Irish Chemical News

A Journal of the Institute of Chemistry of Ireland

ICI Awards 2024

Dr Ellen Fay TCD Post Grad Award

Prof Stuart James QUB Eva Philbin

Prof Tia Keyes DCU Boyle Higgins Medal

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 details of our recent ICI Awards Day which was held at University College Dublin. I was delighted to present the ICI Postgraduate Award to Ellen Fay of Trinity College Dublin, the ICI Eva Philbin Lecture Award to Professor Stuart James of Queen's University Belfast and the ICI Boyle-Higgins Medal to Professor Tia Keyes of Dublin City University. They, in addition to Professor Susan Quinn, the 2023 ICI Eva Philbin Lecture Awardee, gave a series of excellent lectures. The event was followed by a wine reception and the ICI AGM, during which we were pleased to add Dr Joseph Byrne to the ICI Council.

Other notable events covered in this issue include reports of the Ceimic as Gaeilge 2024 (bilingual) – Imeacht Seachtain na Gaeilge event organised by Dr Joe Byrne and the 7th Irish Biological Inorganic Chemistry Symposium held in December 2023. Two very successful events again showcasing the strength and breadth of chemistry research in Ireland.

Details of the forthcoming 2nd Chemical Biology Ireland Conference which will be held at the University of Galway July 22-23, 2024, are also given, with a top-class list of lecturers from home and abroad.

I and other colleagues in the ICI continue to work on the upcoming 9th EuChemS Congress which will be held in the Convention Centre in Dublin 7-11 July. The programme has been finalised and all details can be found at www.euchems2024.org. Our Industry Day on Wednesday 10th July is taking shape and we look forward to strong support from the (bio)pharmachemical and chemical industry across the island. A Special One Day Rate for ICI Members only to register for ECC-9 can be found at https://na.eventscloud.com/ereg/newreg.php?eventid=772449&category id=5281986. It is still possible to submit abstracts for posters and we would welcome more registrants from both industry and academia.

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 Seán Byrne, University College Dublin, who has retired as Chair in May and I thank him for

his leadership over the past years. The YCN has organised a two-day meeting on ‘Advancing Equity in Chemistry” which will be held in University College Dublin on 30th and 31st May and the programme details can be found in this issue. Please do get in contact with the YCN if there are items 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,

Professor Pat Guiry PhD FRSC FICI PRIA

President, Institute of Chemistry of Ireland

6th May 2024

Editorial

In this second Issue of Irish Chemical News 2024 you will note significant changes to the section headings. There is a further breakdown of what was the Chemistry Section and Related Sciences into new titled sections. This was because ICN had become too large and difficult for a reader to find a particular topic they might wish to read. The revised headings are now General Chemistry, Organic Chemistry, Synthesis, and Catalyst Chemistry, electrochemistry now comes under Electrochemistry, Battery Chemistry & Technology, while photochemistry appears in Photochemistry, Solar Cell Chemistry & Technology. The emphasis in these two sections has changed with more emphasis on electrochemistry and photochemistry and with a significant reduction in coverage of developments in battery chemistry and solar cell chemistry technologies. These later two have been extensively covered in earlier editions. However, these two areas are still very active but it's better to emphasise the wider aspects of these sciences

In addition to having more named sections the Editor has reduced the number of items in every section by being more selective on which topics to add to ICN. Preference is given to open access and articles with a DOI reference but not exclusively so. Industry reports are still included. All these topics are still very active, much progress is being made and the selection process for inclusion is now more focused. There are some further changes to some other titles e.g. Medicinal Chemistry section now has Drug Discovery added to the title. There may well be a need to break down "General Chemistry" further, so any suggestions are welcome.

In this Issue two significant well written reports by Dr Joseph Byrne (UCD) are included, one is bilingual in Irish and English titled "Ceimic as Gaeilge 2024 – Imeacht Seachtain no Gaeilge" and the second covers the 7th Irish Biological Inorganic Chemistry Symposium held last December in UCD written by Dr Joseph Byrne and Sophie Kavanagh.

Page 29 carries an advertisement for an event organised by the Irish Young Chemists Network called Young Chemists for Change (YCFC) on Advancing Equity in Chemistry. The event will happen on May 30th & 31st at UCD.

One of ICI's most important events of the year is the Annual Award Ceremony Day. There are three awards this year: ICI Postgraduate Award Lecture 2024, ICI Eva Philbin Award Lecture 2024, and the ICI Boyle Higgins Gold Medal Award Lecture 2024. The Eva Philbin requires the recipient gives three lectures in various locations and as an extra bonus on the day Prof Susan Quinn gave her second 2023 Award Lecture at this event. All four lectures were of a very high standard and presented in an exciting format. There was a social and networking reception after the awards ceremony. The subjects of the lectures, presentation photographs start on Page 20 along photographs of the social networking occasion.

Another important event is the "2nd Chemical Biology Ireland Conference" at the University of Galway July 22nd & 23rd, 2024, and is supported by ICI which will occur after our European Chemistry Congress ECC-9.

Premier Publishing & Events, RDS Simmonscourt, May 28th &29th, 2024, are co-hosting four industry orientated conference, exhibition, exposition, and summit. The event is free to attend and hopefully many of you the readers will attend on at least one of the two days. Do promote ECC-9 while there. There are talks and breakout sessions at these simultaneous sessions. Chemistry is central to many of the technologies exhibiting there.

In March the whole issue of room temperature superconductivity arose again, with the South Koreans still claiming they have found a superconducting material at room temperature.

They claim to have verified this and some Chinese reports support this. The Koreans claim they will publish a peer reviewed paper in April, but no such paper has been published yet. Other less

sensational reports on efforts to find higher superconductivity material have been published by other researchers. This topic is included an Addendum to the Material Science Section.

European Chemistry Congress (ECC-9) Theme is:

"Chemistry Addressing Current and Future Global Challenges"

Theis the most exciting and biggest chemistry event ever organized by the Institute in its history is coming to Dublin within eight weeks. The location is close to the City Centre, held over five days on July 7th to 9th July, at the purpose-built Convention Centre, Dublin on the River Liffey.

The link for registration is on Page 9, and the graphic gives a great summary of progress to date and much more detail can be found on the Congress website https://euchems2024.org. We have 64 Invited Speakers spread over eight main Programme Themes. Along with over 550 Oral presentations and 160 flash talks, this is an opportunity for chemists all over Europe and further afield to meet, network and enjoy a very exciting conference. There is a special Industry Day on Wednesday of the Congress. A special arrangement has been announced for ICI members who, due to work pressure, cannot attend the full Congress, to allow them to attend on a day of their choice. See page 10.

It is highly such a large event will be held in Ireland for a long time again. We are aiming for 2000 delegates by that date.

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

EuChemS 2024

Registration:

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

Just Announced

ECC-9 registration - special one day rate for ICI members only

This is a special opportunity exclusive to ICI members to register for a one-day only rate for the upcoming EuChemS congress in Dublin,

Please follow this link to register:
https://na.eventscloud.com/ereg/newreg.php?eventid=772449&categoryid=5281986
. (You must enter your email address in the box to get access).

This is the largest chemistry conference ever to come to Ireland and we strongly encourage everybody to be part of this exciting gathering and celebrate chemistry in Ireland. The lineup of speakers is exceptional with 3 Nobel Laureates and 9 Plenary speakers.

This is an opportunity to network, meet colleagues from home and meet new people. It is important to attend events like this to enhance your career in chemistry, update your Continuing Professional Development and open-up to new advances and opportunities in Chemistry. Do try and resister for the full congress.

See graphic previous page and visit the Congress Website:

https://euchems2024.org

The Congress theme: "Chemistry Addressing Current and Future Global Challenges"

WEDNESDAY, 10TH JULY 2024
CONGRESS DINNER at Croke Park Gaelic Games Stadium in the Hogan Suite
https://euchems2024.org/social-events

The outstanding scientific programme of the 9th EuChemS Chemistry Congress will be accompanied by the European Young Chemists' Network (EYCN) Early-Career Programme:
https://euchems2024.org/eycn-early-career-program

Industry Day at the EuChemS Chemistry Congress 2024

Network, Collaborate & Innovate – Partnership Opportunities

A unique opportunity to bridge the gap between academia and industry, fostering collaboration, networking, and innovation.

Why Participate in the Industry Day?

- **Insights from Industry Leaders**
  This is your chance to join the conversation! Showcase your expertise, share insights, and contribute to the industry discussion.
- **Panel Discussions**
  Participate in engaging panel discussions on topics such as "Collaboration between Academia and Industry," "Career Paths for Chemists in Industry," and "Emerging Trends in Chemical Research and Development."
- **Networking Opportunities**
  Connect with industry professionals, researchers, and innovators through networking sessions, facilitating meaningful conversations and collaborations.
- **Career Speed Dating Event**
  Identify and connect with talented individuals (with unique skills and expertise), who may be suitable for internships or job opportunities.
- **Exhibition Booths**
  Showcase your cutting-edge products, services, and innovations. Gain exposure to a diverse and influential audience of chemistry professionals.

Don't miss this chance to be part of a dynamic exchange between academia and industry, driving the future of chemistry forward! See our special Industry Day Packages below. To secure your place at the Congress, contact **expo@euchems2024.org**

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

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

SPONSORSHIP & EXHIBITION OPPORTUNITIES

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
Tel.: +353 1 400 3626 | Email: registration@euchems2024.org

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Sponsorship & Exhibition – EuChemS 2024

KEYNOTE
PROFESSIONAL CONFERENCE ORGANISERS

CONTACT US

EuChemS 2024 – Congress Office
Sponsorship & Exhibition Desk
c/o Keynote PCO
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:

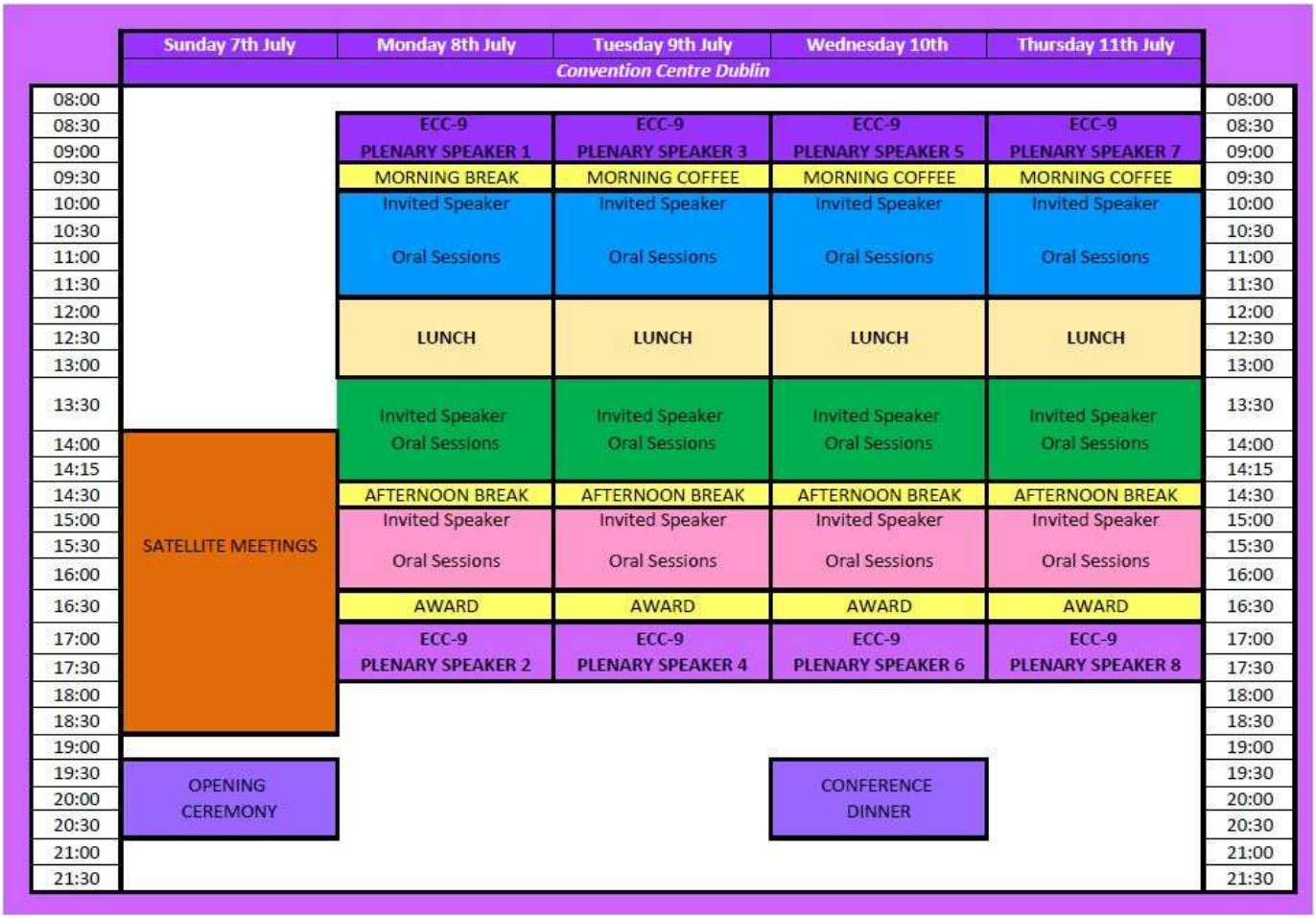
Professor Celine J. Marmion, RCSI University of Medicine and Health Sciences
Professor Thorfinnur (Thorri) Gunnlaugsson, Trinity College Dublin

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 Oral Sessions	Invited Speaker Oral Sessions	Invited Speaker Oral Sessions	Invited Speaker Oral Sessions	13:30
14:00	SATELLITE MEETINGS					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		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

Annual ICI Awards 2024

Annual Award Ceremony, Thursday, 18th April, 2024, UCD

Originated 1922
Incorporated 1950

Institiúid Ceimice na hÉireann
The Institute of Chemistry of Ireland
P.O. Box 9322, Ravensdale Road, Dublin D03 CY66
Email: secretary@instituteofchemistry.org
Patron: Michael D. Higgins, President of Ireland

https://www.chemistryireland.org/

Institute of Chemistry of Ireland Annual Award Ceremony and 75th Annual General Meeting	
Thursday, 18th April, 2024 **at 15.00 in SCIH 1.17 (Lynch Lecture Theatre)** **Science Hub, University College Dublin, Belfield, Dublin 4**	
15.00-15.05	**Welcome and ICI Update** ***Professor Patrick Guiry, ICI President***
15:05-15:25	**ICI Postgraduate Awardee 2024 Award Lecture** 'Nucleoside and Oligonucleotide Modification for Targeting DNA Damage Repair' ***Ellen Fay, School of Chemistry, Trinity College Dublin***
15:25-16:05	**ICI Eva Philbin Award Lecture 2023** 'Adventures in DNA: Exploring New Avenues for Light Activated Diagnostics and Therapeutics' ***Professor Susan Quinn, School of Chemistry, University College Dublin***
16.05-16.45	**ICI Eva Philbin Award Lecture 2024** 'Mechanochemistry and Porous Liquids: New thinking for Sustainable Processes' **Professor Stuart James, School of Chemistry and Chemical Engineering, Queen's University Belfast**
16.45-17.25	**ICI Boyle Higgins Medal Lecture 2024** 'Probes and Platforms for Biophysics; A chemist's solution to Biological problems' ***Professor Tia Keyes, School of Chemical Sciences, Dublin City University***
17.25-17.30	**Closing Remarks** **Professor Patrick Guiry, ICI President**
17.30-18.00	**BREAK – Wine Reception**
18.00-18.45	**75th Annual General Meeting (AGM)** All ICI members are welcome to attend

The Institute of Chemistry of Ireland Annual Awards Cermony was held in UCD's Lynch Lecture Theatre, Science Hub on April 18th 2024.

