NextBigFuture.com

12 January
Tesla 4680 Battery Chemistry Upgrade for 20% Energy Improvement in First Half of 2024 | NextBigFuture.com

Hydroxyl-Decorated Carbon Cloth with High Potassium Affinity Enables Stable Potassium Metal Anodes - Sun - Small - Wiley Online Library (Subscription)

11 January
Hydroxyl-Decorated Carbon Cloth with High Potassium Affinity Enables Stable Potassium Metal Anodes - Sun - Small - Wiley Online Library

How Toyota's 745-mile Solid-state Battery Stacks Up Against The Competition

10 January
How Toyota's 745-mile Solid-state Battery Stacks Up Against The Competition (topspeed.com)

Clean Energy, Literally: Soap-Inspired Batteries for a Greener Future

14 January
Clean Energy, Literally: Soap-Inspired Batteries for a Greener Future (scitechdaily.com)
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New solid state battery charges in minutes, lasts for thousands of cycles – pv magazine International

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New solid state battery charges in minutes, lasts for thousands of cycles – pv magazine International (pv-magazine.com)

Microsoft AI creates cheap solid-state battery by sifting through 32 million virtual electrolyte materials - NotebookCheck.net News

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Microsoft AI creates cheap solid-state battery by sifting through 32 million virtual electrolyte materials - NotebookCheck.net News

Atomistic Scale Modeling of Anode/Electrolyte Interfaces in Li-Ion Batteries | Langmuir

15 January

Atomistic Scale Modeling of Anode/Electrolyte Interfaces in Li-Ion Batteries | Langmuir (acs.org)

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Researchers develop game-changing solution to issue plaguing EV batteries — and it's sparking major interest from industry experts

16 January

Researchers develop game-changing solution to issue plaguing EV batteries — and it's sparking major interest from industry experts (thecooldown.com)

Organic Cathodes, a Path toward Future Sustainable Batteries: Mirage or Realistic Future? | Chemistry of Materials

16 January

Organic Cathodes, a Path toward Future Sustainable Batteries: Mirage or Realistic Future? | Chemistry of Materials (acs.org)

DOI: Organic Cathodes, a Path toward Future Sustainable Batteries: Mirage or Realistic Future? | Chemistry of Materials (acs.org)

Cobalt-free batteries could power cars of the future | MIT News | Massachusetts Institute of Technology

18 January

Cobalt-free batteries could power cars of the future | MIT News | Massachusetts Institute of Technology

Extremely Fast EV Charging Delivers 100 Miles In 5 Minutes

17 January

Extremely Fast EV Charging Delivers 100 Miles In 5 Minutes (cleantechnica.com)

Understanding Polymerized Ionic Liquids as Solid Polymer Electrolytes for Sodium Batteries | Journal of the American Chemical Society

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Understanding Polymerized Ionic Liquids as Solid Polymer Electrolytes for Sodium Batteries | Journal of the American Chemical Society (acs.org)

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A New Nuclear Battery Could Soon Go On the Market

17 January

A New Nuclear Battery Could Soon Go On the Market | RealClearScience

Alkaline-based aqueous sodium-ion batteries for large-scale energy storage | Nature Communications

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Alkaline-based aqueous sodium-ion batteries for large-scale energy storage | Nature Communications

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Innovative Organic Compound TAQ Promises to Revolutionize Lithium-Ion Batteries

21 January
Innovative Organic Compound TAQ Promises to Revolutionize Lithium-Ion Batteries (isp.page)

Will your next battery be based on salt? – YouTube

21 January
Will your next battery be based on salt? (youtube.com)

Advancing energy storage and supercapacitor applications through the development of Li+-doped MgTiO3 perovskite nano-ceramics | Scientific Reports

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Advancing energy storage and supercapacitor applications through the development of Li+-doped MgTiO3 perovskite nano-ceramics | Scientific Reports (nature.com)
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A cation replacement method to realize highly performing electrolytes for multivalent metal batteries

21 January
A cation replacement method to realize highly performing electrolytes for multivalent metal batteries (techxplore.com)
DOI: 10.1038/s41560-023-01439-w

'Electric cars could end up like Betamax' | Auto Express

21 January
'Electric cars could end up like Betamax' | Auto Express

Battery breakthrough that could slash price of electric cars | The Independent

24 January
Battery breakthrough that could slash price of electric cars | The Independent

Fast-charging lithium battery seeks to eliminate 'range anxiety'

22 January
Fast-charging lithium battery seeks to eliminate 'range anxiety' (techxplore.com)
DOI: 10.1016/j.joule.2023.12.022

The new dawn in the automotive industry: Honda confirms farewell to EVs

23 January
The new dawn in the automotive industry: Honda confirms farewell to EVs (lagradaonline.com)

Newsun Battery: The Emergence of a New Power Player

26 January
Newsun Battery: The Emergence of a New Power Player (isp.page)

Tuning the crystallinity of titanium nitride on copper-embedded carbon nanofiber interlayers for accelerated electrochemical kinetics in lithium–sulfur batteries

22 January
Tuning the crystallinity of titanium nitride on copper-embedded carbon nanofiber interlayers for accelerated electrochemical kinetics in lithium–sulfur batteries - Xiang - Carbon Energy - Wiley Online Library
DOI https://doi.org/10.1002/cey2.450

Battery storage now dominates system services market for main grid | RenewEconomy

25 January
Battery storage now dominates system services market for main grid | RenewEconomy

Sodium-ion batteries on the rise as shift away from lithium gathers pace

24 January

Sodium-ion batteries on the rise as shift away from lithium gathers pace (smallcaps.com.au)

RECENT TESTS REVEAL VOLKSWAGEN'S NEW EV BATTERY TECHNOLOGY COULD SHAKE UP THE INDUSTRY: 'THESE ARE VERY ENCOURAGING RESULTS'

25 January

Recent tests reveal Volkswagen's new EV battery technology could shake up the industry: 'These are very encouraging results' (thecooldown.com)

Electric vehicles use half the energy of fossil-fuel vehicles

31 January

Electric vehicles use half the energy of fossil-fuel vehicles (thedriven.io)

The engine of the future has been around for a while and now everyone wants to buy it: it's not hydrogen and it's not electric

31 January

The engine of the future has been around for a while and now everyone wants to buy it: it's not hydrogen and it's not electric (lagradaonline.com)

Solid-state batteries: inside the race to transform the science of electric vehicles | Electric vehicles | The Guardian

4 February

Solid-state batteries: inside the race to transform the science of electric vehicles | Electric vehicles | The Guardian

Say goodbye to today's car batteries: a new generation is coming to save gasoline engines

3 February

Say goodbye to today's car batteries: a new generation is coming to save gasoline engines (lagradaonline.com)

Cornell Engineers Develop New Lithium Battery That Can Charge in Under Five Minutes

5 February

https://scitechdaily.com/cornell-engineers-develop-new-lithium-battery-that-can-charge-in-under-five-minutes/
DOI: 10.1016/j.joule.2023.12.022

Cobalt-Free Batteries Could Power the Next Generation of Electric Vehicles

23 January

Cobalt-Free Batteries Could Power the Next Generation of Electric Vehicles | Technology Networks
DOI: 10.1021/acscentsci.3c01478

The new car batteries that could power the electric vehicle revolution

7 February

The new car batteries that could power the electric vehicle revolution (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00325-z

Getting to know the 'ghost' inside batteries: An in-depth examination of tiny short-circuits

7 February

Getting to know the 'ghost' inside batteries: An in-depth examination of tiny short-circuits (techxplore.com)
DOI: 10.1016/j.joule.2023.11.007

Chemists decipher reaction process that could improve lithium-sulfur batteries

6 February
Chemists decipher reaction process that could improve lithium-sulfur batteries (techxplore.com)
DOI: 10.1038/s41586-023-06918-4

The new car batteries that could power the electric vehicle revolution

7 February
The new car batteries that could power the electric vehicle revolution (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00325-z

High voltage electrolytes for lithium-ion batteries with micro-sized silicon anodes | Nature Communications

8 February
High voltage electrolytes for lithium-ion batteries with micro-sized silicon anodes | Nature Communications
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Optimizing potassium polysulfides for high performance potassium-sulfur batteries | Nature Communications

2 February
Optimizing potassium polysulfides for high performance potassium-sulfur batteries | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-45405-w

A new high-concentration solid polymer electrolyte for high-voltage lithium-metal batteries

9 February
A new high-concentration solid polymer electrolyte for high-voltage lithium-metal batteries (techxplore.com)
DOI: 10.1038/s41560-023-01443-0

Scientists develop revolutionary EV battery material to expedite charging and extend lifespan of batteries — here's what it could do for EV adoption

7 February
Scientists develop revolutionary EV battery material to expedite charging and extend lifespan of batteries — here's what it could do for EV adoption (thecooldown.com)

Understanding the Electrode–Electrolyte Interfaces of Ionic Liquids and Deep Eutectic Solvents | Langmuir

11 February
Understanding the Electrode–Electrolyte Interfaces of Ionic Liquids and Deep Eutectic Solvents | Langmuir (acs.org)
DOI: https://doi.org/10.1021/acs.langmuir.3c03397

Research pinpoints factors for better battery design

12 February
Research pinpoints factors for better battery design (techxplore.com)
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Structurally robust lithium-rich layered oxides for high-energy and long-lasting cathodes | Nature Communications

12 February
Structurally robust lithium-rich layered oxides for high-energy and long-lasting cathodes | Nature Communications
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Ti3C2Tx MXene/carbon composites for advanced supercapacitors: Synthesis, progress, and perspectives - Cai - Carbon Energy - Wiley Online Library

8 February

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https://doi.org/10.1002/cey2.501

New Solid Electrolyte Matches Liquid Performance - IEEE Spectrum

15 February
New Solid Electrolyte Matches Liquid Performance - IEEE Spectrum

Cobalt-Free Future: MIT's New Organic Battery Material Could Revolutionize Electric Vehicles

19 February
Cobalt-Free Future: MIT's New Organic Battery Material Could Revolutionize Electric Vehicles (scitechdaily.com)
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Battery Breakthrough Could Allow Electric Cars To Go 1,000 km on Single Charge | Technology Networks

12 February
Battery Breakthrough Could Allow Electric Cars To Go 1,000 km on Single Charge | Technology Networks
DOI: 10.1002/advs.202305298

Catalyst For Change: An Electrochemist Races To Decarbonize The Chemicals Industry

23 February
Catalyst For Change: An Electrochemist Races To Decarbonize The Chemicals Industry (forbes.com)

Are sodium-ion batteries the solution for EVs?