The proceedings were chaired by Professor Pat Guiry, ICI President and the awardees were introduced by him. All four lecture presentations were of a very high quality and presented in a dynamic and inspirational way. Clearly all four presenters are passionate about their area of research.

ICI Postgraduate Awardee 2024 Award Lecture

The first to present was one of our young chemists, Dr Ellen Fay, School of Chemistry, Trinity College, Dublin. The title of her talk was:

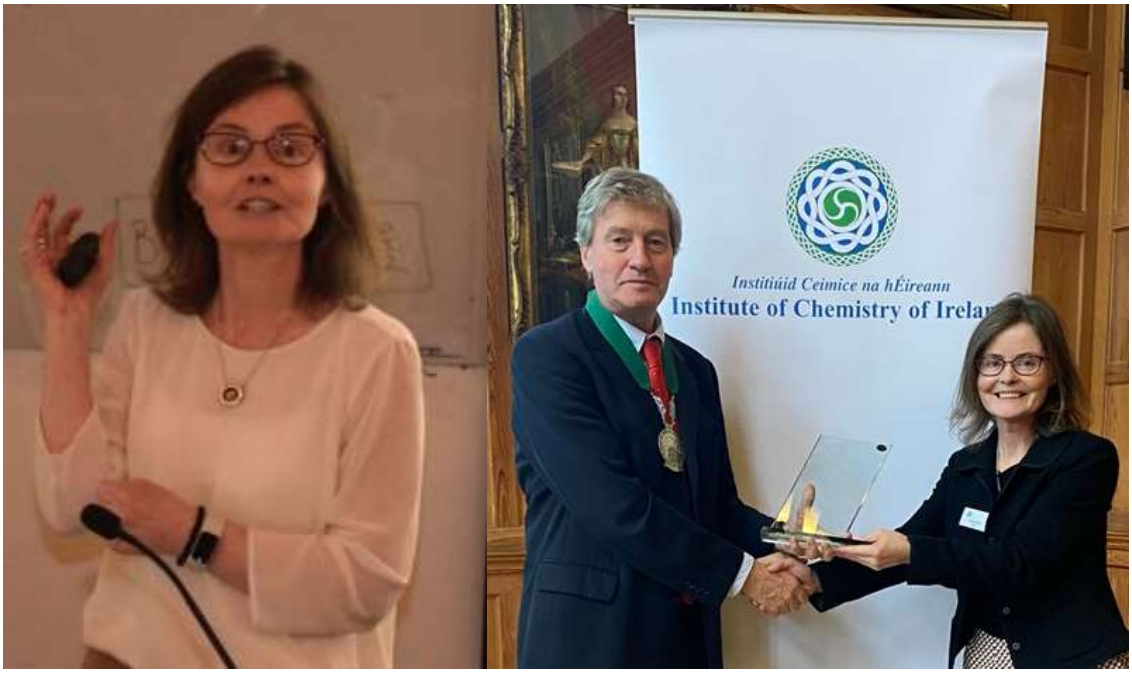
'Nucleoside and Oligonucleotide Modification for Targeting DNA Damage Repair'

Dr Ellen M. Fay completed her BA (Mod) in Chemistry in Trinity College Dublin in 2019. During her undergraduate degree, she undertook her final year research project under the supervision of Prof. Joanna McGouran. Ellen was awarded a Government of Ireland Postgraduate Scholarship from the Irish Research Council and returned to the McGouran Group in September 2019 to pursue a PhD focusing on the development inhibitors and probes targeting DNA damage repair enzymes.

Alongside her research, Ellen engaged in extensive outreach activities, promoting science to a wide range of audiences. She has travelled to over 30 schools across Ireland as a leader for Current Chemistry Investigators workshops, run by Dr John O' Donoghue. Ellen completed her PhD in April 2024 and is now working as Technical Officer in the School of Chemistry, Trinity College Dublin.

ICI Eva Philbin Award Lecture 2023

Next follower Prof Susan Quinn, School of Chemistry UCD who delivered the second in her series of three lectures for the 2023 Eva Philbin Annual Lecture Award Series. The title of this lecture was: **'Adventures in DNA: Exploring New Avenues for Light Activated Diagnostics and Therapeutics'**



Prof Susan Quinn during her lecture. (Susan was previously present with the Award plaque at QUB during the ICI Annual Congress in 2023.

Professor Susan Quinn receives prestigious ICI Eva Philbin Annual Award for Chemistry in 2023. Susan received her BSc and PhD from University College Dublin, and was a postdoctoral fellow at Trinity College Dublin, spending significant time at the Rutherford Appleton Laboratory. In 2009 she was appointed as a temporary lecturer at UCD and received tenure in 2013 and was promoted to Associate Professor in 2017.

An avid collaborator, her research interests include the study of photoactivated process in nucleic acids and the development of light activated nanoparticle systems. This includes research of DNA photostability, the development of molecular, and nanoparticle DNA targeting probes, and the development nanoparticle based imaging and therapeutic agents. In 2018 Susan co-chaired the PhotoIUPAC conference in Dublin and in 2019 she chaired the European Conference of Spectroscopy of Biological Molecules, also in Dublin.

Susan is an elected member of the executive of the European Photochemistry Association and serves as a member of the Central Laser Facility Board at the Rutherford Appleton Laboratory (STFC, UK) and also on the management team of the new HiLUX laser system at the CLF. To date she has graduated 10 PhD students and 5 MSc research students and has delivered over 60 invited and plenary talks since her appointment. Susan delights in discussing chemistry with others and a highlight of her year is acting a judge at the BT Young Scientist competition.

In 2016, together with Prof. John Kelly (TCD) and Professor Christine Cardin (Reading University), Susan was awarded the RSC Rita and John Cornforth Medal in recognition of their structural work on DNA – transition metal complexes, proof of the origins of the "light-switch" effect and its implications for mechanisms of DNA damage DNA damage. She was the 2023 recipient of the Institute of Chemistry of Ireland (ICI) Award. In February 2024 Susan was promoted to the position of Prof. in the School of Chemistry at UCD.

ICI Eva Philbin Award Lecture 2024

Nex up was Professor Stuart James, School of Chemistry and Chemical Engineering, Queen's University Belfast, for the ICI Eva Philbin Award Lecture 2024. The title of his talk was:
'Mechanochemistry and Porous Liquids: New thinking for Sustainable Processes'

Professor Stuart James
SCHOOL OF CHEMISTRY AND CHEMICAL ENGINEERING
Stuart James is Professor of Inorganic Chemistry at Queen's University Belfast, having previously studied and worked in UK and European Universities including the Universities of Bristol, Cambridge, Imperial College, Louis Pasteur (Strasbourg) and Utrecht. He founded the field of Porous Liquids by conceptualising them in 2007 and subsequently leading the experimental demonstration of some of the first key examples. He has also pioneered in the field of mechanochemistry, contributing both fundamental and industrially applied work to field, particularly with regard to reaction kinetics, MOF and organic synthesis as well as scale-up through twin screw extrusion techniques. Complimenting his fundamental research he has engaged in commercialisation, in particular by co-founding two spin-out companies MOF Technologies Ltd. and Porous Liquid Technologies Ltd. (PLT). PLT features an expert board of industry and academic leaders and is focused on innovative low-energy chemical separations including carbon capture processes. PLT won the Energy category of the *Royal Society Emerging Technologies Competition* 2022.

OVERVIEW
Mechanochemistry involves the initiation of chemical reactions through mechanical means. It is currently undergoing a renaissance due to its potential for more sustainable processes (since little or no solvent is needed) as well as the need for greater basic understanding of mechanochemical reactions. Typically mechanochemistry involves grinding solid reactants together using ball mills or, more recently, twin screw extruders, which are scalable and continuous. We are currently exploring mechanochemistry in each of these areas, often with industrial collaboration, and PhD projects are continuously available.

Porous Liquids are a new class of materials that, counterintuitively, combine permanent porosity with fluidity. As such they may ultimately be useful for continuous separation processes, for example. They were conceived and demonstrated at Queen's University Belfast and the James group is actively exploring both the fundamental science of these new materials as well as their potential applications. PhD projects, many of which are collaborative, are continually available in the rapidly developing field.

ICI Boyle Higgins Gold Medal Award Lecture 2024

The winner of the Institute's most prestegious award was Professor Tia Keyes, School of Chemical Sciences, Dublin City University. The title of her lecture was:
'Probes and Platforms for Biophysics; A chemist's solution to Biological problems'

Tia Keyes is Professor (Chair) of Physical Chemistry at the School of Chemical Sciences, Dublin City University, where she has been a member of academic staff since 2002.

After completing her degree at TUD, Tia completed her PhD in Physical Inorganic Chemistry DCU in 1995 under the supervision of Prof Han Vos. She then worked as a postdoctoral research fellow with Prof Godfrey Beddard, on Ultrafast spectroscopy at University of Manchester before returning to Ireland to work on a EU project based at DCU but with periods spent in Belfast and Sweden. She took up a lectureship in physical Chemistry at TUD in 1998 and moved to DCU in 2002 as lecturer.

She was promoted to Full professor in 2014. Tia's research interests lie in the field of molecular spectroscopy & photophysics and in supramolecular & interfacial chemistry. She leads a multidisciplinary research team whose focus is on the applications of these fields to biological and biophysical problem.

She has made groundbreaking contributions to application of metallocomplex luminophores in cell imaging/environmental mapping, cell capture and in microfluidic and plasmonic biomembrane mimetic systems for understanding drug membrane permeation and in study of membrane proteins.

Tia is author/co-author of over 230 peer-reviewed publications in international journals in these domains and she has supervised/co-supervised 38 PhDs to completion to date. Tia is a PI in the Irish Photonics Integration Centre, IPIC, and is associated with INSIGHT and the National Centre for Sensors Research and the Water Institute at DCU.

She directed the National Biophotonics and Imaging Platform at DCU from 2009 until 2014. Tia is a Fellow of the Royal Society of Chemistry and a Fellow of the Institute of Chemistry of Ireland. For more information on Keyes research group activities please visit:

https://sites.google.com/dcu.ie/keyes-research-group/home

Social Event and Networking after the Awards

The Awards Cermony was followed by social even and wine reception with the opportunity to network especially for yound chemists and for, more established chemists to catch up with colleagues.


F

Three former Presidents of the Institute with Current President Pat Guiry, Margaret Franklin, Celine Marmion and Patrick Hobbs, Editor ICN

Three Previous Boyle Higgins Gold Medal Winners with Tia Keys, left Prof Frank Hegarty, Prof Pat Guiry, and Prof John Kelly

ICI YCN Presents

Young Chemists for Change (YCFC)

Advancing Equity in Chemistry

May 30th & 31st 2024
University College Dublin (UCD)

Join us and present your chemical research!

We're looking for early career researchers to present their research in chemical sciences as a short talk or poster. Participants are encouraged to think of ways their research may impact an EDI subject, if possible. If your research already has an impact on EDI, please make that a focus rather than getting deep in heavy data. At this conference, the research is chemical and the conversations are EDI!

For more information visit our social media pages

@ICIYCN
@ICI_YoungChemistsNetwork
ICI Young Chemists' Network (ICI YCN)

FREE REGISTRATION
& ABSTRACT SUBMISSION

Abstract & Registration deadline May 11th

Recent Publications from Chemists or Researchers Working on the Island of Ireland.
a) Open Access Publications,
b) Subscription Publications.

Note the title of this section has been revised (insertion of the word “Recent” at the start of the title from that in ICN, Issue 1, 2024.

a) Open Access Papers

Due to time pressure this topic has not been followed up yet but it is included here for now to demonstrate the potential for chemists here in Ireland to get their work highlighted.

b) Subscription Papers

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, Spain*
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

Mary Flood
UCD/ Trinity

Francesca Adami
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

Ceimic as Gaeilge 2024 – Imeacht Seachtain na Gaeilge

Ag cruthú pobal ceimice gaelach in Éirinn

Ar 1 Márta, le tús a chur le Seachtain na Gaeilge, bhí imeacht eagraithe ag **Líonra na gCeimiceoirí Óga ICÉ** (LCÓ) chun deis a thabhairt do chemiceoirí na tíre a gcuid taighde a phlé trí mheáin na Gaeilge. Bhí *Ceimic as Gaeilge 2024* mar an gcéad imeacht dá short riaimh.

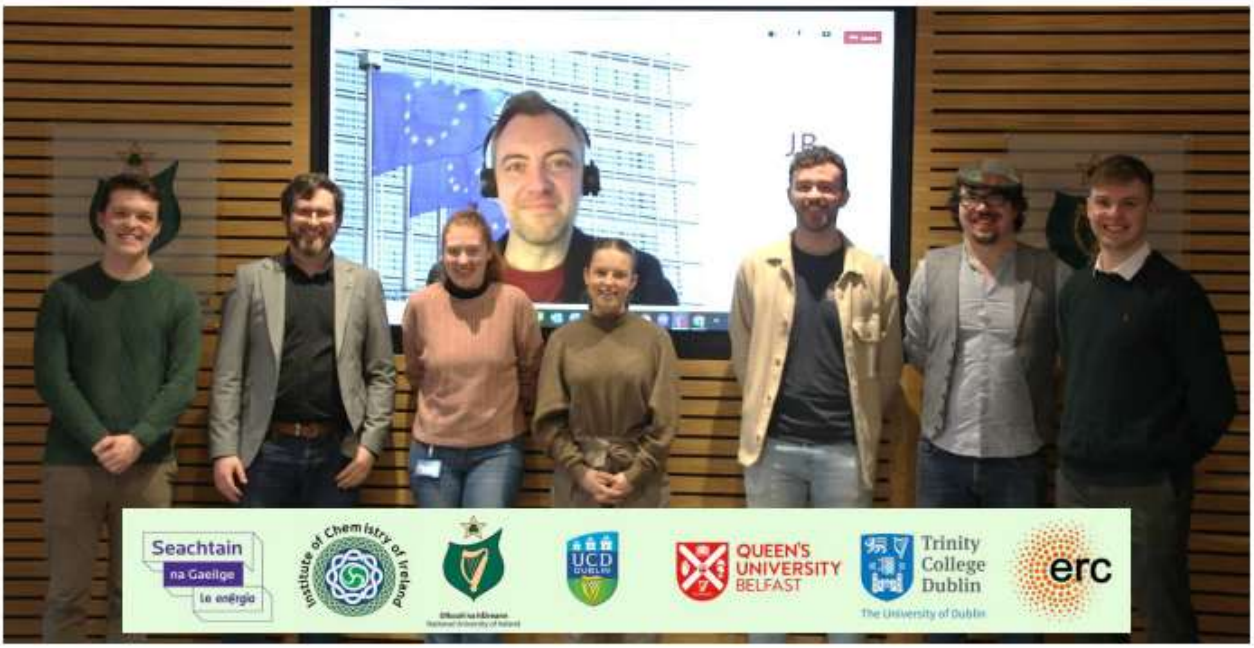
Bhí *Ceimic as Gaeilge* comh-eagraithe ag Leas-Cathaoirleach LCÓ Cathal Ó Ceallaigh (Ollscoil na Ríonna, Béal Feirste) agus Comhairleoir an Dr Iósaf Ó Beirne (Coláiste na hOllscoile, Baile Átha Cliath), le tacaíocht ó Choiste an LCÓ uile, ach go háirithe Cathaoirleach Seán Byrne. Tá míle buíochas de dhíth ag foireann Ollscoil na hÉireann ag 49 Cearnóg Mhuirfeann Thoir a chuir fáilte fliúirseach agus tacaíocht roimh an imeacht, ach go háirithe Cláraitheoir na hOllscoile an Dr Patrick O'Leary.