22 February
Are sodium-ion batteries the solution for EVs? (innovationnewsnetwork.com)

Scientists develop 'high-energy-density' battery that could extend EV ranges substantially: 'This research brings us closer'

26 February
Scientists develop 'high-energy-density' battery that could extend EV ranges substantially: 'This research brings us closer' (thecooldown.com)

The batteries and motors that could help electric planes take off

24 February
The batteries and motors that could help electric planes take off (axios.com)

Magnesium Batteries Are Beginning To Give Up Their Secrets

22 February
Magnesium Batteries Are Beginning To Give Up Their Secrets (cleantechnica.com)

New Li-Ion Conductor Discovered – The Novel Material Could Supercharge Electric Vehicle Batteries

24 February
New Li-Ion Conductor Discovered – The Novel Material Could Supercharge Electric Vehicle Batteries (scitechdaily.com)
DOI: 10.1126/science.adh5115

Nanocurvature-induced field effects enable control over the activity of single-atom electrocatalysts | Nature Communications

26 February

Nanocurvature-induced field effects enable control over the activity of single-atom electrocatalysts | Nature Communications

Improving lithium-sulfur batteries with metal-organic framework-based materials

27 February
Improving lithium-sulfur batteries with metal-organic framework-based materials (phys.org)
DOI: 10.1007/s12274-024-6481-0

New automaker backed by Volkswagen debuts first EV with novel battery: 'An entirely new battery chemistry' (Note there are a lot of annoying ads in the report & extra articles)

28 February
New automaker backed by Volkswagen debuts first EV with novel battery: 'An entirely new battery chemistry' (thecooldown.com)

Nanofeather ruthenium nitride electrodes for electrochemical capacitors | Nature Materials

27 February
Nanofeather ruthenium nitride electrodes for electrochemical capacitors | Nature Materials
DOI: https://doi.org/10.1038/s41563-024-01816-0

Nanosecond solvation dynamics in a polymer electrolyte for lithium batteries | Nature Materials

27 February
Nanosecond solvation dynamics in a polymer electrolyte for lithium batteries | Nature Materials
DOI: https://doi.org/10.1038/s41563-024-01834-y

How green are electric cars? – podcast | Science | The Guardian. Podcast

28 February
How green are electric cars? – podcast | Science | The Guardian

Revisiting the universal principle for the rational design of single-atom electrocatalysts | Nature Catalysis

27 February
Revisiting the universal principle for the rational design of single-atom electrocatalysts | Nature Catalysis
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Are electric vehicles cheaper to run? | Morning Ireland - RTÉ Radio 1

28 February
https://www.rte.ie/radio/radio1/clips/22361523

Futuristic batteries made from salt get funding boost | The Independent

28 February
Futuristic batteries made from salt get funding boost | The Independent

Next Big Thing: Sustainable sodium – the next battery of the future

27 February
Next Big Thing: Sustainable sodium – the next battery of the future (cosmosmagazine.com)

Tiny sheaths of solvent boost battery performance

27 February
Tiny sheaths of solvent boost battery performance (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00378-0

Scientists design promising new material to solve major issue with lithium-ion batteries: 'It is already competitive with incumbent technologies'

28 February
Scientists design promising new material to solve major issue with lithium-ion batteries: 'It is already competitive with incumbent technologies' (thecooldown.com)

Designing low toxic deep eutectic solvents for the green recycle of lithium-ion batteries cathodes - Li - ChemSusChem - Wiley Online Library

26 February
Designing low toxic deep eutectic solvents for the green recycle of lithium-ion batteries cathodes - Li - ChemSusChem - Wiley Online Library
DOI: https://doi.org/10.1002/cssc.202301953

NH3 Electrosynthesis from N2 Molecules: Progresses, Challenges, and Future Perspectives | Journal of the American Chemical Society (Subscription)

27 February
NH3 Electrosynthesis from N2 Molecules: Progresses, Challenges, and Future Perspectives | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c11676

Superstructure Carbons: The Newest Breakthrough That Could Revolutionize Energy

29 February
Superstructure Carbons: The Newest Breakthrough That Could Revolutionize Energy (scitechdaily.com)
DOI: 10.26599/EMD.2023.9370017

Mercedes has realized the fraud of EVs. That is why they are once again betting on combustion cars

28 February
Mercedes has realized the fraud of EVs. That is why they are once again betting on combustion cars (lagradaonline.com)

Fire-resistant sodium battery balances safety, cost and performance

29 February
Fire-resistant sodium battery balances safety, cost and performance (techxplore.com)
DOI: 10.1038/s41560-024-01469-y

Batteries are still getting exponentially cheaper, more efficient: ready to displace half of global fossil fuel demand by 2045?

26 February
Batteries are still getting exponentially cheaper, more efficient: ready to displace half of global fossil fuel demand by 2045? - Energy Post

Research into how electrons and protons couple at an electrode can create more efficient fuel cells, electrolysers

28 February
Research into how electrons and protons couple at an electrode can create more efficient fuel cells, electrolysers - Energy Post

Toyota was right about hybrid cars all along

29 February
Toyota was right about hybrid cars all along | Business Insider India

BMW is going all-in on hydrogen: they've moved on from electrics and have already launched their new car - Lagrada - Hydrogen Central

28 February

BMW is going all-in on hydrogen: they've moved on from electrics and have already launched their new car - Lagrada - Hydrogen Central (hydrogen-central.com)

Nickel-based electrode material opens doors to cobalt-free batteries - MINING.COM

29 February
Nickel-based electrode material opens doors to cobalt-free batteries - MINING.COM

The Lithium-ion Battery May Not Be the Best Bet for EVs - IEEE Spectrum

29 February
The Lithium-ion Battery May Not Be the Best Bet for EVs - IEEE Spectrum

NOTE:
I have made a slight change to the title of the topic Rechargeable Batteries & Technology to Rechargeable Batteries, **Electrochemistry** & Technology. Next Issue a further change will be made to the title: **Electrochemistry, Battery Chemistry and Technology.** The content has become repetitive and will be reduced and more emphasis placed on electrochemistry.

***TS2 Space Authors:**
Some TS2 Space authors are specialists in their own disciplines but are not claiming to be chemists. They have provided articles on rechargeable batteries and superconductivity.

1. **Marcin Frąckiewicz** is a renowned author and blogger, specializing in satellite communication and artificial intelligence. His insightful articles delve into the intricacies of these fields, offering readers a deep understanding of complex technological concepts. His work is known for its clarity and thoroughness.

2. **Roman Perkowski** is a distinguished name in the field of space exploration technology, specifically known for his work on propulsion systems for interplanetary travel. His innovative research and designs have been crucial in advancing the efficiency and reliability of spacecraft engines. Perkowski's contributions are particularly significant in the development of sustainable and powerful propulsion methods, which are vital for long-duration space missions. His work not only pushes the boundaries of current space travel capabilities but also inspires future generations of scientists and engineers in the quest to explore the far reaches of our solar system and beyond.

3. **Igor Nowacki** is a fictional author known for his imaginative insights into futuristic technology and speculative science. His writings often explore the boundaries of reality, blending fact with fantasy to envision groundbreaking inventions. Nowacki's work is celebrated for its creativity and ability to inspire readers to think beyond the limits of current technology, imagining a world where the impossible becomes possible. His articles are a blend of science fiction and visionary tech predictions.

3. **Jerzy Lewandowski**, a visionary in the realm of virtual reality and augmented reality technologies, has made significant contributions to the field with his pioneering research and innovative designs. His work primarily focuses on enhancing user experience and interaction within virtual environments, pushing the boundaries of immersive technology. Lewandowski's groundbreaking projects have gained recognition for their ability to merge the digital and physical worlds, offering new possibilities in gaming, education, and professional training. His expertise and forward-thinking approach mark him as a key influencer in shaping the future of virtual and augmented reality applications.

Chemistry & Artificial Intelligence

Unpacking the Hype Around OpenAI's Rumored Q* Model
27 November
Unpacking the hype around OpenAI's rumored new Q* model | MIT Technology Review

Prediction of protein–protein interaction using graph neural networks | Scientific Reports
19 May 2022
Prediction of protein–protein interaction using graph neural networks | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-022-12201-9

What are a board's responsibilities regarding generative AI?
29 November
Re:think: Boards can take action on generative AI (mckinsey.com)

Google AI and robots join forces to build new materials
29 November
Google AI and robots join forces to build new materials (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03745-5

AI model directly compares properties of potential new drugs
4 December
AI model directly compares properties of potential new drugs (phys.org)
DOI: 10.1186/s13321-023-00769-x

Google's Gemini Is the Real Start of the Generative AI Boom | WIRED
7 December
Google's Gemini Is the Real Start of the Generative AI Boom | WIRED

AI's Vulnerability to Misguided Human Arguments - Neuroscience News
7 December
AI's Vulnerability to Misguided Human Arguments - Neuroscience News

EU reaches deal on landmark rules governing AI
11 December
EU reaches deal on landmark rules governing AI (rte.ie)

Artificial intelligence European style
11 December
Artificial intelligence European style - TechCentral.ie

Human-cantered AI: The power of putting people first
11 December
Human-centered AI: The power of putting people first | McKinsey

Google's Gemini AI hints at the next great leap for the technology: analysing real-time information
11 December
Google's Gemini AI hints at the next great leap for the technology: analysing real-time information (theconversation.com)

AI method for describing soft matter opens up new chapter in density functional theory

13 December
AI method for describing soft matter opens up new chapter in density functional theory (phys.org)
DOI: 10.48550/arxiv.2312.04681

Computational model captures the elusive transition states of chemical reactions | MIT News | Massachusetts Institute of Technology

15 December
Computational model captures the elusive transition states of chemical reactions | MIT News | Massachusetts Institute of Technology

Google's Gemini: is the new AI model really better than ChatGPT?

15 December
Google's Gemini: is the new AI model really better than ChatGPT? (theconversation.com)

For the first time, the journal 'Nature' has chosen a non-human being — ChatGPT — as one of its scientists of the year | Science | EL PAÍS English

14 October
For the first time, the journal 'Nature' has chosen a non-human being — ChatGPT — as one of its scientists of the year | Science | EL PAÍS English (elpais.com)

These scientists aren't using ChatGPT — here's why

19 December
These scientists aren't using ChatGPT — here's why (nature.com)
DOI: https://doi.org/10.1038/d41586-023-04071-6

The postdoc experience is broken. Funders such as the NIH must help to reimagine it

19 December
The postdoc experience is broken. Funders such as the NIH must help to reimagine it (nature.com)
DPI: https://doi.org/10.1038/d41586-023-04028-9

Artificial intelligence unravels mysteries of polycrystalline materials

20 December
Artificial intelligence unravels mysteries of polycrystalline materials (phys.org)
DOI: 10.1002/adma.202308599

Artificial Intelligence Identifies a New Class of Antibiotics That Can Kill MRSA

21 December
Artificial Intelligence Identifies a New Class of Antibiotics That Can Kill MRSA | Technology Networks
DOI: 10.1038/s41586-023-06887-8

This GPT-powered robot chemist designs reactions and makes drugs — on its own

20 December
This GPT-powered robot chemist designs reactions and makes drugs — on its own (nature.com)
DOI: https://doi.org/10.1038/d41586-023-04073-4

Multiple Chat GPT instances combine to figure out chemistry

20 December
Multiple Chat GPT instances combine to figure out chemistry | Ars Technica
DOI: 10.1038/s41586-023-06792-0

A Very Big Small Leap Forward in Graph Theory

2 May 2023
After Nearly a Century, a New Limit for Patterns in Graphs | Quanta Magazine

Van Krevelen diagrams based on machine learning visualize feedstock-product relationships in thermal conversion processes

13 December
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Account Manager
Sigma Aldrich Ireland Ltd

086 389 8647
andreina.moran@sial.com

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SFI News, Updates & Reports

Outstanding researchers recognised at 2023 Science Foundation Ireland Awards

Broad range of categories honouring research excellence

20 November 2023

The winners of the Science Foundation Ireland (SFI) Awards for 2023 were today announced at the Research Summit, a joint Summit hosted by SFI and the Irish Research Council (IRC).

Commending the award winners, **Prof. Philip Nolan, Director General, Science Foundation Ireland**, said: "Through their innovation, creativity and tireless work, these researchers have striven to improve the world around them. SFI is delighted to recognise their efforts and achievements with these prestigious accolades. I want to offer my sincere congratulations to all the award recipients. I would like to congratulate Prof. Paul Ross, University College Cork, for winning 2023 SFI Researcher of the Year. Paul Ross has been an outstanding researcher in the field of food health and gut health for many years, both in previous roles and in his current position as director of the SFI Research Centre APC Microbiome Ireland."

SFI Researcher of the Year 2023
Recipient: Professor Paul Ross, University College Cork

Pictured: Professor Paul Ross, University College Cork – SFI Researcher of the Year 2023

Professor Paul Ross is Director of APC Microbiome Ireland since 2019. He is a widely recognised researcher who has received international acclaim for research on antibacterial compounds. He is a current European Research Council (ERC) Advanced Awardee. His research is in the field of food microbiology, with a focus on physiology and genetics of LAB and their applications in food and pharma.

Commenting on receiving the award, **Professor Ross** stated: *"I am truly honoured and humbled to receive this prestigious research award, it is great acknowledgement of the significance of microbiome research as we are about to celebrate our landmark 20th year here at APC. For me it's always about the people. I have been just so fortunate to have worked with really brilliant scientists down through the years – great collaborators, researchers and students – and it is really on their behalf that I accept this award. I have always been fascinated by the microbial world in which we live and depend on so much. Most of this world is inhabited by diverse communities of microorganisms or microbiomes, as*

exemplified by the trillions of bacteria that live in our gut. Our research strives to find microbiome-based solutions to address some of the grand challenges society is facing right now. One example is the build-up of antimicrobial resistance in harmful bacteria; to this end, our lab has had some success in finding antibiotic alternatives. There is huge excitement in our ranks, as we can see that we are at the precipice for what microbes and microbiomes can offer in this huge challenge. Our lab is currently working on a €2.5m

European Research Council project exploring the potential for naturally occurring antimicrobial peptide, specifically bacteriocins, for the development of new therapies to tackle infectious disease."

For more details to the other winners click here: Outstanding researchers recognised at 2023 Science Foundation Ireland Awards (sfi.ie)

Science Foundation Ireland sfi For what's next

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

Minister Harris, Secretary of State Donelan and Permanent Secretary Godfrey announce €70 million for research centres on climate and sustainable food

28 November 2023

Minister for Further and Higher Education, Research, Innovation and Science Simon Harris TD and Secretary of State for Science, Innovation and Technology Michelle Donelan and Permanent Secretary at Northern Ireland's Department of Agriculture, Environment and Rural Affairs, Katrina Godfrey have today announced €70 million in joint funding to create two new research centres.

Pictured (Left-right): Parliamentary Under-Secretary of State for Northern Ireland, Lord Jonathan Caine; Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris TD; Tánaiste and Minister for Foreign Affairs, Micheál Martin TD; Secretary of State for Science, Innovation and Technology, Michelle Donelan; Secretary of State for Northern Ireland, Chris Heaton-Harris; and Minister of State for Northern Ireland, Steve Baker, pictured at Farmleigh, Dublin.

The funding will bring together academics, industry and policymakers across the Irish Government, UK Government and Northern Ireland Government Departments to collaborate on common challenges such as food sustainability and climate change.

The announcement was jointly made by Minister Harris and UK Government Secretary of State Donelan following their attendance at the British and Irish Intergovernmental Conference and a bilateral discussion at Farmleigh House, Dublin, today.

For the full story click here: Minister Harris, Secretary of State Donelan and Permanent Secretary Godfrey announce €70 million for research centres on climate and sustainable food (sfi.ie)

##########

Science Foundation Ireland sfi For what's next

e-Alert: December 2023

SFI Frontiers for the Future Programme 2024

The **SFI Frontiers for the Future Programme** provides opportunities for independent investigators to conduct highly innovative, collaborative research with the potential to deliver impact, whilst also providing discrete opportunities for high-risk, high-reward research projects.

The Programme has two streams, Projects and Awards:

The **2024 Projects** stream is **now open** and will run as a fixed deadline call with a submission deadline of **25th April 2024**, 13:00 Dublin Local Time.

The current **Awards** stream remains **open** to submissions on a rolling call basis. Anyone with applications currently in preparation will not need to restart the submission process, but they will need to ensure that their application adheres to the policy guidelines in the 2024 Call Document.

The Projects and Awards streams of the Frontiers for the Future Programme currently align to SFI's legal remit. However, it is anticipated that the Awards stream will be revised later in 2024, such that its scope reflects the broader remit of the new agency, Taighde Éireann - Research Ireland. Likewise, subsequent calls to the Projects stream will be revised to align with the remit of the new agency.