On the 1st of March, to begin Seachtain na Gaeilge, the **ICI Young Chemists Network** (YCN) organised an event giving opportunities to the country's chemists to discuss their research in the Irish language. *Ceimic as Gaeilge 2024* was the first ever event of its type.

Ceimic as Gaeilge was co-organised by YCN Vice-Chair Cathal Kelly (Queens University Belfast) and Advisor Dr Joseph Byrne (UCD), with support from the rest of the YCN Committee, in particular Chair Seán Byrne. Sincere appreciation also to the team of the National University of Ireland at 49 Merrion Square East who heartily welcomed and supported the event, especially Registrar of the NUI, Dr Patrick O'Leary.

(ar chlé) Sneachta an lae ar doras Olscoill na hÉireann; *(ar dheis)* An Dr Patrick O'Leary, Cláraitheoir OÉ leis an Dr Iósaf Ó Beirne agus Cathal Ó Ceallaigh a d'eagraigh an imeacht.

(left) The day's snowfall on the door of the National University of Ireland; *(right)* Dr Patrick O'Leary, Registrar of the NUI with Dr Joseph Byrne and Cathal Kelly who organised the event.



Na cainteoirí uile a ghlac páirt i *gCeimic as Gaeilge 2024*.

All of the speakers who participated in *Ceimic as Gaeilge 2024*.

D'oscail Cathal Ó Ceallaigh imeachtaí an lae le fáilte a chuir roimh na aoí a tháinig trín sneachta gan choinne a thit ar maidin. Faraor theip ar cúpla daoine freastail ar an imeacht i mbliana mar gheall ar iompair poiblí teoranta an lae.

Chuir an Dr **Patrick O'Leary**, Cláraitheoir OÉ, fáilte foirmiúil roimh na toiscairí chuig an ionaid. Dúirt sé go raibh lúchair ar OÉ an imeacht a óstáil, ag cur leis "Cuireann ár bplean straitéiseach de cheangal orainn dul chun cinn a dhéanamh lenár gcuid cumas sa Ghaeilge agus le tacú le imeachtaí mar seo." Go dtí cúpla bliain ó shin, bhí an Dr O'Leary ina léachtóir ceimice ag Ollscoil na Gaillimhe, agus ghlac sé an deis a bheith páirteach sa chomhdháil trí chur i láthair taighde ar shintéis na gcatalaíoch nua. Úsáidtear na catalaíochí seo in imoibrithe atá tábhachtach d'ullmhú cógaisíochta. Déanann siad na imoibriú níos éifeachtaí agus níos iontaofa.

Chuir **Maitiú Ó Ciarnáin** *(COBÁC)* ó Ghrúpa Paul Evans tús le léirithe na mic léinn iarchéime, á phlé a chuid taithe taighde sa cheimic orgánach. Tá *N*-heitrichiorcail sáithithe mar cheann de na móitíf structúrach is comónta i ndrugaí agus i dtáirgí nádurtha. De thoradh seo tá an-

Cathal Kelly opened the day's proceedings by welcoming all the attendees who a come through the unexpected snow that fell that morning. Unfortunately, some people were unable to attend due to the day's limited public transport.

Dr **Patrick O'Leary**, Registrar of NUI, formally welcomed delegates to the venue. He said NUI was delighted to host the event, adding "Our strategic plan commits us to developing our abilities in Irish and to supporting events like this." Until a few years ago, Dr O'Leary was a chemistry lecturer in University of Galway, and he took the opportunity to participate in the conference, presenting research on the synthesis of new catalysts. These catalysts are used in reactions that are important for pharmaceutical preparation. They make the reactions more efficient and reliable.

Matthew Kiernan *(UCD)* from the Paul Evans Group put a start to the postgraduate student talks, discussing his experience with organic chemistry research. Saturated *N*-heterocycles are some of the most common structural motifs in drugs and natural products. As a results of this, great importance

tábhacht ag baint le forbairt imobirithe nua i dtreo na móilíní seo a cruthú i mbealach éifeachtúil agus roghnaitheach. Rinne Maitiú cur síos ar iarrachtaí s'aige agus a chomhoibrí chun teacht ar dhá imoibriú nua; (1.) Sintéis neamh-shiméadrach pioróilidíní trí chatalú tiacarbamáite; (2.) Sintéis raicéamach aiseitidíní trí úsáid heacseafluairiseaprópánól.

is associated with developing new reactions towards creating these molecules in effective and selective ways. Matthew described the efforts he and his team have made to come up with two new reactions; (1.) Asymmetric synthesis of pyrolidines through thio-carbamate catalysis; (2.) Racemic synthesis of azetidines *via* use of hexafluoroisoproanol.

Labhair **Niamh Ní Shé** ó Ghrúpa Gunnlaugsson *(CnaT)* faoin a cuid oibre le "Móilíní atá idirghaolmhar go meicniúil agus Micreascópacht", ach go háirithe caitéineáin agus rothacsáin. Labhair sí faoin gceimic formhóilíneach, steiréiceimic mheicniúil agus stair na ceimice seo agus na móilíní atá faoi thaighde aici. Thaispeán Niamh aidhmeanna a cuid tionscadail, ina measc úsáid compléisc lantanóidigh mar stopadóirí rothacsáine, agus cruthú braitheoirí nó ghéataí loighic le rothacsáin bunaithe ar **btp** (2,6-bis(1,2,3-tríasól-4-il)piridín).

Niamh O'Shea from the Gunnlaugsson Group *(TCD)* was talking about her work with "Mechanically Interlocking Molecules and Microscopy", especially catenanes and rotaxanes. She spoke about supramolecular chemistry, mechanostereochemistry and the history behind this chemistry and the molecules she is researching. Niamh showed the aims of her Project being the use of lanthanides as stoppers for **btp** (2,6-bis(1,2,3-triazol-4-yl)pyridine) rotaxanes and the aims for the creation of sensors or logic gates with the rotaxanes.

Úsáideann a grúpa taighde an moitíf **btp** mar theimpléad ar na struchtúir móilíneacha seo. Phléigh sí an sintéis, an iomoibriú 'clic' coparchatalaithe agus na turgnamh a bharrfheabhsaigh na dáil iomoibrithe chun macraichiogal btp a dhéanamh go roghnaitheach. Thaispeáin Niamh íomhánna leictreonmhicreascóip scanacháin a léirígh na struchtúir éagsúla cruthaithe le úsáid tuaslagóirí difriúil. Chuir an chuid seo den chaint béim ar féidireacht na móilíní seo féinchóimeáil a dhéanamh. Mar achoimre, bhí an caint seo faoin na haidhmeanna agus scóip a bhaineann lena cuid oibre, an sintéis a úsáidtear agus na n-uirlis anailíse a úsáidtear sa thionscadal.

Her research group uses the **btp** motif for the templating of these molecular structures. She tdiscussed the synthesis, Cu-azide click reactions and experiments to optimise reaction conditions to selectively produce btp macrocycles. Niamh displayed Scanning Electron Microscopy Images and the different structures created when you use different solvents. This part of the talk highlighted these molecules' ability to self-assemble. In summary, the talk was about the aims and scope of the work, the synthesis being deployed, and the analytical instruments being used in the project.

Cuireadh tús leis an gcur i láthair ag **Eoghan Ó Curnáin** leis an taighde ar lotnaidicídí foirmlithe le micreacapsúil in-bhithmhillte, a rinneadh ar shocrúchán le *Life Scientific*. Ina dhiaidh sin, pléadh sintéis na substráite agus barrfheabhsú an imoibrithe DAAA Pd-chatalaithe de chomhdhúil heitrea-fáinneach ina bhfuil sulfair acu, atá ar siúil aige i nGrúpa Uí Ghadhra *(COBÁC)*. Ar deireadh, soláthraíodh cúlra agus plean an tionscadail chun imoibriú Suzuki neamh-shiméadrach a bhaint amach, agus é seo a chur i bhfeidhmin in ullmhú liogann-*P,N* ciriúla i leith na haise.

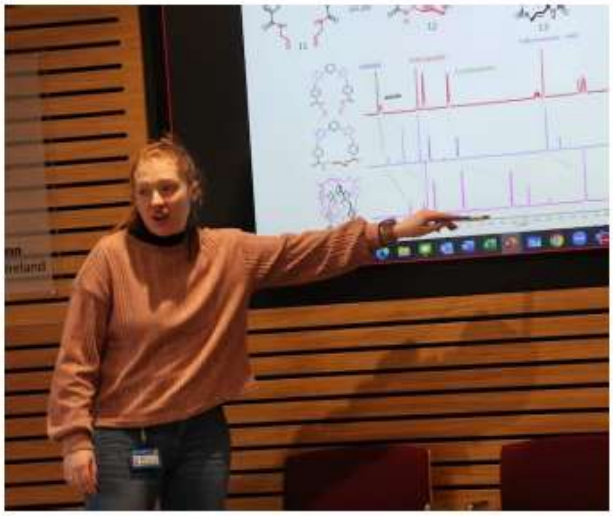
Eoghan Courtney's presentation began with an overview of the research into developing a biodegradable microcapsule pesticide product, which he did on placement in *Life Scientific*. Following that, the synthesis of the substrate and the initial optimization of the Pd-catalyzed DAAA reaction of sulfur-containing heterocycles that is on-going in the Guiry Group *(UCD)* were discussed. Lastly, the background and project outline for achieving asymmetric Suzuki reaction in the preparation of axially chiral *P,N*-ligands were provided.

Labhair An Dr **Iósaf Ó Beirne** *(COBÁC)* faoin taighde atá ar siúil sa ghrúpa 's aige le coimpléisc miotail maisithe le carbaihiodráite. I gcomhthéacs an dúshlán frithsheasmhachta in aghaidh ábhar frithmhiocróbach, tá siad ag iarradh dhíriú ar pataiginí i mbealach nua, ina bhaintear feidhm as prótéiní áirthe a nascann le carbaihiodráite (ar a ghlaotar 'leictiní'). Rinne Joe cur síos ar dhá sort glicea-bhraisle miotal-lárnach, bunaithe ar scafall **btp** (2,6-bis(1,2,3-tríasól-4-il)piridín) nó **dpa** (2,6-décarbocsaipiridín). Bhí éifeacht frith-bhithsceo ag coimpléisc **btp** Ru(II) nach raibh le fáil leis an liogann amháin - in aineoinn go raibh siad neamh-bhaictéiricídeach. Rinneadh réimse coimpléisc **dpa** le miotail éagsúla, ach bhí an éifeacht is mó frith-*Pseudomonas aeruginosa* ag coimpléisc eorapiaim(III). Léirigh sé fresin an féidireacht a bhí ag coimpléisc galachtóside Tb(III) (le spáisire oiriúnach) mar braiteora leictiní lonnrachta, a éirigh níos gile nuair a bhí leictin a nascann galachtós ann.

Gabh an Dr Ó Beirne buíochas leis an lucht a tháinigh inniu agus tharraing sé aird ar saibhreas an phlé a bhí ar siúil trí cheisteanna agus freagra suimiúla i ndiadh gach léiriú. Soláthraigh sé fiúntas an lae. Leis an méid sin ráite, ghlacadh sos caife agus cainte neamh-fhormúil.

Dr **Joseph Byrne** *(UCD)* spoke about the research that is underway in his group with carbohydrate-functionalised metal complexes. In the context of the challenge of antimicrobial resistance (AMR), they are trying to target pathogens in a new way, making use of specific carbohydrate-binding proteins (called 'lectins'). Joe described two kinds of metal-centred glyco-cluster, based on the scaffolds **btp** (2,6-bis(1,2,3-triazol-4-yl)pyridine) or **dpa** (dipicolinic acid). Ru(II) **btp** complexes had an anti-biofilm effect that was not observed with the ligand alone - despite not benign bactericidal. A range of **dpa** complexes with various metals were made, but the europium(III) complexes had the largest anti-*Pseudomonas aeruginosa* effect. He also demonstrated the capability of galactoside Tb(III) complexes (with appropriate spacer) as luminescent lectin sensors, that became brighter when a galactose-binding lectin was present.

Dr Byrne thanked the attendees for coming today and drew attention to the wealth of discussion that was taking place through interesting questions and answers after each talk. This demonstrated the value of the day. With that said, a break for coffee and informal discussion took place.



Thosaigh an dara seisiún leis an cainteoir a tháinig ón áit is faide don imeacht inniu. Rinne **Cathal Ó Ceallaigh** *(CnaRBF)* cur síos ar a thaighde i leachtanna scagacha. Léiríú go gcrúthaíonn scagacht méadú ar ionsú gáis na leachtanna seo. Aimsíú nach seo an cás nuair a n-úsáidtear CO_2. Cuireadh an locht ar "spás curtha amú", coincheap nua i leachtanna scagacha. Cruthaíonn mórchóir steireach an óstmhóilín spás nach úsáideann na mhóilíní gáis, agus cruthaíonn seo laghdu ar an ionsú gáis. Rinneadh cur síos ar bealaí a d'fhéadfadh an spás curtha amú seo a laghdú: trí méid na móilíní tuaslagóirí a laghdú agus scagacht éifeachtacht an óstmhóilín a mhéadú.

The second session began with the speaker who had traveled the furthest for today's event. **Cathal Kelly** *(QUB)* described his research into porous liquids. Porous liquids normally show enhanced gas uptakes. It was highlighted how this wasn't the case when CO_2 was employed as the gas being absorbed. This was blamed on "wasted space", a new concept in porous liquids. The steric bulk of the host molecules creates a space which gas molecules don't occupy which leads to a reduction in the overall gas uptake. Different ways of reducing this wasted space were described: reducing the size of the solvent molecules and increasing the effective porosity of the host molecules

An teideal a bhí ag léiriú **Eoin Mac Aoidh Pasquetti** *(COBÁC)*, ó Ghrúpa Grace Morgan, ná "Saol Maighnéadach an Adaimh: Réamhrá ar Aistriú Guairne". Deineadh plé ar aistriú guairne; Cén rud é?, Conas a scrúdaítear?, is cad iad na feidhmeanna a bhaineann leis? Deineadh cur síos bunúsach ar Cheimic Chomordánaithe is ar an slí a éiríonn aistriú amach as an mbaint atá ann idir stát guairne an adaimh agus an neart atá sa réimse liogainn. Deineadh plé ar na teicnící is tábhachtaí a bhaineann le aistriú guairne agus ar an eolas is féidir a bhaint astu.
Ar deireadh, tugadh samplaí dosna hábhair gurbh fhéidir aistriú guairne a chur i bhfeidhm iontu agus ábhair go bhfuil sé i bhfeidhm iontu cheana féin.

The title of the talk presented by **Eoin McGee Pasquetti** *(UCD)* from the Group of Grace Morgan was "The Magnetic Life of the atom: Introduction to Spin Crossover". The topic of spin exchange was discussed; What is it? How can it be examined? And what are its applications? A basic description of Cooridination Chemistry was given, and of the manner that crossover gets out of the link between the spin state of the atom and the strength that is in a range of ligands. Important techniques related to spin crossover, and on the information that may be gleaned from them, was also discussed.
Finally, examples of subjects in which spin crossover could be utilised as well as areas where they are already in use.

Labhair **Aoibheann Ní Chonchubhair** *(COBÁC)* ó Ghrúpa Uí Ghadhra ar fiosrúchán ar an imoibriú Diels-Alder neamhshiméadreach. Is grúpa sintéis neamhshiméadreach é an Grúpa Uí Ghadhra, agus sa chur i láthair seo bhíodar ag díriú ar an úsáid do chuiditheoir ciriúlacht mar stratéis chun neamhshiméadreacht a chruthú. Ag úsáid an imoibriú dé-éin a bhí

Aoibheann O'Connor *(UCD)* from the Guiry Group spoke about the investigation on the asymmetric Diels-Alder reaction. The Guiry group is an asymmetric synthesis group, and this presentation was directed on their use of chiral auxiliaries as a strategy for inducing asymmetry. Using a previously designed dienylation reaction for nitrogen containing molecules, and drawing on inspiration from

dearrtha acu cheana féin i gcomhair móilíní nítrigin, agus le spreagadh ón obair Evans i 1984, d'úsáidtear an imoibriú sin chun dé-éin a chur ar an chuiditheoir ciriúlacht, in ionad ar an dé-éinifileach. Chruthaítear thart ar 12 shampla don dé-éin le cuiditheoir ciriúlacht le toradh suas go dtí 97%, níos mó ná 50 shampla don táirge Diels-Alder le toradh suas go dtí 70% agus id suas go dtí 93:7, agus 5 shample don tárige gan an cuiditheoir ciriúlacht le toradh suas go dtí 81% agus ie suas go dtí 92%. D'éirigh leo structúr criostail a bhaint amach don dé-éin, dos na tháirge DA agus don táirge gan an cuiditheoir ciriúlacht. Bhíodar in ann eolas cruinn faoin structúr agus neamhshiméadrach tríd an córas anailíse seo, nach fhéadfaí stadéir le anailís AMN in aonar.

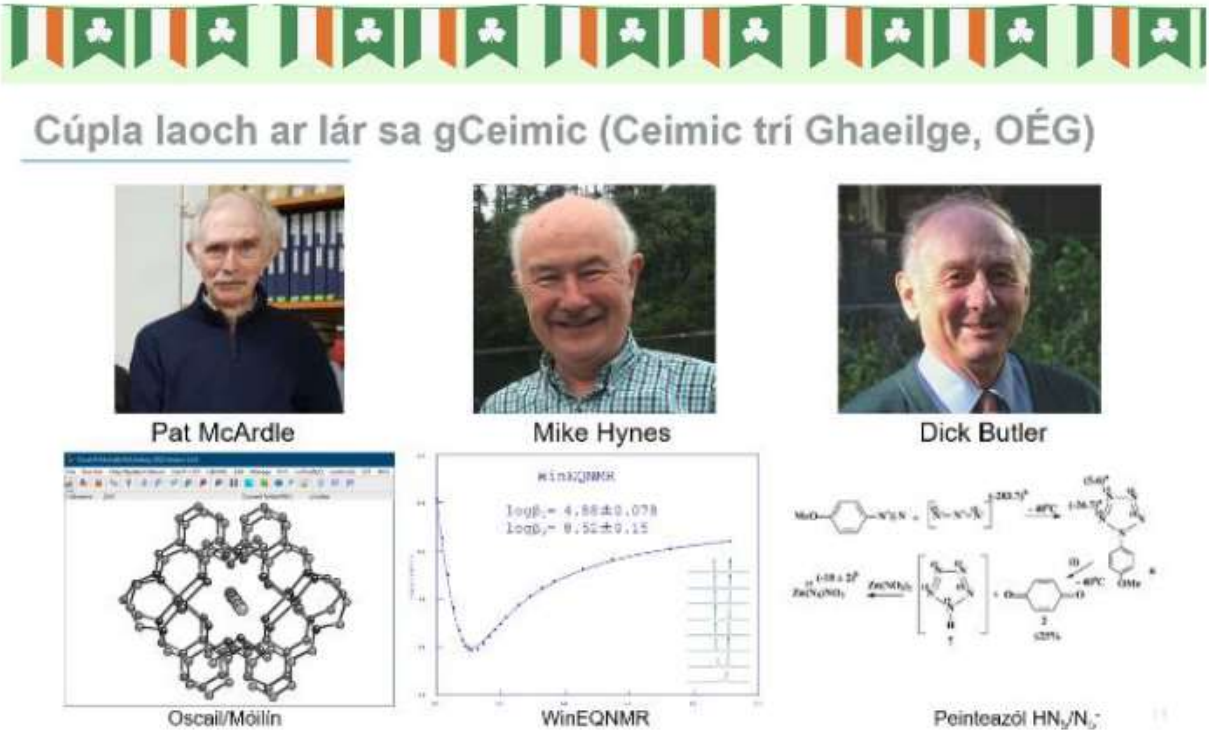
the work of Evans in 1984, they used this same dienylation reaction to install a diene on the chiral auxiliary, instead of installing a dienophile on it. They have prepared 12 examples of the diene with the chiral auxiliary with yields up to 97%, more than 50 examples of the Diels-Alder product in yields up to 70% and dr up to 93:7, and 5 examples of the product without the chiral auxiliary in yields up to 81% and ee up to 92%. They accessed XRD structures of the dienes, the Diels-Alder products and the compounds without the chiral auxiliary. They could obtain crucial structural information from this method of analysis that would not be possible with the use of NMR analysis alone.

Rinne **An Dr. Gearóid Ó Maille** *(CET)*, a bhí ag glacadh páirt ón mBruiséil ar MS Teams, cur síos ar a chosán gairme féin, ón saotharlann go ról mar Oifigeach Eolaíochta sa gCoimisiún Eorpach. Thug sé eolas ar dheiseanna maoinithe do thaighdeoirí faoin gClár Réime "Fís Eorpach", le béim ar chlár na Comhairle Eorpaí um Thaighde (CET). Is e an CET príomhmhaoinitheoir an Chomisiún Eorpaí do thaighde ar thús cadhnaíochta, agus tá raon deontais curtha ar fáil do eolaithe ag céimeanna gairme difriúla.

Dr Gearóid Ó Máille *(ERC)*, joining from Brussels *via* MS Teams, described his career path from the laboratory to his current role as a Scientific Officer at the European Commission. He detailed some funding opportunities available for researchers under the "Horizon Europe" Framework Programme, with particular emphasis on the European Research Council (ERC) programme. The ERC is the European Commission's flagship funder for frontier research, and a range of grants are available for scientists at different career stages.

Tugadh chun cuimhne freisin an nasc láidir a bhí idir ceimic agus an Ghaeilge in Ollscoil na Gaillimhe: mar shampla, scríobh an réabhlóidí agus an t-ollamh clúiteach Thomas Dillon (ceann scoile ó 1919), an chéad leabhar ceimice i nGaeilge. Lean an meas seo ar ár dteanga sna glúnta a lean é: rinne na ceannairí scoile, an tOll. Proinsias Ó Colla, an tOll. Seán Ó Cinnéide agus an

The strong link between chemistry and Irish in the University of Galway was also commemorated: for example, the revolutionary and famous professor Thomas Dillon (head of school from 1919), wrote the first chemistry book in Irish. This respect for the language continued in the subsequent generations: the school leaders Prof Proinsis O'Colla, Prof Seán Ó Cinnéide and



Sleamhnán ag an Dr Ó Máille, ag tabhairt aitheantas do dréacht cúpla meantóirí s'aige ag Ollscoil na Gaillimhe i dtreo ról na Gaeilge sa chemic.

Dr Ó Máille's slide recognising the contributions of some of his mentors at University of Galway to the role of Irish in Chemistry

tOll. Ristéard N. de Buitléir, gan dearmad a dhéanamh ar na Oll Breandán Ó Cochláin, a gcion féin go dúthrachtach leis an nGaeilge a choinneáil beo sa gceimic. Labhair Gearóid ar an ádh a bhí air go raibh cuid mhór dá chuid léachtanna ceimice trí mheán na Gaeilge agus é ina mhac léinn i nGaillimh, áit ar ghríosaigh an tOll. de Buitléir na mic léinn an fód a sheasamh don teanga trí léiriú don domhan mór gur teanga nua-aimseartha í an Ghaeilge ar féidir í a úsáid le hábhair theicniúla a phlé.

Thug sé ómós don bhaicle leachtóirí a mhúin ceimic trí Ghaeilge i nGaillimh: go háirithe an tOll. Pat McArdle, criostalagrafaí agus léachtóir den chéad scoth a fuair bás le ríghairid in Eanáir na bliana seo, agus an tOll. Mike Hynes, saineolaí ar chineiticí agus treoraí tuisceanach, a cailleadh i 2022. Bhásaigh an tOll de Buitléir go tobann i 2016.

Léirsigh an imeacht seo go raibh sé indéanta plé leathan ar cúrsaí thaighde ceimice a chur i láthair trí mheáin na Gaeilge, agus go bhfuil éileamh ann freisin san ETIM. Dá mbeadh suim ag éinne a bheith páirteach in imeacht mar seo sa todhchaí, téigh i dteagmháil le joseph.byrne@ucd.ie.

Prof Richard (Dick) Butler, not to forget Prof Brendan Coughlan, who each did their share fervently to keep Irish alive in chemistry. Gearóid spoke about how lucky he was to have a large share of his chemistry lectures through the medium of Irish when he was a student in Galway, a place wher Prof Butler urged students to stand their ground for the language by demonstrating to the world that Irish was a modern language that could be used to discuss technical matters.

He paid respect to the group of lecturers who taught chemistry through Irish in Galway: especially Prof Pat McArdle, a first-rate crystallographer and lecturer who died very recently in January of this year, and Prof Mike Hynes, an expert in kinetics and understanding teacher, who passed away in 2022. Prof Butler died suddenly in 2016.

This event demonstrated that it is completely possible to present broad discussion on topics of chemistry research in the Irish language, and that there is also demand for this in STEM. If anyone is interested in taking part in events like this in future, get in contact with joseph.byrne@ucd.ie.

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Graph states of atomic ensembles engineered by photon-mediated entanglement | Nature Physics
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UV-light-responsive Ag/TiO2/PVA nanocomposite for photocatalytic degradation of Cr, Ni, Zn, and Cu heavy metal ions | Scientific Reports (nature.com)
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Expanding the Reticular Chemistry Building Block Library toward Highly Connected Nets: Ultraporous MOFs Based on 18-Connected Ternary, Trigonal Prismatic Superpolyhedra | Journal of the American Chemical Society (acs.org)
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Influence of electric double layer rigidity on CO adsorption and electroreduction rate | Nature Communications
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Computationally Guided Ligand Discovery from Compound Libraries and Discovery of a New Class of Ligands for Ni-Catalyzed Cross-Electrophile Coupling of Challenging Quinoline Halides | Journal of the American Chemical Society (acs.org)
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Chemical Bonding Induces One-Dimensional Physics in Bulk Crystal BiIr4Se8 | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c13535

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Lewis Acid Catalyzed (4π+2σ) Annulation of Bicyclobutanes with Dienol Ethers for the Synthesis of Bicyclo[4.1.1]octanes | Organic Chemistry | ChemRxiv | Cambridge Open Engage

5 March
lewis-acid-catalyzed-4-2-annulation-of-bicyclobutanes-with-dienol-ethers-for-the-synthesis-of-bicyclo-4-1-1-octanes.pdf (chemrxiv.org)
DOI: https://doi.org/10.26434/chemrxiv-2024-g3l5t

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A programmable hybrid digital chemical information processor based on the Belousov-Zhabotinsky reaction | Nature Communications
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Dynamic mechanostereochemical switching of a co-conformationally flexible [2]catenane controlled by specific ionic guests | Nature Communications
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Scientists reveal molecular mysteries to control silica scaling in water treatment (phys.org)
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Space company develops centrifuge to test impact of gravity on crystalline-structured drug molecules (phys.org)
DOI: 10.1021/acs.cgd.3c01274

Encoding ordered structural complexity to covalent organic frameworks | Nature Communications

18 March
Encoding ordered structural complexity to covalent organic frameworks | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-46849-w

Pushing the limit of the periodic table with superheavy elements

19 March
Pushing the limit of the periodic table with superheavy elements (phys.org)
DOI: 10.1016/j.physrep.2023.09.004

The surprising organic chemistry in interstellar space | Feature | Chemistry World

18 March
https://www.chemistryworld.com/features/the-surprising-organic-chemistry-in-interstellar-space/4019144.article

Reduction of Li+ within a borate anion | Nature Communications

22 March
Reduction of Li+ within a borate anion | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-46948-8

Water-participated mild oxidation of ethane to acetaldehyde | Nature Communications

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Water-participated mild oxidation of ethane to acetaldehyde | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-46884-7

"First plastic demonstrated to not create microplastics" has been tested

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"First plastic demonstrated to not create microplastics" has been tested (newatlas.com)
DOI: https://doi.org/10.1038/s41598-024-56492-6

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The Top 25 Chemistry and Materials Sciences Articles of 2023 (nature.com)

The Future of Farming – Chemists Discover Safe Pesticide for Organic Agriculture

24 March
The Future of Farming – Chemists Discover Safe Pesticide for Organic Agriculture (scitechdaily.com)
DOI: 10.1021/acs.jafc.3c08905