Full details on the programme, and both streams, are available on our website:

SFI Frontiers for the Future

#BelieveInScience

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Minister Harris welcomes Government approval to publish Research and Innovation Bill 2023

Minister for Further and Higher Education, Research, Innovation and Science Simon Harris TD has today welcomed Government agreement for the publication of the Research and Innovation Bill 2023, which provides for the amalgamation of the **Irish Research Council** and **Science Foundation Ireland**, and the establishment of a new research and innovation funding agency, **Taighde Éireann – Research Ireland**.

The establishment of the new agency is a key action included in Impact 2030: **Ireland's Research and Innovation Strategy** and will serve as the foundation for achieving many of the strategy's goals.
The publication of the Research and Innovation Bill 2023 is another significant step in the process of establishing Taighde Éireann.

The agency will build and develop on the recognised strengths of the IRC and SFI, to work collaboratively with other research funders and enterprise in creating a cohesive national system for research and innovation in Ireland.

Taighde Éireann will support researchers in all disciplines, at all career stages, in all types of research, in developing national capacity for research and innovation excellence, and will support Irish research and innovation engagement internationally.

Speaking today, **Minister Harris** said: "I'm very pleased to announce that Government has approved the publication of the landmark Research and Innovation Bill. The new agency will build on the recognised and important strengths of the Irish Research Council and Science Foundation Ireland, in driving research and innovation excellence.

For the first time, we are putting arts, humanities and social sciences research on a statutory footing, ensuring parity of esteem and supporting researchers in all disciplines, and at all career stages. As part of the wider research and innovation system, the agency will help build the capacity we need for research and innovation excellence into the future. The role of research has expanded, as we face into the green and digital transitions.

The agency will support research, innovation, skills development, education, and cooperation across Government, across the country, and out into the wider worldwide research community, to support our country in responding to our national challenges, and in embracing new opportunities."
The Research and Innovation Bill will go before the Oireachtas in January, and Taighde Éireann-Research Ireland will be established in 2024.

The new agency will streamline research funding calls across all disciplines and assist researchers in navigating the state support landscape. It will also play an important role in underpinning evidence for policy and supporting Government Departments.

Professor Philip Nolan, CEO Designate of Taighde Éireann – Research Ireland, said: "I welcome the publication of the Research and Innovation Bill, as another important step towards the establishment of Taighde Éireann- Research Ireland. Since my appointment in May, the IRC and SFI communities have come together to plan for the establishment of the agency, and to engage with

stakeholders in the wider research and innovation system, to get their insights on how we can support the most talented people to work on the most interesting and important research questions for the betterment of our society and environment. This agency will be a major support for a more connected and ambitious research and innovation system for Ireland. I look forward to working with our national and international research communities, and to building on our strengths and achievements."

Peter Brown, Director of the IRC, said: "The Research and Innovation Bill will underpin parity of esteem for researchers in all disciplines, reflecting the value, contribution and potential of expertise across the research community. The IRC and SFI will continue to work together to ensure that we build on and develop the established and complementary strengths of the two agencies as we progress jointly towards the establishment of Taighde Éireann- Research Ireland."

IRC and SFI grant-holders and related stakeholders can be assured that there will be no interruption to ongoing services and funding programmes during the transition phase and the establishment of the new agency.

SFI-IRC Pathway Programme
Supporting the development of research talent across all disciplines

SFI-IRC Pathway Programme 2024

Overview
The SFI-IRC Pathway Programme will support talented postdoctoral researchers from all research disciplines to develop their track record and transition to become independent research leaders.

DEADLINE Open:

HEI Nominations - 20th February 2024, 13:00; Full Proposal -10th April 2024, 13:00.

For full details click here: SFI-IRC Pathway Programme

Deadline Reminder: SFI-NSF I-Corps@SFI Entrepreneurial Training Programme

Only one week to go before the **SFI-NSF I-Corps@SFI Entrepreneurial Training Programme** (ETP)

Call A deadline.

Applications must be submitted by **Friday 19th January, 13:00 Dublin Local Time**.

The SFI-NSF I-Corps@SFI ETP is intended to support SFI grant holders, and associated team members, to develop entrepreneurial and innovation skills that will enable them to realise new economic and societal impact opportunities for their research. This programme offers a grant of up to €35k over a duration of up to 6-months, and access to the world-renowned NSF I-Corps Teams Programme.

Full details on the Programme and how to apply are available on our website:

SFI-NSF I-Corps@SFI

e-Alert: February 2024

SFI Science Week Call 2024

The **SFI Science Week Call 2024** is now open.

The purpose of the Science Week Call is to provide support to Festivals and Events nationwide that support public engagement, communities underrepresented in, or those with less access to STEM to engage in ways that are relevant and accessible during Science Week and beyond in creative ways.

SFI invites applications for Science Week Festivals and Events nationwide that will **stimulate** curiosity and dialogue amongst the public, that **innovate** the Festival and Event offering through novel approaches, and which **collaborate** with the communities they aim to engage.

Full details on the Science Week Call 2024 can be found on our website:

SFI Science Week Call 2024

e-Alert: February 2024

SFI Frontiers for the Future Programme 2024

The deadline for the SFI Frontiers for the Future Programme **Projects stream** has been **extended to 17th May 2024 at 13:00** Dublin Local Time.

The current Awards stream remains open to submissions on a rolling call basis.

For more information on this programme please visit our website:

SFI Frontiers for the Future

Contact Us

Tel: +353 (0) 1 6073200 **I Email:** info@sfi.ie **I Web:** www.sfi.ie

e-Alert: February 2024

SFI Annual Programmes Plan 2024

SFI has published its **2024 Annual Programmes Plan**. This programmes plan has been developed to align with the implementation of SFI's strategy, Shaping Our Future, and to support the delivery of the Government's research and innovation strategy – Impact 2030.

Read the full SFI 2024 Annual Plan

Contact Us

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Minister Harris and NSF Director Panchanathan announce PhD Student Mobility Programme between the United States and Ireland

21 February

The Minister for Further and Higher Education, Research, Innovation & Science, Simon Harris TD, together with U.S. National Science Foundation (NSF) Director, Sethuraman Panchanathan, today announced parallel programmes aimed at fostering student mobility and research collaboration between the United States and Ireland. These initiatives, funded by the NSF and Science Foundation Ireland (SFI) respectively, aim to facilitate the exchange of PhD students in the areas of data science and ICT. This collaboration signifies the commitment of both agencies to promoting international collaborations and fostering a global research community.

NSF Director Sethuraman Panchanathan welcomed Ireland's Minister of Further and Higher Education, Research, Innovation and Science, Mr. Simon Harris, T.D., Ambassador of Ireland to the United States, H.E. Geraldine Byrne Nason and other delegates from the Department of Further and Higher Education, Research, Innovation and Science, to NSF headquarters, February 14, 2024 (photo: Charlotte Geary/NSF)

Announcing details of the programme following a recent meeting with the NSF in Washington DC, **Minister Harris** said: *"This is a real and tangible outcome of our recent trip to the United States, where we sought to solidify and strengthen relationships between our two great countries. Student mobility partnership is a launching pad for lifelong connections, collaborations, and mutual learning.*

By nurturing strong ties between the scientific communities of the United States and Ireland, discoveries and advancements across various academic disciplines will undoubtedly flourish. By immersing themselves in diverse research environments, talented students will be uniquely positioned to address the complex challenges of the modern world."

"The National Science Foundation Research Traineeship US-Ireland Student Mobility program has had a tremendous impact on students in its first year," said **NSF Director Sethuraman Panchanathan**. *"The program has provided a unique opportunity for U.S. and Irish students to receive professional development training and experience cross-cultural exchange. We are delighted to renew the program for a second year in alignment with our goal of supporting a more globally engaged U.S. STEM workforce."*

Welcoming the news, **Prof Philip Nolan, Director General, Science Foundation Ireland**, stated: *"SFI is very pleased to be renewing its partnership with the NSF on this student mobility programme, building upon the success of last year's cohort, which marked the start of this initiative. Feedback from participants has been extremely positive, with the programme's facilitation of rich collaborations notably highlighted."*

The programme links PhD students from the six SFI-funded Centres for Research Training (CRT) with universities participating in the prestigious NSF Research Traineeship Program (NRT). SFI will provide the support for 20 CRT students to travel to the NRTs in the US for between 4 to 12 weeks. The NSF will support the travel of NRT students to the CRTs in Ireland. Students will travel between June to October 2024.

The programme has now opened for applications from the six CRTs and NRTs, with a deadline for submissions of 14th March. Further information on the SFI programme can found here and on the NSF opportunity here(opens in a new tab).

Minister Harris announces €21 million for 8 awards through SFI Research Infrastructure Programme

17 January

Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris TD, has today announced a €21 million investment in eight research infrastructure projects through the Science Foundation Ireland (SFI) Research Infrastructure programme. The awards, one of which is co-funded with Sustainable Energy Authority of Ireland (SEAI), will contribute to the advancement of high-quality and high-impact research activities.

Speaking today, **Minister Harris** said: "I am delighted to announce €21 million in funding from my department to support transformative research with both national and international impact. Ireland is committed to investing in high quality, pioneering research. The funding announced today does just that.

"This support builds and sustains the required infrastructural capacity we need that enables our research community to thrive across the fields of materials science, earth and environmental sciences, energy, engineering, physics, and neuroscience and behaviour."