Research team introduces superaerophobic three-dimensional nickel catalysts for accelerated water electrolysis
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Research team introduces superaerophobic three-dimensional nickel catalysts for accelerated water electrolysis (phys.org)
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Researchers observe salt dissolution at the atomic level (phys.org)
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Pushing the Limit of the Periodic Table – “Superheavy” Elements Challenge Theory (scitechdaily.com)
DOI: 10.1038/s42254-023-00668-y and
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Engineers 'symphonize' cleaner ammonia production (phys.org)
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Pyridine-Boryl Radical-Catalyzed [3π + 2σ] Cycloaddition for the Synthesis of Pyridine Bioisosteres | Catalysis | ChemRxiv | Cambridge Open Engage

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Pyridine-Boryl Radical-Catalyzed [3π + 2σ] Cycloaddition for the Synthesis of Pyridine Bioisosteres | Catalysis | ChemRxiv | Cambridge Open Engage
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DOI: https://doi.org/10.1038/s41467-024-47205-8

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Direct observation of a magnetic-field-induced Wigner crystal | Nature
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Direct C4- and C2 C–H Amination of Heteroarenes Using I(III) Reagents via a Cross Azine Coupling | Organic Chemistry | ChemRxiv | Cambridge Open Engage

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An isolable, chelating bis[cyclic (alkyl)(amino)carbene] stabilizes a strongly bent, dicoordinate Ni(0) complex | Nature Communications
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26 April
https://phys.org/news/2024-04-efficient-molecular-motor-widens-potential.html
DOI: 10.1038/s41557-024-01521-0

Lewis Acid-Catalyzed Unusual (4+3) Annulation of para-Quinone Methides with Bicyclobutanes: Access to Oxabicyclo [4.1.1]octanes | Catalysis | ChemRxiv | Cambridge Open Engage

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Lewis Acid-Catalyzed Unusual (4+3) Annulation of para-Quinone Methides with Bicyclobutanes: Access to Oxabicyclo [4.1.1]octanes | Catalysis | ChemRxiv | Cambridge Open Engage
DOI: https://doi.org/10.26434/chemrxiv-2024-5ctgg
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Joseph Priestley mural to mark anniversary of oxygen discovery

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Watch "Major Methods in Radical Chemistry (Important Papers)" on YouTube

29 April

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Researchers create new chemical compound to solve 120-year-old problem

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Innovative sensing platform unlocks ultrahigh sensitivity in conventional sensors

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Our laser technique can tell apart elephant and mammoth ivory – here's how it may disrupt the ivory trade

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Our laser technique can tell apart elephant and mammoth ivory – here's how it may disrupt the ivory trade (theconversation.com). DOI: https://doi.org/10.1371/journal.pone.0299689

Material Chemistry & Sciences

Scientists Create World's First Shape-Shifting, Property-Changing Metamaterial

1 March
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Superconductivity in a van der Waals layered quasicrystal | Nature Communications

1 March
Superconductivity in a van der Waals layered quasicrystal | Nature Communications
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Mass-produced, commercially-promising multicolored photochromic fiber

1 March
Mass-produced, commercially-promising multicolored photochromic fiber (phys.org)
DOI: 10.1038/s41377-024-01383-8

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Navigating the Graphene Maze: Health, Environment, and Innovation (scitechdaily.com)
DOI: 10.1021/acsnano.3c09699

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Ion Beams Unleashed: The Nanotechnology Game Changer (scitechdaily.com)
DOI: 10.1063/5.0162597

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'Wonder Material' Graphene Appears Safe to Humans in First Clinical Trial : ScienceAlert
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Quantum Leap in Ultrafast Electronics Secured by Graphene's Atomic Armor

4 March
Quantum Leap in Ultrafast Electronics Secured by Graphene's Atomic Armor (scitechdaily.com)
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'Light Speed' Electrons Discovered Moving in 4 Dimensions For The First Time: ScienceAlert

19 March
'Light Speed' Electrons Discovered Moving in 4 Dimensions For The First Time : ScienceAlert
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Researchers uncover culprits behind pitting corrosion in 3D-printed stainless steel

19 March
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DOI: 10.1038/s41467-024-45120-6

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18 March
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Oregon State scientists discover metal capable of removing carbon dioxide from air - OPB

Researchers discover tightest arrangement of bilayer alkali metals between graphene layers
18 March
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Scientists discover origin of corrosion in 3D-printed stainless steel - MINING.COM

Scientists propose theoretical design strategy for room-temperature metal-organic multiferroics
28 March
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DOI: 10.1021/acs.nanolett.4c00210

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27 March
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19 March
Supercomputer Cracks Mystery of How To Make “Super-Diamond” | Technology Networks
DOI: 10.1021/acs.jpclett.3c03044

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3 April
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DOI: https://doi.org/10.1038/s41563-024-01864-6

A soft crystalline packing with no metallic analogue | Nature Materials (Subscription)
3 April
A soft crystalline packing with no metallic analogue | Nature Materials
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Fine-tuning the pore environment of ultramicroporous three-dimensional covalent organic frameworks for efficient one-step ethylene purification | Nature Communications
8 April

Fine-tuning the pore environment of ultramicroporous three-dimensional covalent organic frameworks for efficient one-step ethylene purification | Nature Communications
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New molecular device could revolutionise medical and material engineering

11 April
New molecular device could revolutionise medical and material engineering (innovationnewsnetwork.com) and

Force-controlled release of small molecules with a rotaxane actuator

Force-controlled release of small molecules with a rotaxane actuator | Nature
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11 April
Nothing is everything: How hidden emptiness can define the usefulness of filtration materials (phys.org)
DOI: 10.1038/s41467-024-46584-2

First Light Fusion Makes Progress Towards an Economical Working Fusion Reactor | NextBigFuture.com

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First Light Fusion Makes Progress Towards an Economical Working Fusion Reactor | NextBigFuture.com

Novel method developed for phosphorescent multi-color carbon dots

16 April
Novel method developed for phosphorescent multi-color carbon dots (phys.org)
DOI: 10.1002/advs.202400781

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Accelerating the discovery of new materials via the ion-exchange method

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Experiments with Bilayer Graphene Reveal 'Massless' Movement of Electrons, Similar to Light - The Debrief

A Groundbreaking New Principle – Korean Researchers Uncover Revolutionary Phenomenon in Liquid Crystals

20 April
A Groundbreaking New Principle – Korean Researchers Uncover Revolutionary Phenomenon in Liquid Crystals (scitechdaily.com)
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Breaking boundaries in tiny labs: New technology using sound waves has implications for nanoparticle manipulation

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Breaking boundaries in tiny labs: New technology using sound waves has implications for nanoparticle manipulation (phys.org)
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Researchers advance pigment chemistry with moon-inspired reddish magentas

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Researchers advance pigment chemistry with moon-inspired reddish magentas (phys.org)
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Forget Billions of Years: Scientists Have Grown Diamonds in Just 150 Minutes: ScienceAlert

25 April
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Research demonstrates a new mechanism of order formation in quantum systems

26 April
Research demonstrates a new mechanism of order formation in quantum systems (phys.org)
DOI: 10.48550/arxiv.2308.04382

Thiol-ene click reaction offers a novel approach to fabricate elastic ferroelectrics

26 April
Thiol-ene click reaction offers a novel approach to fabricate elastic ferroelectrics (phys.org)
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Molecular movement insights hold potential for future nanotechnologies

26 April
Molecular movement insights hold potential for future nanotechnologies (innovationnewsnetwork.com)

Organic electrochemical transistors: Scientists solve chemical mystery at the interface of biology and technology

30 April
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DOI: 10.1038/s41563-024-01875-3

Watch "Meet the tiny crystals that give your TV colors" on YouTube

30 April
https://youtu.be/gBnH0jIzF_o
Meet the tiny crystals that give your TV colors (youtube.com)

New class of spongy materials can self-assemble into precisely controllable structures

30 April
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DOI: 10.1073/pnas.2315648121

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22 April
Microplastics: What's the Latest Research? | Technology Networks

$B_4C–TiB_2$ composite ceramics with adjustable mechanical and electrical properties

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$B_4C–TiB_2$ composite ceramics with adjustable mechanical and electrical properties (phys.org)
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Room Temperature Superconductor Team Will Show Evidence of Levitation and Zero Resistance | NextBigFuture.com

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Room Temperature Superconductor Team Video Evidence of Levitation and Zero Resistance Readings | NextBigFuture.com

How Researchers Are Exploring the Roots of Superconductivity By CHARLIE WOOD

4 March

How Researchers Are Exploring Superconductivity (mailchi.mp)
https://mailchi.mp/simonsfoundation/why-classical-computers-can-still-win-quantum-contests-2492153?e=5f0a93faa5

Korean Room Temperature Superconductor Talk Was As Abstract Described | NextBigFuture.com (This article has a lot of ads)

4 March

Korean Room Temperature Superconductor Talk Was As Abstract Described | NextBigFuture.com

Tests show high-temperature superconducting magnets are ready for fusion

4 March

Tests show high-temperature superconducting magnets are ready for fusion (phys.org)

Korean scientists behind bogus superconductor declare success again

5 March

Korean scientists behind bogus superconductor declare success again (joins.com)

Experimental Replication Data of Room Temperature Superconductors Posted by SCT Corp | NextBigFuture.com

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Experimental Replication Data of Room Temperature Superconductors Posted by SCT Corp | NextBigFuture.com

The Cases for and Against LK99-Type Room Temperature Superconductors | NextBigFuture.com

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The Cases For and Against LK99-Type Room Temperature Superconductors | NextBigFuture.com

Abnormal Thin Film LK99 Result from Korea Excites Chinese Superconductor Researchers | NextBigFuture.com

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Abnormal Thin Film LK99 Result from Korea Excites Chinese Superconductor Researchers | NextBigFuture.com

Real or not? What to know about new 'superconductor' claim

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Real or not? What to know about new 'superconductor' claim (joins.com)

Superconductivity scandal: the inside story of deception in a rising star’s physics lab

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Superconductivity scandal: the inside story of deception in a rising star’s physics lab (nature.com)
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11 March
Strontium Unlocks the Quantum Secrets of Superconductivity (scitechdaily.com)
DOI: 10.1038/s41586-023-06911-x

MIT Claims Superconducting Breakthrough Means Fusion Power Can Be Practical

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MIT Claims Superconducting Breakthrough Means Fusion Power Can Be Practical (futurism.com)

Quantum-mechanical 'molecules' spotted in superconducting devices

11 March
Quantum-mechanical 'molecules' spotted in superconducting devices (phys.org)
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Scientists reveal the first unconventional superconductor that can be found in mineral form in nature

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Scientists reveal the first unconventional superconductor that can be found in mineral form in nature (phys.org)
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Researchers have identified the first unconventional superconductor with a chemical composition also found in nature – miassite

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Researchers discover new yttrium-hydrogen compounds with implications for high-pressure superconductivity (phys.org)
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China Room Temperature Superconductor Researcher Had Experiments to Refute Critics | NextBigFuture.com

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China Room Temperature Superconductor Researcher Had Experiments to Refute Critics | NextBigFuture.com

Brian's Video Talk About China's LK99 Type Research

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Room-temperature superconductor claims discredited by official investigation - Interesting Engineering

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https://interestingengineering.com/energy/room-temperature-superconductor-claims-discredited-by-official-investigation

Exclusive: official investigation reveals how superconductivity physicist faked blockbuster results

6 April
Exclusive: official investigation reveals how superconductivity physicist faked blockbuster results (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00976-y

Superconductivity: the search and the scandal | Feature | Chemistry World

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Superconductivity: the search and the scandal | Feature | Chemistry World

Physicists Created an Exotic Superconductor Controlled by Magnetism

20 April
Physicists Created an Exotic Superconductor Controlled by Magnetism : ScienceAlert
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Electrochemistry, Battery Chemistry & Technology

The Irish Times view on the future of electric vehicles: the charge slows - for now – The Irish Times

1 March
https://www.irishtimes.com/opinion/editorials/2024/03/01/the-irish-times-view-on-the-future-of-electric-vehicles-the-charge-slows-for-now

Scientists make breakthrough in recycling lithium batteries using fruit peels: 'These findings build on our existing body of work'

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Lithium-ion batteries don't work well in the cold − a battery researcher explains the chemistry at low temperatures

5 March
Lithium-ion batteries don't work well in the cold − a battery researcher explains the chemistry at low temperatures (theconversation.com)

A new method for the preparation of MgAl layered double hydroxide-copper metal–organic frameworks structures: application to electrocatalytic oxidation of formaldehyde | Scientific Reports

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A new method for the preparation of MgAl layered double hydroxide-copper metal–organic frameworks structures: application to electrocatalytic oxidation of formaldehyde | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-024-55770-7

Healable cathode could unlock potential of solid-state lithium-sulfur batteries

6 March
https://techxplore.com/news/2024-03-healable-cathode-potential-solid-state.html
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Molecular anchoring of free solvents for high-voltage and high-safety lithium metal batteries | Nature Communications

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Harvard Claims Breakthrough in Anode Behavior Of Solid State Lithium Batteries | Hackaday

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Harvard Claims Breakthrough In Anode Behavior Of Solid State Lithium Batteries | Hackaday

The Search For The Perfect Solid-State Battery Continues, Self-Healing Sulfur Edition – CleanTechnica

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The Search For The Perfect Solid-State Battery Continues, Self-Healing Sulfur Edition - CleanTechnica

New Lithium Ion Conductor Redefines Solid-State Battery Design | OilPrice.com

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New Lithium Ion Conductor Redefines Solid-State Battery Design | OilPrice.com

Argonne National Lab Breakthrough Cathode Innovation for Sodium-Ion Batteries | NextBigFuture.com

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Argonne National Lab Breakthrough Cathode Innovation for Sodium-Ion Batteries | NextBigFuture.com

‘Solid-oxide electrolysers only last two years’ | Yara invests in hydrogen start-up that can 'dramatically' extend lifetime

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‘Solid-oxide electrolysers only last two years’ | Yara invests in hydrogen start-up that can 'dramatically' extend lifetime | Hydrogen news and intelligence (hydrogeninsight.com)

Phenol as proton shuttle and buffer for lithium-mediated ammonia electrosynthesis | Nature Communications

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Phenol as proton shuttle and buffer for lithium-mediated ammonia electrosynthesis | Nature Communications

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The realization of aqueous flow batteries with mild pH decoupling

12 March

The realization of aqueous flow batteries with mild pH decoupling (techxplore.com)

DOI: 10.1038/s41560-024-01474-1

Scientists make breakthrough in battery technology that could prevent EVs from catching fire: 'Ideal for high-speed and intensive use in real-world applications'

23 March

Scientists make breakthrough in battery technology that could prevent EVs from catching fire: 'Ideal for high-speed and intensive use in real-world applications' (thecooldown.com)

Solar-driven sugar production directly from CO2 via a customizable electrocatalytic–biocatalytic flow system | Nature Communications

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Solar-driven sugar production directly from CO2 via a customizable electrocatalytic–biocatalytic flow system | Nature Communications