In welcoming the announcement, **Prof Philip Nolan, Director General, Science Foundation Ireland**, said: "The Research Infrastructure Programme funds state-of-the-art research infrastructure to drive excellent and highly collaborative research and innovation. The programme promotes transformative collaborations, in which increased inter-institutional and national sharing of research infrastructure across academia and enterprise makes for better research and accelerated innovation. The eight successful projects selected will help us, through research, to prepare for a challenging yet exciting future. The importance of this programme to our research system highlights the need for sustained and increased investment in research infrastructure over the coming decade."

Margie McCarthy, SEAI Director of Research and Policy Insights, commented: "SEAI is delighted to collaborate with SFI supporting Irish energy RD&D, co-funding this exciting demonstration infrastructure in Cork Harbour. We expect this particular project to unlock the significant potential for floating offshore wind in Irish coastal waters. Trial infrastructure and gathering delivery knowledge are key to achieving government ambitions in this sector and ultimately accelerating Ireland's clean energy transition."

The eight funded projects are:

- Floating Wind Testbed integrated with Energy System Observatory (FLOWT-EOB), University College Cork (UCC), aims to provide an infrastructure that would be unique worldwide for addressing knowledge gaps and optimising energy utilisation. The primary component of FLOWT-EOB will be a 200kW floating wind platform, deployed in Cork Harbour. ***The project has been co-funded with Sustainable Energy Authority of Ireland (SEAI).***

- Advanced Heterogeneous Device Integration (AHDI), Tyndall National Institute, proposes a unique cutting-edge facility using Hybrid Integration to improve semiconductor performance.

- Geofib: Optical Fibre Earth Sensing Suite, Dublin Institute for Advanced Studies (DIAS), will acquire new methodological-technical infrastructure that allows optical fibre cables to be used as ‘seismic’ sensors to monitor the Earth’s structure and how it is changing.
-
- IQ: the Irish Quantum technology facility for advanced qubit manipulation, Tyndall National Institute, will establish a world-class facility for developing devices for quantum-bit generation and manipulation, explicitly designed to facilitate the ‘fusion’ between integrated silicon electronics, hybrid photonic devices and novel materials.

- Solid-State Battery Analysis and Testing (SS-BAT) Facility, University of Limerick (UL), will be a world-leading resource dedicated to establishing solid-state battery (SSB) research within Ireland.

- An Irish Microkelvin Laboratory for Advanced Quantum Materials Research, University College Cork (UCC), will provide experimental facilities, unique in Europe, to discover and explore electronic and magnetic properties of novel quantum materials at the lowest accessible temperatures.

- Accelerated Computing for Lifespan Brain Health, Trinity College Dublin (TCD), aims to utilize a strategic application of graphics processing units (GPUs) with a substantial training component that will enable Ireland to develop artificial intelligence approaches to analysing health data and leading to transformative discoveries in lifespan brain health.

- Advanced Mass Spectrometry Infrastructure Enabling Strategic and Focused Multi-Disciplinary Scientific Discovery and Innovation, Maynooth University (MU), proposes a mass spectrometry infrastructure that will enable high sensitivity detection and enumeration of biomolecules, in a high-throughput and efficient manner, with applications in health, biotechnology and chemical sciences.

The SFI Research Infrastructure Programme supports the research community in building and sustaining cutting-edge infrastructure in order to accomplish high-quality, impactful and innovative research. The programme encourages partnerships and collaboration between different cohorts of researchers in Ireland, across academia and enterprise.

For more information about the research infrastructure programme visit the programme webpage.

Contact Us

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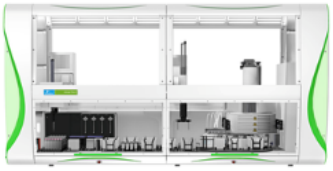

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IDA Updates & Reports

IDA Ireland acknowledges economic and social impact of multinational companies with special focus on life sciences industry

4 December 2023

- Foreign direct investment (FDI) delivers significant economic and social benefit to Ireland
- Over 300,000 now employed across 1,800 MNCs which is 12% of the total Irish labour force
- One third of these are employed across 250 IDA-supported companies in the life sciences sector

IDA Ireland today hosted an event marking the significant and substantial contribution of multinational companies to Ireland's economy with a particular emphasis on the life sciences sector. Similar recognition has previously been paid to Ireland's thriving technology sector at IDA Ireland events that acknowledged contributions made by Google and Apple.

Life sciences in Ireland employs circa 100,000 people across 250 IDA Ireland supported medical technology and biopharmaceutical companies throughout the country. Today's event recognised this and sought to demonstrate the importance and longevity of FDI investments, particularly from those within the life sciences sector, in delivering economic and social benefit to the country.

The event, entitled "Celebrating Ireland's Life Sciences Ecosystem: Innovation, Sustainability and Global Partnerships", brought together over 500 attendees at Dublin's National Concert Hall where Taoiseach Leo Varadkar spoke in recognition of the impact foreign direct investment (FDI) has had on Ireland.

Special recognition was given to US pharmaceutical company Pfizer, with global Chairman and CEO Albert Bourla receiving an award from the Taoiseach Leo Varadkar, to mark the company's presence

in Ireland for more than 50 years and its commitment to continued investment here.

Pfizer employs over 5,000 people across counties Dublin, Kildare and Cork in manufacturing, shared services, R&D, treasury and commercial operations. Earlier this year, Pfizer announced plans to invest more than €1.2bn to build a new facility that will double the biological drug substance manufacturing capacity at its Grange Castle campus in Dublin. This expansion will also increase the manufacturing and laboratory capacity and new oligonucleotide technologies to the campus.

Taoiseach Leo Varadkar said, "There are almost 100,000 people in Ireland working in life sciences companies supported by lDA Ireland. In doing so, they help to make and market the medicines and medical devices that improve and save the lives of millions of people around the world. The taxes paid by the companies they work for enable us to invest in housing, schools and other public services. We are determined to stay competitive and protect the large Life Sciences sector located in Ireland, and attract even more investment and quality jobs."

Michael Lohan, CEO at IDA Ireland said, "Companies supported by IDA Ireland employ over 300,000 people, a third of which are in the life sciences sector. Pfizer is a real example of a life sciences multinational whose strategic decision to locate in Ireland and to build partnerships here has driven its global growth. Pfizer's enduring commitment to Ireland is testament to the value we offer companies seeking to increase competitiveness through access to state-of-the-art manufacturing facilities, worldclass talent, research and innovation."

Albert Bourla, Pfizer Global Chairman & CEO said, "Having operated in Ireland for more than 50 years, Pfizer has enjoyed a valued partnership with the country as we have built out our manufacturing, research and innovation capabilities for the benefit of patients. On a personal level, I am really pleased to receive this award from An Taoiseach Leo Varadkar and the IDA and want to acknowledge the work of our purpose-driven colleagues here in Ireland. Next year marks our 55th year in Ireland and our commitment to the country remains steadfast. We look forward to seeing the completion of our recent investments which will ensure Pfizer is ready to manufacture the next wave of medical innovations."

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IDA Ireland appoints new Head of Life Sciences & Food and Talent, Transformation, and Innovation Division

IDA Ireland has appointed Rachel Shelly to the role of Divisional Manager, Life Sciences & Food and Talent, Transformation and Innovation. Rachel will play a key leadership role in IDA as she also joins IDA's Executive Leadership team.

Rachel joined IDA Ireland in 2006 where she spent 5 years based in IDA's New York office, managing corporate client relationships and new business development across the Content, Consumer, B2B Services and Engineering sectors. On returning to Ireland in 2011, Rachel was promoted to Project Manager in the Content, Consumer & Business Services (CCBS) division where she managed the CCBS East Coast territory. In 2018, she was appointed Department Manager, Medical Technologies, based in Athlone.

Rachel is currently a Non-Executive Board member of DMI (Digital Manufacturing Ireland) and holds an MSc in Strategic Management, BBS in Marketing Management & Diploma in Change Management and her skills knowledge and experience will contribute greatly to her new role in IDA.

Michael Lohan, CEO of IDA Ireland said, "I am delighted that Rachel is joining the Executive Leadership team. Rachel has extensive experience in the life sciences sector, particularly in her role as Head of Medical Technologies where she has been instrumental in evolving Ireland's reputation as a global Medtech cluster, while also furthering our national competency in advanced manufacturing through the establishment of Digital Manufacturing Ireland. In her new role, Rachel will be responsible for leading a strong global team in the Life Sciences & Food and Talent, Transformation and Innovation Division to win investment and identify new areas of opportunities for Ireland. I wish

Rachel every success as she takes up her new position."

Rachel Shelly Bio
Rachel Shelly is a member of IDA's Senior Management Team where she has held global responsibility for Medical Technologies & Healthcare Services since 2018. Rachel has led the development and execution of departmental strategies across the MedTech sector, including new business development, strategic client management and transformation (across Talent Development, Innovation, Digitalisation and Sustainability) to enable and support foreign direct investment.

Rachel represents IDA in several fora including the Board of Digital Manufacturing Ireland, the Health Innovation Hub Ireland National Oversight Group, and Bioinnovate Advisory Board.
Prior to joining IDA Ireland, Rachel spent 15 years in the Private Sector, in a number of marketing and management roles within the Health/Tech industry. Rachel holds an MSc. in Strategic Management, a BBS in Marketing Management and a Professional Diploma in Change Management.

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Grifols inaugurates new albumin plant at its expanding Dublin site

19 October 2023

- With more than 17,000 sq m, the new albumin plant brings Grifols' total investment in its Irish operations to around EUR 300 million since first establishing a presence in the country in 2012
- Expansion provides considerable employment opportunities across entry-level and specialist roles in manufacturing, logistics and packaging, with as many as over 200 additional jobs that would bring total employment to more than 500 in the next two years
- Grifols growth in Dublin is facilitated by Ireland's position between North America and continental Europe, its business-friendly environment and diverse, highly educated talent pool

Barcelona, Spain, Oct. 19, 2022 – Grifols (MCE:GRF, MCE:GRF.P, NASDAQ:GRFS), a global leader in plasma-derived medicines, today will inaugurate a new albumin purification and filling plant at its global manufacturing and supply hub in Grange Castle, Dublin, which will help address the growing demand for this vital plasma-derived medicine.

The newly built plant, which adds more than 17,000 sq m (183,000 sq ft) to Grifols' cutting-edge facilities in Dublin, is part of the company's continued global growth strategy and investment in critical plasma infrastructure. This expansion brings Grifols' total investment in Irish operations to over EUR €300 million since first establishing a presence in the country in 2012.

Dublin is the Group's fifth manufacturing site for essential plasma medicines alongside Barcelona; Clayton, North Carolina; Los Angeles, California, and Dreieich, Germany. Additional Grifols manufacturing sites under construction will become operational in Montreal, Canada, in 2024, and El Cairo, Egypt, in 2025.

Ireland has continued to prove an attractive location for Grifols given its highly educated and skilled workforce, in addition to its strategic position between North America and continental Europe and its pro-business environment. The expansion will provide considerable employment opportunities in the Dublin region across entry-level and specialist roles in manufacturing, logistics and packaging. Grifols expects the number of employees, currently more than 300, to increase to over 500 between 2022 and 2024.

Tánaiste and Minister for Enterprise, Trade and Employment Leo Varadkar said: "I very much welcome Grifols' continued investment in Ireland and the 200 extra jobs this will bring to Dublin. Having steadily grown its presence in Ireland over the last decade, Grifols further expansion reinforces Dublin as an important center of the company's global operations. It's further proof of Ireland's role as a major biopharmaceutical and international trade hub, with a highly talented workforce available."

Martin Shanahan, CEO of IDA Ireland said; "This significant investment by Grifols marks a 10-year milestone in its commitment to Ireland. The Irish site plays an important role in in providing vital plasma-derived medicine to treat disease around the world. We welcome the company's plans to create new employment opportunities across several activities and look forward to continued success for Grifols in Ireland."

"The new plant, displaying Grifols' industry-leading technological excellence, is part of our broader expansion in Dublin that includes the growth of the supply chain and logistical operations of our

Biopharma business unit, all of which brings additional professional development opportunities to the Irish workforce," said Shane O'Brien, vice president of Grifols Worldwide Operations.

Specifically, the new plant will help Grifols meet growing demand for albumin, which is expected to increase by a compound annual growth rate of around 5% over the next five years1. The most abundant protein found in plasma, albumin is used to replace lost fluids, restore vital blood volume and to treat prevalent diseases such as cirrhosis. Grifols is also advancing its potential use to treat neurological degenerative disorders.

"This magnificent new Dublin manufacturing facility, which incorporates Grifols industry-leading engineering, is indicative of this company's commitment to investing in essential plasma-medicine infrastructure globally to treat more patients around the world. The significant investment underlines our long-term commitment to Ireland and reinforces Dublin's role as a critical nerve centre for Grifols' global operations," said **Víctor Grifols Deu and Raimon Grifols, Grifols co-CEOs.**

Jazz Pharmaceuticals Welcomed Minister of State Neale Richmond to Anniversary Event in Athlone

26 February 2024

Jazz Pharmaceuticals plc (Nasdaq: JAZZ) today held an event at its Athlone site to commemorate 20 years since the founding of the company and mark 10 years in Athlone. The event also highlighted the site's role in supporting Jazz's current and future pipeline focus in both neuroscience and oncology, across both drug development and commercial manufacturing.

Jazz is a global biopharmaceutical company with a focus on developing potentially life-changing medicines for people with serious diseases, so they can live their lives more fully. Between its headquarters in Dublin and its manufacturing facility in Athlone, the company employs over 200 people in Ireland.

Investment in Athlone Facility/Technical Service Laboratories
Since 2016, Jazz has made strategic investments in its Athlone facility, building new technical services laboratories and upgrading the site's capability to support the company's expanding commercial portfolio and pipeline. With these developments, the site will now have a role in supporting both drug development and commercial manufacturing, across neuroscience and oncology.

"As we celebrate two significant milestones, 20 years of our company and ten years in Athlone, we are

reminded of the remarkable journey we have undertaken together with the local community and our partners. The long-term relationships we've built in Athlone and more broadly in Ireland have been central to our ability to deliver innovative medicines to patients worldwide", **stated Liz Henderson, senior vice president of technical operations at Jazz Pharmaceuticals.** "We're delighted to have embarked on key strategic enhancements to our Athlone site which will create capacity and capability, make the site pivotal to delivering Jazz's long-term strategy, and ensure our sustained presence as a premier employer in the area, committed to offering high-calibre employment opportunities".

Jazz Athlone site leadership and employees welcomed Minister of State at the Department of Enterprise, Trade and Employment, Neale Richmond, to the event to showcase the upgrades, which was also attended by representatives from Jazz's Executive Committee, business partners, and local politicians, as well as invited guests from the local community. Guests were provided with a tour of the recently upgraded Athlone facility.

In 2022, Jazz successfully transferred responsibility for European import (quality and batch) testing for Jazz's medicines to treat rare forms of epilepsy from an existing third-party site to Jazz's manufacturing facility at Athlone. Today, the Athlone facility manufactures the majority of the U.S. commercial supply for Jazz's treatments for narcolepsy and idiopathic hypersomnia. The Athlone facility also houses quality control laboratories, which are central to Jazz's commitment to patient safety.

Neale Richmond, Minister of State at the Department of Enterprise, Trade and Employment, when addressing the audience said: "It is a fantastic milestone and a great achievement for the team at Jazz Pharmaceuticals to mark 20 years in operation and 10 years in Athlone. Jazz not only provides potentially life changing medicines but also provides valuable jobs across Ireland and it is great to see the continued commitment to the island. I have no doubt that Jazz will continue to grow on the strength of the fantastic talent available and would like to wish the team many more years of continued success."

Rachel Shelly, Head of Life Sciences at IDA Ireland added: "As Jazz Pharmaceuticals commemorates 10 years of excellence in their Athlone operation and marks 20 years since its founding, the company's continued commitment to the Midlands region and the thriving biopharmaceutical sector in Ireland is testimony to the success of their Irish operations; and the Midlands as a strategic hub for innovation and talent in the Life Sciences sector."

Committed to corporate sustainability and social impact, Jazz operates its Athlone facility in an environmentally responsible way and is committed to meeting evolving regulatory standards and taking steps to reduce environmental impact, using sustainable practices wherever feasible. The Athlone facility purchases 100% renewable electricity and supports the local community through participating in volunteering days, hosting school visits and STEM training days.

Sterile Drug Product Facility receives planning permission at Cruiserath Campus Site, creating 350 jobs by 2026
Bristol Myers Squibb to Invest over $400m in Facility Expansion

23 February

Bristol Myers Squibb today formally announces the investment $400 million at its Dublin 15 Cruiserath Campus towards the build and design of a Sterile Drug Product (SDP) facility, which will support the manufacturing and supply of existing medicines as well as serve as a launch excellence facility for pipeline assets. This will be Bristol Myers Squibb's first European sterile drug product facility for biologics manufacturing.

As part of Bristol Myers Squibb efforts to support the commercial and pipeline portfolio, across a range of therapeutic areas including oncology, immunology, and hematology, it is anticipated that there will be a further 350 roles created in Ireland as part of this investment, bringing the total number of Bristol Myers Squibb direct employees at the campus over 1,000. The project is currently in design phase with construction expected to commence in March 2024, now that planning approval has been received, for completion in 2026.

Adding to existing biologic manufacturing operations for bulk drug substance this new investment, and the roles created, will significantly expand manufacturing and laboratory capacity in Cruiserath as the campus adds new technologies and capabilities supporting sterile drug product manufacturing. The co-location for drug substance and drug product manufacturing alongside existing global testing capabilities offers significant strategic agility to the global supply of medicinal products to patients from the BMS commercial brands and clinical pipeline.

Commenting, **Padraig Keane, Vice President, Cruiserath Biologics, said:** "This is significant news and a proud day at Cruiserath Biologics as this SDP facility strengthens not only our capabilities on campus, but allows us to be agile and responsive to patient needs across the globe. This investment will expand our capacity for aseptic drug products, reinforce stable production for global supply and accelerate the development and commercialization of innovative biologic therapies alongside other pipeline medicines. This year we celebrate 60 years of BMS in Ireland, across our three sites in Ireland we continue to play a critical role in the global production, development, and supply network."