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Bifunctional catalyst enables high-performance batteries for sustainable energy storage

28 March

Bifunctional catalyst enables high-performance batteries for sustainable energy storage (phys.org)

DOI: 10.1073/pnas.2311149120

New electrochemical technology could de-acidify the oceans – and even remove carbon dioxide in the process

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New electrochemical technology could de-acidify the oceans – and even remove carbon dioxide in the process (theconversation.com)

Electroreduction of unactivated alkenes using water as hydrogen source | Nature Communications

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Electroreduction of unactivated alkenes using water as hydrogen source | Nature Communications

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Electro-Fenton Magic Makes Methane the New Eco Fuel Hero

31 March
Electro-Fenton Magic Makes Methane the New Eco Fuel Hero (scitechdaily.com)
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Paired electrocatalysis unlocks cross-dehydrogenative coupling of C(sp3)-H bonds using a pentacoordinated cobalt-salen catalyst | Nature Communications

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Ligand-modified nanoparticle surfaces influence CO electroreduction selectivity | Nature Communications

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Ligand-modified nanoparticle surfaces influence CO electroreduction selectivity | Nature Communications
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Improving sodium ion batteries with mechanically robust nanocellular graphene

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Electrochemically coupled CH4 and CO2 consumption driven by microbial processes | Nature Communications
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Scientists find new paths to steer and optimize electrochemical processes

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Scientists find new paths to steer and optimize electrochemical processes (phys.org)
DOI: 10.1021/jacs.3c13633

MXenes to revolutionize energy storage; may help devices charge in seconds

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MXenes-based energy storage devices could be charged in seconds (interestingengineering.com) and

From 2D to 3D: MXene's path to revolutionizing energy storage and more

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New electrochemical reactor converts CO2 into usable materials

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Breakthrough in Sodium Battery Chemistry Promises Lower Costs | OilPrice.com

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Breakthrough in Sodium Battery Chemistry Promises Lower Costs | OilPrice.com

New sodium-ion battery tech boosts green energy storage affordability

30 April
New sodium-ion battery tech boosts green energy storage affordability (techxplore.com)
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Mechanism of Ni-catalyzed Photochemical Halogen Atom-Mediated C(sp3)–H Arylation | Catalysis | ChemRxiv | Cambridge Open Engage
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Polymer-acid-metal quasi-ohmic contact for stable perovskite solar cells beyond a 20,000-hour extrapolated lifetime | Nature Communications

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Polymer-acid-metal quasi-ohmic contact for stable perovskite solar cells beyond a 20,000-hour extrapolated lifetime | Nature Communications
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NUS researchers invent new triple-junction tandem solar cells with world-record efficiency

5 March
NUS researchers invent new triple-junction tandem solar cells with world-record efficiency

Researchers make breakthrough in solar technology with world-record efficiency: 'A catalyst to revolutionize the field'

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Efficient all-small-molecule organic solar cells processed with non-halogen solvent | Nature Communications

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scalable-approach-to-molecular-motor-polymer-conjugates-for-light-driven-artificial-muscles.pdf (chemrxiv.org)

Scientists Uncover Atomic Secrets of Photosynthesis

11 March
Scientists Uncover Atomic Secrets of Photosynthesis (scitechdaily.com)
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Artificial photosynthesis boosts bioplastic production in Japanese study

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Artificial photosynthesis boosts bioplastic production in Japanese study (soci.org)

Structural Motifs in Covalent Organic Frameworks for Photocatalysis - Qin - Advanced Functional Materials - Wiley Online Library

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Enantioselective Oxidation of Benzylic C–H Bonds via Dual Photoredox and Copper Catalysis | Organic Chemistry | ChemRxiv | Cambridge Open Engage

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Enantioselective Oxidation of Benzylic C–H Bonds via Dual Photoredox and Copper Catalysis | Organic Chemistry | ChemRxiv | Cambridge Open Engage
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Download: enantioselective-oxidation-of-benzylic-c-h-bonds-via-dual-photoredox-and-copper-catalysis.pdf (chemrxiv.org)

Tandem solar cell based on cadmium telluride, iron disilicide promises 43.9% efficiency – pv magazine International

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Tandem solar cell based on cadmium telluride, iron disilicide promises 43.9% efficiency – pv magazine International (pv-magazine.com)

Strongly photoreducing organic donor-acceptor thermally activated delayed fluorescence photocatalysts | Organic Chemistry | ChemRxiv | Cambridge Open Engage

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Driving photochemistry with sub-molecular precision

15 March
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Well-defined diatomic catalysis for photosynthesis of C2H4 from CO2 | Nature Communications

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Well-defined diatomic catalysis for photosynthesis of C2H4 from CO2 | Nature Communications
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Using light to produce medication and plastics more efficiently (phys.org)
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Structurally diverse macrocycle co-crystals for solid-state luminescence modulation | Nature Communications

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Researchers achieve >99% photoluminescence quantum yield in metal nanoclusters

18 March
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Quantifying the interfacial triboelectricity in inorganic-organic composite mechanoluminescent materials | Nature Communications
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Study unlocks the power of visible light for sustainable chemistry

28 March
https://phys.org/news/2024-03-power-visible-sustainable-chemistry.html
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A photoactive nickel complex provides evidence for a general Ni(I)/Ni(III) paradigm in cross-coupling catalysis

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A high-efficiency photocatalyst for converting carbon dioxide into environmentally friendly energy using sunlight

29 March
A high-efficiency photocatalyst for converting carbon dioxide into environmentally friendly energy using sunlight (phys.org)
DOI: 10.1016/j.cej.2023.147966

A chemically bonded photocatalyst with rich oxygen vacancies for improved photocatalytic decontamination

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A chemically bonded photocatalyst with rich oxygen vacancies for improved photocatalytic decontamination (phys.org)

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Sunlight to Methanol: Revolutionary CO2 Conversion Achieved With Copper and Carbon Nitride

27 March
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Photoredox-Catalyzed Amidyl Radical Insertion to Bicyclo[1.1.0]butanes | Organic Chemistry | ChemRxiv | Cambridge Open Engage

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Download: photoredox-catalyzed-amidyl-radical-insertion-to-bicyclo-1-1-0-butanes.pdf (chemrxiv.org)

Ultrafast photoinduced C-H bond formation from two small inorganic molecules | Nature Communications

2 April
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Exploiting Photoredox Catalysis for Rapid Access to Unnatural α-Amino Acids through α-Amino C–H Bond Activation | Organic Chemistry | ChemRxiv | Cambridge Open Engage

5 April
Exploiting Photoredox Catalysis for Rapid Access to Unnatural α-Amino Acids through α-Amino C–H Bond Activation | Organic Chemistry | ChemRxiv | Cambridge Open Engage
DOI: https://doi.org/10.26434/chemrxiv-2024-9fdqn
Download: exploiting-photoredox-catalysis-for-rapid-access-to-unnatural-amino-acids-through-amino-c-h-bond-activation.pdf (chemrxiv.org)

A silicon photoanode protected with TiO2/stainless steel bilayer stack for solar seawater splitting | Nature Communications

6 April
A silicon photoanode protected with TiO2/stainless steel bilayer stack for solar seawater splitting | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-47389-z

Enabling robust blue circularly polarized organic afterglow through self-confining isolated chiral chromophore | Nature Communications

9 April
Enabling robust blue circularly polarized organic afterglow through self-confining isolated chiral chromophore | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-47240-5

The Future of Solar Cells and More – Japanese Chemists Develop Glowing, Self-Healing Material

10 April
The Future of Solar Cells and More – Japanese Chemists Develop Glowing, Self-Healing Material (scitechdaily.com)
DOI: 10.1021/jacs.3c12342

Photocatalytic Z/E isomerization unlocking the stereodivergent construction of axially chiral alkene frameworks | Nature Communications

16 April
Photocatalytic Z/E isomerization unlocking the stereodivergent construction of axially chiral alkene frameworks | Nature Communications
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Comprehensive model unravels quantum-mechanical effects behind photoluminescence in thin gold films

19 April
Comprehensive model unravels quantum-mechanical effects behind photoluminescence in thin gold films (phys.org)
DOI: 10.1038/s41377-024-01408-2

Multiple hydrogen-bonding induced nonconventional red fluorescence emission in hydrogels | Nature Communications

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Multiple hydrogen-bonding induced nonconventional red fluorescence emission in hydrogels | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-47880-7

The role of charge in microdroplet redox chemistry | Nature Communications

30 April
The role of charge in microdroplet redox chemistry | Nature Communications
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Cooperative Phosphine-Photoredox Catalysis Enables N–H Activation of Azoles for Intermolecular Olefin Hydroamination | Catalysis | ChemRxiv | Cambridge Open Engage

30 April
Cooperative Phosphine-Photoredox Catalysis Enables N–H Activation of Azoles for Intermolecular Olefin Hydroamination | Catalysis | ChemRxiv | Cambridge Open Engage
DOI: https://doi.org/10.26434/chemrxiv-2024-cpspw
Download: 4892d907b24e6cb54ca1550aeed440.pdf

Chemistry & Artificial Intelligence

Google Gemini vs OpenAI ChatGPT: Which AI wins? | Tom's Guide
3 March
Google Gemini vs OpenAI ChatGPT: Which AI wins? | Tom's Guide (tomsguide.com)

Smarter than GPT-4: Claude 3 AI catches researchers testing it
4 March
Smarter than GPT-4: Claude 3 AI catches researchers testing it (newatlas.com)

Artificial intelligence and illusions of understanding in scientific research | Nature
6 March
Artificial intelligence and illusions of understanding in scientific research | Nature
DOI: https://doi.org/10.1038/s41586-024-07146-0

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6 March
Artificial intelligence and illusions of understanding in scientific research | Nature
DOI: https://doi.org/10.1038/s41586-024-07146-0 and

Nature Editorial: Why scientists trust AI too much — and what to do about it (open access)
6 March
Why scientists trust AI too much — and what to do about it (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00639-y

5 ways college students can use Copilot for Microsoft 365, starting next month | ZDNET
8 March
5 ways college students can use Copilot for Microsoft 365, starting next month | ZDNET
A follow up paper in in April has not materialised

Generative AI: Industry perspectives (Links to 10 relevant articles. Ignore others)
10 March
Generative AI: Industry perspectives (mckinsey.com)

Towards a universal mechanism for successful deep learning | Scientific Reports
11 March
Towards a universal mechanism for successful deep learning | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-024-56609-x

Carnegie Mellon Researchers Develop New Machine Learning Method for Modeling of Chemical Reactions
7 March
Carnegie Mellon Researchers Develop New Machine Learning Method for Modeling of Chemical Reactions - Department of Chemistry - Mellon College of Science - Carnegie Mellon University (cmu.edu)

AI is no substitute for having something to say
7 March
AI is no substitute for having something to say | Nature Reviews Physics
DOI: https://doi.org/10.1038/s42254-024-00713-14

Science communication with generative AI
4 March
Science communication with generative AI | Nature Human Behaviour

DOI: https://doi.org/10.1038/s41562-024-01846-3

Generative AI and science communication in the physical sciences

Generative AI and science communication in the physical sciences | Nature Reviews Physics
4 March
DOI: https://doi.org/10.1038/s42254-024-00691-7

What passing the AI Act means - TechCentral.ie

14 March
https://www.techcentral.ie/what-passing-the-eu-ai-act-means

'A landmark moment': scientists use AI to design antibodies from scratch

19 March
'A landmark moment': scientists use AI to design antibodies from scratch (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00846-7

AI Model Can Design Millions of New Superbug-Fighting Antibiotics

25 March
AI Model Can Design Millions of New Superbug-Fighting Antibiotics | Technology Networks
DOI: 10.1038/s42256-024-00809-7

AI can help to tailor drugs for Africa — but Africans should lead the way

9 April
AI can help to tailor drugs for Africa — but Africans should lead the way (nature.com)
DOI: https://doi.org/10.1038/d41586-024-01001-y

Finally, the Wait is Over: Meta Unveils Llama 3, Pioneering a New Era in Open Source AI – MarkTechPost

18 April
Finally, the Wait is Over: Meta Unveils Llama 3, Pioneering a New Era in Open Source AI - MarkTechPost

AI designs active pharmaceutical ingredients quickly and easily based on protein structures

24 April
AI designs active pharmaceutical ingredients quickly and easily based on protein structures (phys.org)
DOI: 10.1038/s41467-024-47613-w

Integrating Large Language Models with Graph Machine Learning: A Comprehensive Review – MarkTechPost

26 April
Integrating Large Language Models with Graph Machine Learning: A Comprehensive Review - MarkTechPost

Chemistry with Quantum Computing & Quantum Computers

Drug design on quantum computers | Nature Physics

4 March

Drug design on quantum computers | Nature Physics

DOI: https://doi.org/10.1038/s41567-024-02411-5

Quantum Computing Heats Up: Scientists Achieve Qubit Function Above 1K

4 April

Quantum Computing Heats Up: Scientists Achieve Qubit Function Above 1K : ScienceAlert

The Best Qubits for Quantum Computing Might Just Be Atoms

25 March

The Best Qubits for Quantum Computing Might Just Be Atoms | Quanta Magazine

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

Medicinal Chemistry, Chemical Biology & Life Sciences

Medicinal Chemistry Ireland

Medicinal Chemistry, Chemical Biology, Life Sciences & Drug Discovery

Do Ionic Liquids Exhibit the Required Characteristics to Dissolve, Extract, Stabilize, and Purify Proteins? Past-Present-Future Assessment | Chemical Reviews

4 March

Do Ionic Liquids Exhibit the Required Characteristics to Dissolve, Extract, Stabilize, and Purify Proteins? Past-Present-Future Assessment | Chemical Reviews (acs.org)

DOI: https://doi.org/10.1021/acs.chemrev.3c00551

Scientists use a new type of nanoparticle that can both deliver vaccines and act as an adjuvant

6 March

Scientists use a new type of nanoparticle that can both deliver vaccines and act as an adjuvant (phys.org)

DOI: 10.1126/sciadv.adj6380

Highly stable and antifungal properties on the oilseed rape of Cu3(MoO4)2(OH)2 nanoflakes prepared by simple aqueous precipitation | Scientific Reports

4 March

Highly stable and antifungal properties on the oilseed rape of Cu3(MoO4)2(OH)2 nanoflakes prepared by simple aqueous precipitation | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-024-53612-0

Peptide hydrogen-bonded organic frameworks - Chemical Society Reviews (RSC Publishing)

7 March

DOI: Peptide hydrogen-bonded organic frameworks - Chemical Society Reviews (RSC Publishing) https://doi.org/10.1039/D3CS00648D

How water guides the assembly of collagen, the building block of all humans

8 March

How water guides the assembly of collagen, the building block of all humans (phys.org)

DOI: 10.1073/pnas.2313162121

A simple and robust method to add functional molecules to peptides

11 March

A simple and robust method to add functional molecules to peptides (phys.org)

DOI: 10.1002/anie.202320012

New Method Could Help Design Drugs to Treat Diseases Caused by Rogue Enzymes

11 March

New Method Could Help Design Drugs to Treat Diseases Caused by Rogue Enzymes | Lab Manager