Michael Lohan, CEO of IDA Ireland, said: ''Bristol Myer Squibb's decision to invest $400 million at their Cruiserath campus along with 350 new jobs is most welcome news and underscores the strategic importance of Ireland in their global operations. It is proof of the company's future commitment to Ireland and a testament to Ireland's continued attractiveness as a location for biopharma investment."

Karin Shanahan, EVP, Global Product Development and Supply, who leads the company's global manufacturing network, including Cruiserath, added: "The Cruiserath Biologics site will continue to play a crucial role in our company's success moving forward. Coupled with the breadth of knowledge and expertise of our employees, this sterile drug product site, co-partnered alongside our Biologics facility, will allow us to further enhance our operations as we strive to get more medicines to more patients faster. Our workforce is truly committed to discovering, developing, and delivering innovative medicines that help patients prevail over serious diseases and I'm proud to be a part of this historic day for our Irish footprint."

For more information, visit www.bms.com/ie

https://enterprise-ireland.com/en

Enterprise Ireland Updates & Reports

Minister Coveney launches €33.4M KT Boost funding programme

7 December

New four-year knowledge transfer funding programme will increase the commercialisation of Irish research boosting innovation in our enterprise sector

Thursday, 7 December. Minister for Enterprise, Trade and Employment, Simon Coveney TD, and Enterprise Ireland today launched KT Boost, a new four-year, €33.4 million knowledge transfer funding programme for Irish universities and technological universities (TUs). Its objective is to support an increase in research commercialisation outcomes from within this sector - both regionally and nationally - and to develop consistent practices across the knowledge transfer (KT) sector.

The programme is administered by Enterprise Ireland, and co-funded by the Government of Ireland and the European Regional Development Fund (ERDF) which aims to promote economic, social and territorial cohesion across all European regions. The Managing Authorities for the ERDF in Ireland are the Northern & Western Regional Assembly and the Southern Regional Assembly.

KT Boost will support and provide resources to Innovation Offices/Technology Transfer Offices (TTOs) in Higher Education Institutions (HEIs) around the country to further support knowledge transfer activities, outputs and performance.

KT Boost was launched at an event today, 7 December, in the Hyatt Centric in the Liberties, Dublin 8.

Speaking at the event, **Minister for Enterprise, Trade and Employment Simon Coveney, TD, said:**

"Ireland has a very strong reputation globally for our capabilities in research, innovation and knowledge transfer. In this continuously changing environment, it is important that we match the pace of change and maintain our position of implementing best practice in knowledge transfer. Designed to make the most of Ireland's significant investment in high performance research at university level, KT Boost will further build on that success to drive research commercialisation and bring more Irish ingenuity to the world."

Marina Donohoe, Head of Research and Innovation at Enterprise Ireland, said:

"The new KT Boost programme will build on Enterprise Ireland's existing supports and will help bring the firepower to Ireland's research system to ensure we maximise its economic and social impact. It will support innovators and researchers to investigate, establish and develop new ideas, accelerating the development of innovation capability in Irish enterprise across all regions. This investment will also help to ensure enterprise and industry engages with the deep and applied research that is already under way in the HEIs and unlock its commercial potential."

Cllr Terry Shannon, Cathaoirleach of the Southern Regional Assembly, said:

"The universities and technological universities play a critical role in supporting regional development and innovation. KT Boost will complement wider investment, including significant investment under the ERDF Regional Programmes, in building research, development and innovation capacity in HEIs and in SMEs throughout the regions."

Welcoming the launch, **the Cathaoirleach of the Northern and Western Regional Assembly, Cllr John Naughten said:**

"KT Boost is another positive instance of European Funding being delivered by the Northern & Western Regional Assembly to assist our HEIs to establish links with companies and investors to assess new knowledge and expertise and drive innovation in the region. This is a fantastic opportunity to provide much needed investment in the human capital base, which is one of the most pressing infrastructure challenges restricting the northern and western region's growth."

On the ground, the KT Boost programme will fund recruitment, skillset development and training within Innovation Offices. It aims to ensure HEIs have the right people with the right skills to propel research commercialisation in our universities and technological universities.

The specialists funded by the programme will support knowledge and technology transfer activities including IP Management and prospective licensing, and spin-out creation. The programme also aims to speed up and simplify transactions with Innovation Offices.

Ultimately, KT Boost is expected to accelerate the rate of high potential start-up (HPSU) companies evolving from research spin-out businesses. It also aims to increase the volume of intellectual property (IP) licences and research collaboration agreements for these companies.

For further information, contact:

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Minister Calleary Announces New AI Accelerator Programme for Start-Ups at University College Dublin

15 January 2024

Pictured (l-r): Dara Calleary TD, Minister of State for Trade Promotion, Digital and Company Regulation and Marina Donohoe, Head of Research and Innovation, Enterprise Ireland.

Dara Calleary TD, Minister of State for Trade Promotion, Digital and Company Regulation, has today announced a new Artificial Intelligence (AI) accelerator programme for start-ups at University College Dublin (UCD).

The 6-month AI Ecosystem Accelerator, which begins in April, will be delivered by NovaUCD, the university's hub of innovation and start-up activities, in partnership with CeADAR, Ireland's National Centre for Applied AI.

The focus of the new accelerator programme is to support entrepreneurs who are developing disruptive AI solutions in sectors including, healthcare, cybersecurity, education, sustainability, finance, content creation, supply chain and customer service, for a global market.

The programme is being funded through the European Digital Innovation Hubs (EDIH) framework, a Europe-wide initiative with funding of €700 million from both the European Commission and the Governments of member states.

The Department of Enterprise, Trade and Employment, through Enterprise Ireland, is leading on the EDIH programme for Ireland and CeADAR has been designated as the European Digital Innovation Hub in AI for Ireland.

Targeted supports for participants on the AI Ecosystem Accelerator include a dedicated commercial mentor and workshops on value proposition, route to market, sales strategies and securing investment. Participants will have access to co-working space at NovaUCD and access to the NovaUCD community of founders, investors, business partners and student interns. Participants will also have access to CeADAR's EDIH services which include AI technologies, and research expertise with technical mentorship.

Applications are open for the programme via https://www.ucd.ie/innovation/aiecosystem/

Announcing the AI Ecosystem Accelerator, Minister Calleary TD said, *"There is no doubt Ireland's entrepreneurs and founders have the talent, the creativity, and the drive to seize the opportunities of AI to improve the way we all live and work.*

Sitting at the crossroads of higher education, industry, and research, the AI Ecosystem Accelerator programme aims to support AI start-ups grow through dedicated technical and commercial supports. I am delighted that funding is in place to support the acceleration of enterprises in this space, which is key element in our National AI Strategy "AI - Here for Good".

My ambition is for Ireland to become a leading country in using AI to the benefit of our citizens, through a people centred and ethical approach to AI adoption and use. I encourage all interested AI start-ups to consider applying and be part of Ireland's AI ambitions."

Marina Donohoe, Head of Research and Innovation, Enterprise Ireland, said, *"The adoption and deployment of AI technologies is critical to driving the competitiveness and innovation of Irish businesses in international markets. Many AI-driven Irish businesses are scaling globally, with a number of excellent start-ups following in their tracks. Enterprise Ireland sees a major opportunity for Irish entrepreneurs to take the lead in this ever-changing field.*

The new AI Ecosystem Accelerator programme, funded through the EDIH programme managed by Enterprise Ireland, will be delivered by NovaUCD in partnership with CeADAR, and will nurture cutting-edge AI solutions and provide strategic support to help AI-driven businesses thrive in a global market."

Since opening in 2003 NovaUCD has developed a strong track record and has supported 550+ start-ups and early-stage ventures through the services it provides, and through business support programmes run and managed by NovaUCD. In addition, the NovaUCD entrepreneurial community has now raised €1.3+ billion in equity funding.

Tom Flanagan, Director of Enterprise and Commercialisation, UCD said, *"We are delighted to be announcing a new AI Ecosystem Accelerator programme which we will be delivering with CeADAR to showcase and support the most advanced AI start-ups in Ireland.*

We are currently seeking applications from Irish-based start-ups with really novel AI based products or services, who want to be part of an ecosystem of the most successful entrepreneurs in Ireland using AI. Participants on the programme will have the opportunity to network, collaborate and learn from experienced AI founders from the wider NovaUCD ecosystem such as Biosimulytics, Binarii Labs, Corlytics, DOCOsoft, Oblivious and Wayflyer."

CeADAR'smission is to help industry in Ireland adopt AI. The Centre has been awarded a multi-million-euro project as part of the EDIH programme to support start-ups and SMEs from all over Ireland who are at the early stage of their AI journey or just curious to find out how using data can increase their business.

Dr Ricardo Simon Carbajo, Director of Innovation and Development, CeADAR, said, *"The AI Ecosystem Accelerator is one of the key services of CeADAR's European Digital Innovation Hub programme. Run in partnership with NovaUCD the programme will provide entrepreneurs who are leveraging the power of AI with the required support, knowledge and network to accelerate their start-ups from ideation to investment stage.*

We encourage entrepreneurs to find out the benefits of accelerating their venture with us and the range of other funded services for companies as part of CeADAR's EDIH programme."

Applications are now open for the first AI Ecosystem Accelerator programme via https://www.ucd.ie/innovation/aiecosystem/

The 6-month programme will begin in April and will end with a Demo Day in September.

ENDS

For further information contact Micéal Whelan, Communications and Media Relations Manager, UCD Research and Innovation, NovaUCD, e: miceal.whelan@ucd.ie

Editors Notes

AI Ecosystem Accelerator - be part of an ecosystem of successful AI entrepreneurs and advance your AI start-up with our dedicated technical and commercial supports. www.ucd.ie/innovation/aiecosystem

NovaUCD has been nurturing and supporting high-tech start-ups with global potential since 2003. During the last two decades NovaUCD has developed an excellent and expanded infrastructure and a suite of comprehensive business support programmes, dedicated accelerators, and an ecosystem of mentors, investors and industry partners that help to nurture an enthusiastic and dynamic community of start-ups and established companies, to grow and scale on the global stage. NovaUCD was originally funded through a unique public-private partnership that included AIB; AMD; Arthur Cox; Deloitte; Enterprise Ireland; Ericsson; Goodbody and UCD. www.novaucd.ie

CeADAR – Ireland's National Centre for Applied AI, is funded by Enterprise Ireland and the IDA Ireland to help industry adopt AI. The Centre has more than 90-member companies across a wide span of industries and is one of the leading European Digital Innovation Hubs (EDIH) across the EU focused on delivering AI services to industry and public sector organisations. CeADAR acts as the EDIH in AI for Ireland and offers a variety of services to reduce the risk and investment in applying AI to transform businesses. www.ceadar.ie

The **European Digital Innovation Hubs** (EDIHs) are one-stop shops supporting companies and public sector organisations to respond to digital challenges and become more competitive. Four European Digital Innovation Hubs, including CeADAR, are now operational in Ireland. The Department of Enterprise, Trade and Employment, through Enterprise Ireland, is leading on the EDIH programme for Ireland.

https://digital-strategy.ec.europa.eu/en/activities/edihs

https://enterprise.gov.ie/en/what-we-do/innovation-research-development/european-digital-innovation-hubs

CoolPlanet announces 150 new jobs at official launch of new premises

7 February

Pictured (l-r) Leo Clancy, CEO, Enterprise Ireland, Minister Simon Harris TD., Norman Crowley, Chair & Founder, CoolPlanet, Alan Keogh, CEO, CoolPlanet.

Press Release, Wicklow, Ireland: 7th February 2024: CoolPlanet, a global leader in industrial-scale decarbonisation, is to create 150 new jobs over the next 24 months.

The new jobs were announced today by Wicklow Minister for Further and Higher Education Simon Harris T.D., with the extension of CoolPlanet's offices in Powerscourt Estate, Co Wicklow.

The expansion, which will over double its current workforce of 140, underscores CoolPlanet's commitment to solving climate change by significantly lowering emissions across various industries.

The new positions, spanning nationwide across Ireland will encompass a range of roles including sales, customer success, product development, engineering, grid services, project management, people operations, and finance.

Welcoming the announcement, Simon Harris, Minister for Further and Higher Education, said, "This is great news for Ireland. 150 additional jobs in what is a thriving economy is very positive and evidence

of the business growth of CoolPlanet. This expansion demonstrates the capacity of Irish-owned businesses to become leaders in their field, bringing together technology, innovation and ambition to make a real difference in people's lives. Coolplanet are a company of dedicated people working towards a greener economy and most importantly developing green skills for the future, a priority of mine as Minister. The Government and Enterprise Ireland are dedicated to supporting businesses like CoolPlanet in their efforts towards decarbonisation and the creation of sustainable regional job opportunities. These actions help future proof our economy and meet enterprise emission targets under the Climate Action Plan."

Alan Keogh, CEO of CoolPlanet said, "CoolPlanet's growth is a testament to our dedicated team and our unwavering commitment to decarbonisation. These new roles represent not just jobs, but opportunities for individuals to make a tangible impact in the fight against climate change. This milestone reflects the company's innovative approach and successful track record in assisting complex organisations to reach net zero faster and more efficiently."

For over 15 years, CoolPlanet's Decarbonisation Management System has been trusted by world-renowned brands like GE Healthcare, Louis Dreyfus Company, Hilton Food Group, Viterra, Tirlan, Zimmer Biomet and OI. The combination of software, engineering services and solutions, allows CoolPlanet to deliver decarbonisation at scale to a wide range of sectors, such as commercial buildings, mining, pharmaceutical manufacturing, shipping, food production and more.

"We are proud to be doubling our workforce and expanding our operations in our new premises in Powerscourt House," Mr Keogh said. "This is not just growth for CoolPlanet but a leap forward for the industry. We are excited to welcome new talents who share our vision and passion for a sustainable future."

Speaking about the opening of the new offices, Managing Director of Powerscourt Estate, Sarah Slazenger said, "We are delighted to continue our ongoing relationship with the team at CoolPlanet who have been headquartered at Powerscourt House for over 10 years. This collaboration has grown and strengthened over the years due to the mutually aligned goals of both Powerscourt and CoolPlanet to address the climate crisis and provide solutions.

The opening of the new 20,000 square ft offices is yet another exciting milestone in the collaboration. The new offices are housed in a 140-year-old carriage house and stables which were once home to Estate workers. We are delighted to see historic buildings dating back to 1880 being redeveloped and repurposed with sustainability in mind and with CoolPlanet's decarbonisation solutions being actively implemented on the Estate."

-ENDS-

About CoolPlanet

Founded in 2008 by Norman Crowley, CoolPlanet is a global leader in industrial-scale decarbonisation, known for its innovative approach in reducing energy consumption and emissions across various industries. Leveraging bespoke software, advanced engineering, and unparalleled expertise, CoolPlanet assists organisations worldwide in achieving net zero targets. CoolPlanet's mission is to significantly reduce the carbon emitted by industry and bring the world closer to solving climate change.

For further information, please contact Valerie O'Reilly, Unicorn PR. valerie@unicornpr.ie +353 87 2388641

Minister Simon Coveney TD Officially Opens the AIM Centre in Sligo

21 February 2024

In an important milestone for the North-West region's manufacturing sector, Simon Coveney TD, Minister for Enterprise, Trade and Employment, officially opened the new Advancing Innovation in Manufacturing (AIM) Centre in Sligo today. This initiative is a partnership between Sligo County Council and Atlantic Technological University. It is funded by the founding partners and Enterprise Ireland through the Border Regional Enterprise Development Fund (BEDF), with an investment of €2.2m, and is supported by Leitrim County Council.

The AIM Centre, housed in a building with a rich history dating back to 1913 and previously serving as Sligo's fire station before its transformation, has undergone extensive refurbishment. The centre is poised to become a beacon of digital technology and innovation for the industry in the region, offering state-of-the-art facilities and supports for businesses looking to adopt digitialisation and new manufacturing technologies.

Minister Simon Coveney praised the collaborative effort behind the project, stating, "*The AIM Centre is a prime example of what can be achieved when local authorities, educational institutions, and government agencies come together with a shared vision. This Centre will play a crucial role in ensuring Irish businesses are at the forefront of manufacturing innovation, driving competitiveness and creating high-quality jobs in the North-West. The AIM Centre will harness the talent and ambition in manufacturing enterprises and third-level institutions across the North West and will foster the collaboration required to ensure they remain at the cutting-edge of manufacturing supply chain innovation."*

Martin Lydon Chief Executive of Sligo County Council highlighted the local benefits: "*The transformation of this historic building into a modern innovation centre is a significant boost for Sligo and the surrounding area. It underscores our commitment to supporting local industry and enhancing the economic landscape. Sligo County Council played a pivotal role in ensuring the project's success, demonstrating our dedication to innovation and our capacity to facilitate significant advancements in the region. Through collaboration and vision, we've helped lay the groundwork for a project that will be a gamechanger for industry in Sligo and the region.*"

Dr. Chris O'Malley, Vice President of Research, Innovation and Engagement at ATU, offered insights into the strategic significance of the AIM Centre within the broader context of regional

development and technological advancement: "*The AIM Centre forms a major part of ATU's mission to support the region's development at a time of rapid technological change. Manufacturing is a major part of the region's economy, and our companies need all the support they can get to keep on top of the changes coming down the track.”*

Julie Dowling, Director of the AIM Centre, expressed her enthusiasm for the launch: "*The opening of the AIM Centre marks a pivotal moment for manufacturing innovation in the North-West. Our state-of-the-art facilities, combined with world class expertise, position us uniquely to support businesses facing the challenges of a rapidly evolving landscape. This centre is not just a building; it's a hub of innovation, collaboration, and growth for the region.*"

Jenny Melia, Executive Director, Enterprise Ireland said, *“Enterprise Ireland is proud to work with our partners in delivering this project. Through the Border Enterprise Development Fund, established by the Department of Enterprise, Trade and Employment, Enterprise Ireland has been able to provide approximately €2.2m to support this project.*

“We are confident that the AIM Centre will prove to be an engine of transformation and knowledge for manufacturing companies across the North West. Indeed, while this fabulous facility was being built, that work has already begun with projects already up and running. We look forward to continuing to work with the AIM Centre leadership and other stakeholders as the AIM Centre goes from strength-to-strength.”

The official opening was marked by a tour of the facilities, providing guests with insights into the innovative projects and technologies that are available to businesses in the region.

This project is also supported as part of the EU Brexit Adjustment Reserve (BAR)

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