DOI: https://doi.org/10.1021/jacs.3c10581

Software speeds up drug development - Researchers develop novel method to predict the morphology of sugar coats on clinically relevant proteins within minutes

29 February

Software speeds up drug development | Max-Planck-Gesellschaft (mpg.de)

“Protein sandwich” could transform cancer drug discovery

21 February

“Protein sandwich” could transform cancer drug discovery | University of Dundee, UK

Curcumin nanoemulsion is tested for treatment of intestinal inflammation

6 March

Curcumin nanoemulsion is tested for treatment of intestinal inflammation (fapesp.br)

Harnessing nature's shield: Enhancing sun protection with lignin nanoparticles in cosmetics

11 March

Harnessing nature's shield: Enhancing sun protection with lignin nanoparticles in cosmetics (phys.org)

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New Precision Drug Candidate Developed Against COVID Virus | Technology Networks

14 March

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Gold nanoparticles more effective than antibiotics - study - MINING.COM

18 March

Gold nanoparticles more effective than antibiotics - study - MINING.COM

Similar DNA changes found in cells of both smokers and e-cigarette users

19 March

Similar DNA changes found in cells of both smokers and e-cigarette users | UCL News - UCL – University College London

Why is DNA almost always a right-handed helix? Exploring the causes of chirality

22 March

Why is DNA almost always a right-handed helix? Exploring the causes of chirality (phys.org)

DOI: 10.1103/PhysRevResearch.6.013227

Study shows how the chemical properties of RNA molecules could have facilitated the origin of life

22 March

Study shows how the chemical properties of RNA molecules could have facilitated the origin of life (phys.org)
DOI: 10.1021/jacs.3c10813

Researchers Uncover How Tryptophan, a Common Amino Acid in Food, Can Lead to Arthritis | Technology Networks

11 March
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DOI: 10.1172/JCI167671

An Expert Unwraps Chocolate's Surprising Health Benefits : ScienceAlert

29 March
An Expert Unwraps Chocolate's Surprising Health Benefits : ScienceAlert

Biochemists discover first new antibacterial class in decades

28 March
Biochemists discover first new antibacterial class in decades (phys.org)
DOI: 10.1021/acsinfecdis.3c00346

Scientists discover first-ever mineral-based treatment for widespread disease using the structure of crystals

27 March
Scientists discover first-ever mineral-based treatment for widespread disease using the structure of crystals (medicalxpress.com)
DOI: 10.1371/journal.pone.0298661

Chemoenzymatic tandem cyclization for the facile synthesis of bicyclic peptides | Communications Chemistry

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Chemoenzymatic tandem cyclization for the facile synthesis of bicyclic peptides | Communications Chemistry (nature.com)
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3D molecular generative framework for interaction-guided drug design | Nature Communications

27 March
3D molecular generative framework for interaction-guided drug design | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-47011-2

New technique incorporates carbon-14 in a single step for safer, more efficient drug discovery

27 March
New technique incorporates carbon-14 in a single step for safer, more efficient drug discovery (phys.org)
DOI: 10.1038/s41557-024-01447-7

A Shape Called a 'Sphinx' Could Explain Handedness in Biology : ScienceAlert

31 March
A Shape Called a 'Sphinx' Could Explain Handedness in Biology : ScienceAlert
DOI: https://doi.org/10.1103/PhysRevResearch.6.013227

Hand Sanitizers Could Damage Critical Supporting Cells In The Brain : ScienceAlert

2 April
Hand Sanitizers Could Damage Critical Supporting Cells In The Brain : ScienceAlert
DOI: https://doi.org/10.1038/s41593-024-01599-2

'Unheard of in structural biology': New enzyme models reveal disease insights
2 April
'Unheard of in structural biology': New enzyme models reveal disease insights (phys.org)
DOI: 10.1016/j.str.2024.02.019

Cut-insert-stitch editing reaction (CIStER) sequence for surgical chemical glycan editing | Communications Chemistry
2 April
Cut-insert-stitch editing reaction (CIStER) sequence for surgical chemical glycan editing | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-024-01152-z

AI is a viable alternative to high throughput screening: a 318-target study | Scientific Reports
2 April
AI is a viable alternative to high throughput screening: a 318-target study | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-024-54655-z

De novo design of pH-responsive self-assembling helical protein filaments | Nature Nanotechnology
3 April
De novo design of pH-responsive self-assembling helical protein filaments | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-024-01641-1

RNAi-based drug design: considerations and future directions | Nature Reviews Drug Discovery (Subscription)
3 April
RNAi-based drug design: considerations and future directions | Nature Reviews Drug Discovery
DOI: https://doi.org/10.1038/s41573-024-00912-9

mRNA drug offers hope for treating a devastating childhood disease
3 April
mRNA drug offers hope for treating a devastating childhood disease (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00954-4

Long COVID Can Now Be Detected in the Blood
9 April
Long COVID Can Now Be Detected in the Blood | Technology Networks
DOI: 10.1038/s41590-024-01778-0

Novel Antibiotics Combat Drug-Resistant Bacteria
8 April
Novel Antibiotics Combat Drug-Resistant Bacteria | Technology Networks
DOI: 10.1073/pnas.2317274121

Acute, controlled inhalation of thin graphene oxide nanosheets in humans with null cardiorespiratory effects | Nature Nanotechnology (Subscription)
8 April
Acute, controlled inhalation of thin graphene oxide nanosheets in humans with null cardiorespiratory effects | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-024-01639-9

New statistical-modeling workflow may help advance drug discovery and synthetic chemistry
8 April

New statistical-modeling workflow may help advance drug discovery and synthetic chemistry (phys.org)
DOI: 10.1021/acs.jcim.3c01864

Drug delivery innovation: Multifunctional system based on switchable peptide-stabilized emulsions

9 April
Drug delivery innovation: Multifunctional system based on switchable peptide-stabilized emulsions (phys.org)
DOI: 10.1016/j.chempr.2024.02.003

Just 1 Dose of New Antibiotic Class Eliminates Resistant Blood Infections in Mice: ScienceAlert

11 April
Just 1 Dose of New Antibiotic Class Eliminates Resistant Blood Infections in Mice : ScienceAlert
DOI: https://doi.org/10.1073/pnas.2317274121

New molecular device unlocks potential for targeted drug delivery and self-healing materials

10 April
New molecular device unlocks potential for targeted drug delivery and self-healing materials (phys.org)
DOI: 10.1038/s41586-024-07154-0

Scientists find new ways to convert inhibitors into degraders, paving the way for future drug discoveries

11 April
Scientists find new ways to convert inhibitors into degraders, paving the way for future drug discoveries (phys.org)
DOI: 10.1021/acschembio.3c00616

A new coating method in mRNA engineering points the way to advanced therapies

10 April
A new coating method in mRNA engineering points the way to advanced therapies (phys.org)
DOI: 10.1002/smsc.202300258

Bringing chemistry to medicine to redefine the undruggable | Nature Chemical Biology

12 April
Bringing chemistry to medicine to redefine the undruggable | Nature Chemical Biology
DOI: https://doi.org/10.1038/s41589-024-01598-1

Chemists devise easier new method for making a common type of building block for drugs

13 April
Chemists devise easier new method for making a common type of building block for drugs (phys.org)
DOI: 10.1038/s44160-024-00517-5

Performance and robustness of small molecule retention time prediction with molecular graph neural networks in industrial drug discovery campaigns | Scientific Reports

16 April
Performance and robustness of small molecule retention time prediction with molecular graph neural networks in industrial drug discovery campaigns | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-024-59620-4

Researchers set new standards for nanoparticles, helping patients with MS, ALS, Parkinson's disease

19 April

Researchers set new standards for nanoparticles, helping patients with MS, ALS, Parkinson's disease (phys.org)
DOI: 10.1038/s41467-023-44678-x

A powerful technique for tracking a protein's fleeting shape changes

17 April
https://phys.org/news/2024-04-powerful-technique-tracking-protein-fleeting.html
DOI: 10.1038/s41594-024-01260-3

"One Ring to Rule Them All" – Molecular Biologists Have Cracked the Formin Code

18 April
"One Ring To Rule Them All" – Molecular Biologists Have Cracked the Formin Code (scitechdaily.com)
DOI: 10.1126/science.adn9560

Structural and biochemical analysis of family 92 carbohydrate-binding modules uncovers multivalent binding to β-glucans | Nature Communications

23 April
Structural and biochemical analysis of family 92 carbohydrate-binding modules uncovers multivalent binding to β-glucans | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-47584-y

For The First Time, Scientists Capture The Protein-Lipid Dance on Video : ScienceAlert

25 April
For The First Time, Scientists Capture The Protein-Lipid Dance on Video : ScienceAlert
DOI: 10.1126/sciadv.adk0217

A shortcut for drug discovery: Novel method predicts on a large scale how small molecules interact with proteins

25 April
A shortcut for drug discovery: Novel method predicts on a large scale how small molecules interact with proteins (phys.org)
DOI: 10.1126/science.adk5864

Late-stage meta-C–H alkylation of pharmaceuticals to modulate biological properties and expedite molecular optimisation in a single step | Nature Communications

18 April
Late-stage meta-C–H alkylation of pharmaceuticals to modulate biological properties and expedite molecular optimisation in a single step | Nature Communications
DOI: https://doi.org/10.1038/s41467-024-46697-8

Predicting permeation of compounds across the outer membrane of P. aeruginosa using molecular descriptors | Communications Chemistry

12 April
Predicting permeation of compounds across the outer membrane of P. aeruginosa using molecular descriptors | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-024-01161-y

Chasing weakly-bound biological water in aqueous environment near the peptide backbone by ultrafast 2D infrared spectroscopy | Communications Chemistry

11 April
Chasing weakly-bound biological water in aqueous environment near the peptide backbone by ultrafast 2D infrared spectroscopy | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-024-01170-x

Functionalizing tandem mass tags for streamlining click-based quantitative chemoproteomics | Communications Chemistry

10 April

Functionalizing tandem mass tags for streamlining click-based quantitative chemoproteomics | Communications Chemistry (nature.com)

DOI: https://doi.org/10.1038/s42004-024-01162-x

Artificial sweetener could harm your gut and the microbes that live there – new study

26 April

Artificial sweetener could harm your gut and the microbes that live there – new study (theconversation.com)

Concerning Levels of Uranium And Lead Found in The Urine of Teens Who Frequently Vape

30 April

Concerning Levels of Uranium And Lead Found in The Urine of Teens Who Frequently Vape : ScienceAlert

DOI: https://doi.org/10.1136/tc-2023-058554

Substrate binding plasticity revealed by Cryo-EM structures of SLC26A2 | Nature Communications

29 April

Substrate binding plasticity revealed by Cryo-EM structures of SLC26A2 | Nature Communications

DOI: https://doi.org/10.1038/s41467-024-48028-3

7th Irish Biological Inorganic Chemistry Symposium

IBICS-7 Conference Report: UCD, 15 December 2023

Joseph P. Byrne, Sophie Kavanagh

The 7th annual symposium of the **Irish Biological Inorganic Chemistry Society** (IBICS) was held for the first time in **UCD** just before Christmas. IBICS organises an annual symposium, bringing together scientists and experts from universities and industries active in the field of bioinorganic chemistry. The programme was split into three sessions with 12 talks in total, covering different key themes throughout including but not limited to DNA targeting and sensing, anti-cancer complexes and metallodrugs against microbes. The symposium included two plenary lectures from Professor Ramon Villar (Imperial College London, UK) Professor Petra Heffeter (Medical University of Vienna, Austria), as well as two invited speakers Professor Denise Rooney (Maynooth University) and Professor Mathias Senge (Trinity College Dublin). The bulk of the programme gave opportunities for oral and flash presentations by early-stage researchers, while sixteen posters from universities all over Ireland formed the basis of discussion during the course of the day-long event. Approximately 90 delegates attended, including postgraduates, academics and industrial sponsors, who together contributed to a wonderful inclusive atmosphere and highly enjoyable meeting. Details of the scientific sessions and photos of the event are provided in the following pages.

This symposium provided IBICS members opportunities to present their research to peers, as well as hosting the Society's AGM. The day featured two poster sessions and wrapped up with a wine reception. Networking was an integral part of this event, allowing participants to share their passion for chemistry while also learning from accomplished experts in the field.

The Symposium was made possible by the financial support of several generous sponsors. Support from scholarly organisations was offered by the **Institute of Chemistry of Ireland** and the **Royal Society of Chemistry Republic of Ireland Local Section**. Commercial sponsors who exhibited on the day were **Mason Technologies**, **Merck**, **Accuscience** and **GPE/Julabo**, all of whom are frequent supporters of scientific meetings in Ireland. Next year's Symposium will take place late in 2024 in University College Cork.

IBICS-7 Symposium Programme:

Time	Speaker and title of presentation	Code	Venue
10:00	Registration, coffee, and poster setup		Balcony
10:30	Opening remarks: Professor Michael Devereaux, IBICS President		Theatre
	Session 1, Chair: *Dr Luca Ronconi*		Theatre
10:40	**Plenary: Professor Ramón Vilar** (Imperial College London) *"Targeting DNA with luminescent metal complexes – imaging and therapy"*	PL1	
11:20	Maria Byrne (University College Dublin): *"Multi Emissive Silica Nanomaterials for DNA Sensing"*	O1	
11:35	Rhianne Curley (Dublin City University): *"Exploring the Efficacy of a Mitochondrial G4-Targeted Ruthenium(II) Complex in Cell Monolayers and Multicellular Tumour Spheroids"*	O2	
11:50	**Invited: Professor Denise Rooney** (Maynooth University): *"Medicinal Applications of Transition Metal Coordination Complexes of N-Based Heterocyclic Derivatives"*	IL1	
12:20	**Flash Session, Chair:** *Dr Andrew Phillips* 3-minute presentations ***sponsored by ICI***	F	Theatre
12:35	Lunch (provided) and Poster Session 1	P	Balcony
13:25	IBICS Annual General Meeting		Theatre
	Session 2, Chairs: *Prof. Susan Quinn*		Theatre
13:55	**Invited: Professor Mathias Senge** (Trinity College Dublin): *"On Trial: The Case of Aluminum Dipyrrinato Photosensitizers"*	IL2	
14:25	Simon Poole (Dublin City University): *"The Generation of a New Class of Click Chemistry-Derived Di-nuclear Copper(II) Artificial Metallonuclease"*	O3	
14:40	Darren Beirne (Maynooth University): *"Pt(IV)-Sunitinib pro-drug conjugates displaying promising preliminary anti-cancer activity"*	O4	
14:55	Lewis More O'Ferrall (Royal College of Surgeons in Ireland & TU Dublin): *"Ga(III) siderophore complexes - A Metallo-Trojan Horse Strategy to tackle Aspergillus fumigatus lung infections"*	O5	
15:10	Ella O'Sullivan (TU Dublin): *"Investigating Apoptosis Induction as a Mechanism of Action of Novel Metal-Dicarboxylate-Phenanthroline Complexes"*	O6	
15:40	Poster Session 2, ***sponsored by RSC Republic of Ireland Section***	P	Balcony
	Session 3, Chair: *Prof. Celine Marmion*		Theatre
16:40	Dr Neville Murphy (University of Galway): *"Intracellular behaviour of metallacarboranes through the lens of stimulated Raman spectroscopy"*	O7	
16:55	**Plenary: Professor Petra Heffeter** (Medical University of Vienna) *"Development of new strategies to overcome the therapeutic limitations of inorganic anticancer drugs"*	PL2	
17:35	**Presentation of IBICS Postgraduate Gold Medal** Dr Amir Abdo (CÚRAM/University of Galway) *"Metalloporphyrins as Potential Nitric Oxide Scavengers for treatment of breast cancer"*	GM	
17:55	Prize-giving, and closing remarks by Professor Michael Devereaux		
18:00	**Wine reception**		Balcony

Session 1: *Chair Dr Luca Ronconi*

Professor **Ramon Vilar** (Imperial College London) opened IBICS-7 with a *plenary lecture* on targeting DNA with luminescent metal complexes. Prof Vilar is Professor of Medicinal Inorganic Chemistry and Vice Dean for Research at the Faculty of Natural Sciences. In his lecture, he focussed on non-canonical DNA structures, in particular guanine-quadruplex DNA, which have been identified as attractive anticancer drug targets. He presented results from his lab on imaging these DNA structures in cells and how light can be used to modulate and control the cellular properties of small molecules.

Continuing the theme of DNA sensing, **Maria Byrne** (Susan Quinn Group, UCD) delivered the first oral presentation of the morning, describing multi-emissive silica nanomaterials as sensors which bind DNA. She reported encapsulation of ruthenium polypyridyl complexes into SiO_2 nanoparticles and exploration of their sensing properties, including considerations for functionalising the surface of the nanoparticles with luminescent DNA probes.

Rhianne Curley (Tia Keyes Group, DCU) presented the *in vitro* behaviour of ruthenium complexes targeting mitochondrial guanine quadruplexes in cell monolayers, and multicellular tumour spheroids. The complexes effectively targeted mitochondrial DNA and demonstrated light-activated therapeutic activity in both normoxic and hypoxic cellular environments.

Professor **Denise Rooney** (Maynooth University) concluded the morning session with an *invited talk*, presenting an overview encompassing years of collaborative research across several groups in the Irish bioinorganic community focussing on the antimicrobial activity of silver complexes of phenanthroline derivatives and their potential against bacteria and fungi (such as *C. albicans*). Additionally, recent results with rhenium and iron carbonyl complexes with *N*-heterocycles and their medicinal applications were presented, including their role as CO-releasing molecules.

Flash Presentations: *Chair Dr Andrew Phillips*

Before lunch, there was an opportunity for seven early career researchers to present their work in the form of rapid-fire flash presentations. The flash session was sponsored by the Institute of Chemistry of Ireland. Joshua Thorogood was awarded the ICI Flash Prize for his work on Synthetic Magnesium Tetrapyrrole Radicals to understand the mechanisms behind the redox potential of chlorophyll-a in P680.

Flash presenters: Clara Evans (MU), Joshua Thorogood (TCD), Thomas Rabbitte (UCD) Phillip Morgenfurt (DCU) Federica Bresia (UoG), Eleanor Windle (UCD) and Agnideep Das (TCD) (right): Winner of the ICI Flash Prize, Joshua Thorogood with Mick Devereaux.

Poster Session 1

Two poster sessions were included in the Symposium Programme, the first over the lunch break and the second in the mid-afternoon. This was to ensure that adequate time was given to delegates to discuss research with the early-career researchers, make connections, and potentially fuel future collaborations.

Posters were presented by Sachidulal Biswas (TCD), Federica Brescia (University of Galway), Agnideep Das (TCD), Clara Evans (Maynooth University), Judit Fodor (TCD), Daniel Gracyzyk (UCD), Sophie Kavanagh & Thomas Rabbitte (UCD), Agnieszka Kawalerska (TU Dublin), Oscar Kelly (TCD), Darragh McHugh (University of Galway), Phillip Morgenfurt (DCU), Joshua Thorogood (TCD), Kaja Turzanska (RCSI), Eleanor Windle (UCD), Karolina Wojtczak (University of Galway) and Clara Zehe (UCD).

IBICS AGM

The Annual General Meeting of IBICS was held after lunch. As part of the AGM, Prof. Mick Devereaux's term as President ended, and Dr Luca Ronconi from University of Galway was elected the in-coming President of the Society. Prof. Orla Howe (TU Dublin) was elected Vice-President for the coming year. It was also announced that the 8th IBICS Symposium will be held in University College Cork next year, chaired by Dr Christopher Burke.

Members of the IBICS Committee: Christopher Burke (UCC), Joseph Byrne (UCD), Deirdre Fitzgerald-Hughes (RSCI), Celine Marmion (RCSI), Michael Devereaux (TUD, outgoing President), Bernie Creaven (TUD), Orla Howe (TUD), Luca Ronconi (UoG, incoming President)

Chairing various sessions of the Symposium, from top left: Professor Michael Devereaux, Dr Joseph Byrne, Dr Luca Ronconi, Dr Andrew Phillips, Professor Susan Quinn, Professor Celine Marmion.

Presentation of gifts to Plenary Speakers: Prof Ramon Vilar and Prof Petra Heffeter

Session 2: *Chair Professor Susan Quinn*

Resuming the scientific programme, Professor **Mathias Senge** (Trinity College Dublin) delivered an *engaging invited talk*, in the style of a court case: "On Trial: The Case of Aluminium Dipyrrinato Photosensitizers", where he made the case for the use of abundant and inexpensive aluminium in *tris*-dipyrrinato complexes for potential photodynamic therapy applications. He gave a historical overview of "heliotherapy", properties of porphyrins and BODIPY derivatives before describing a library of aluminium compounds, their absorbance and fluorescence with triplet excited state lifetimes with potential for acceptable singlet oxygen production. Prof Senge was pleased to be invited to the meeting as an "outsider" (an organic chemist) and the talk was very well received.

Simon Poole (Andrew Kellett Group, DCU) reported the generation of a new class of 'click' chemistry-derived dinuclear copper(II) artificial metallonuclease. These compounds were designed as new anticancer agents to overcome resistance, causing long-range crosslinking interactions in DNA which circumvent typical DNA adduct repair processes. He presented a library of triazole-linked complexes and detailed the structure-activity relationship study which gave rise to a lead compound with promising selectivity against cancer.

Darren Beirne (Maynooth University) described Pt(IV) pro-drugs based on sunitinib derivatives of FDA-approved Pt(II) metallodrugs (cisplatin, oxaliplatin and carboplatin) and their potential for overcoming limitations of existing chemotherapies. These compounds were designed to target tyrosine kinases, which play a major role in cell regulation pathways. The presentation included promising preliminary anti-cancer activity against several cell lines.

Lewis More O'Ferrall (Groups of Darren Griffith, RCSI and Christine O'Connor, TU Dublin), told the Symposium about developments in gallium(III) siderophore derivatives, which work as a metallo-Trojan horse strategy to tackle *Aspergillus fumigatus* and take advantage of microbes' high demand for Fe(III), highlighting the issue of antimicrobial resistance and persistent lower respiratory tract infections. He described their new treatment and its various formulations suitable for lung delivery, along with the Ga(III) complex selective toxicity to *A. fumigatus*. These treatments, non toxic to human cells, were more effective than simple Ga(III) complexes

Ella O'Sullivan (Orla Howe Group, TU Dublin) began her talk, highlighting the unprecedented increase in cancer incidence and detailing anti-cancer potential of a range of Cu(II), Mn(II) and Ag(I) complexes incorporating bridging dicarboxylate and chelating 1,10-phenanthroline ligands. Her talk focussed on elucidating differing cytotoxic mechanisms of the complexes against various cell lines, with some demonstrating antioxidant effects and others generating intracellular ROS. The role of apoptosis in regulated cell death caused by the complexes was profiled by various methods.

Poster Session 2 was sponsored by the Royal Society of Chemistry Republic of Ireland Local Section. Over the course of an hour, the poster presenters mingled with other delegates, explaining and discussing their work while the judges made their decisions about the prize winners. A selection of photographs of delegates across the day's sessions are included below, and on the next page.








Session 3: *Chair Professor Celine Marmion*

Dr **Neville Murphy** (Pau Farras Group, University of Galway/CÚRAM Research Centre for Medical Devices) described investigations into intracellular behaviour of metallacarboranes through the lens of stimulated Raman spectroscopy (SRS). This work exploits Raman signals of the B-H stretch in the 'cell-silent' window of the spectrum, making SRS an ideal candidate for label-free tracking of metallacarboranes and their toxicity. This was contrasted with existing fluorescent multispectral imaging approaches which alter the imaging subjects through labelling.

Professor **Petra Heffeter** (Medical University of Vienna, Austria) concluded the second session with a plenary talk where she introduced her group's development of new strategies to overcome the therapeutic limitations of inorganic anticancer drugs, such as resistance and adverse effects. Characteristic conditions of the malignant tumour cell need to be exploited to understand, tune and improve specificity of treatments. She highlighted several key examples of drugs exploiting new strategies. Inhibitors of epidermal growth factor receptors were described, which are activated by cobalt-based prodrugs in hypoxic tumour conditions. Several albumin-targeted therapeutics exploit several conditions, including tumours' enhanced nutrient supply, one of which is in Phase II clinical trials. Preclinical data of Pt(IV) prodrugs were also described in a wide-ranging discussion of an exciting aspect of rational biological inorganic chemistry research.

The **IBICS Postgraduate Gold Medal** is awarded annually to one PhD student who has distinguished themselves across a range of criteria throughout their PhD with a focus on research performance, achievements and impact in the field of medicinal and biological inorganic chemistry. Reviewing applications for this competitive award is a highlight of the year for the Society, allowing an opportunity to recognise the breadth of high-achieving final year PhD students or recent graduates whose work aligns to the interdisciplinary aims of IBICS, working across the island of Ireland. The selection committee noted the very high standard of the competition, and before announcing the award they took the opportunity to award **certificates of commendation** to four other applicants for the gold medal: Karolina Wojtczak (University of Galway), Dr Mark Stitch (UCD), Dr Neville Murphy (University of Galway) and Paul O'Dowd (RCSI).

This year's gold medal was awarded to **Dr Amir Abdo** from University of Galway/CÚRAM Centre for Medical Device Research. Amir obtained his MSc in Biological and Bioprocess Engineering from the University of Sheffield (UK) and MSc in Biochemistry from Helwan

University (Egypt). After working as a research assistant in radiation chemistry at the National Centre for Radiation Research and Technology (Egypt), he embarked on his doctoral studies at the University of Galway/CÚRAM under the guidance of Professor Abhay Pandit, funded by the College of Engineering and Informatics Scholarship Scheme, and supported by Dr Pau Farràs and Dr Sharon Glynn. Recently, Amir was awarded the Irish Research Council's (IRC) Postdoctoral Fellowship to continue his work on nitric oxide-scavenging compounds and materials for treatment of breast cancer at the University of Galway/CÚRAM.
At the end of the third session, the prize winner Dr Amir Abdo delivered his IBICS Gold Medal 2023 Award presentation. Dr Abdo gave an excellent talk on metalloporphyrins and their potential as nitric oxide scavengers in the treatment of breast cancer.

Prize-giving and closing remarks

Before closing the Symposium, outgoing **IBICS President Professor Michael Devereux** announced the prize-winners selected by judges from the IBICS community during the day. Prizes were awarded to the best poster, best flash presentation and best oral presentation (by a graduate student). The oral presentation prize was sponsored by **IBICS**, the flash prize was sponsored by silver-tier sponsor, the **Institute of Chemistry of Ireland**, and the poster prize was sponsored by **Scientific Laboratory Supplies** (SLS). All three prize-winners were presented with a copy of *"Targeted Metallo-Drugs: Design, Development, and Modes of Action"* (Edited by Etelka Farkas & Celine J. Marmion) courtesy of the kind sponsorship of CRC Press – Taylor & Francis Group.

The prize-winners were as follows:

IBICS Poster Prize: Ella O'Sullivan (TU Dublin)
ICI Flash Presentation Prize: Joshua Thorogood (TCD)
SLS Poster Prize: Eleanor Windle (UCD)

Photos of Prize Winners, from left: Eleanor Windle (UCD), Phillip Morgenfurt (TCD), and Ella O'Sullivan (TUD) with Professor Michael Devereaux

Local Organising Committee at UCD: Prof. Susan Quinn, Assist. Prof. Joseph Byrne, Sophie Kavanagh, Assist. Prof. Andrew Phillips.

After the prizes, and thanks to all the presenters Prof Devereaux brought the formal scientific proceedings to a close. **Dr Joseph Byrne**, Chair of the Local Organising Committee thanked his co-organisers (*pictured above*) and the IBICS Committee (especially Profs Devereaux and Howe) for their support during the year preparing the meeting, the sponsors who helped fund the event and exhibited throughout the symposium, and all the postgraduate students at UCD who had contributed on the success of the day in preparing registration, advertising and keeping things running through the day.

The day concluded with a wine-reception on the balcony of UCD Village, where postgraduate students, academics and other researchers spent the evening networking and discussing the interesting research that had been presented during the course of the Symposium. Next year's event will take place in University College Cork.

Details of symposia past and future, as well as details on other activities and membership of IBICS can be found on the Society's website www.ibics.ie

IBICS
Irish Biological Inorganic Chemistry Society

Green Hydrogen & Fuel Cells Chemistry & Technology (Including “Green Ammonia”)

A Multi-Billion-Dollar Question – Researchers Are Closer to Understanding Hydrogen’s Great Challenge

2 March

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New hydrogen producing method is simpler and safer, researchers say

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EU body calls for more subsidies for hydrogen vehicles to help them compete against battery EVs | Hydrogen news and intelligence

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Brazilian scientists obtain a material that can be useful for hydrogen production

13 March

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New catalyst accelerates release of hydrogen from ammonia

13 March

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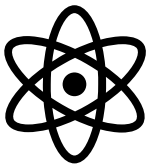

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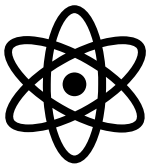

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Only 57 producers are responsible for 80% of all fossil fuel and cement CO2 emissions since 2016 – new report

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Combinatorial biosynthesis for the engineering of novel fungal natural products | Communications Chemistry

18 April
Combinatorial biosynthesis for the engineering of novel fungal natural products | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-024-01172-9

Chemoenzymatic tandem cyclization for the facile synthesis of bicyclic peptides | Communications Chemistry

28 March
Chemoenzymatic tandem cyclization for the facile synthesis of bicyclic peptides | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-024-01147-w

Breaking the Oil Habit: How Synthetic Bacteria Could Revolutionize Chemical Production

27 April
Breaking the Oil Habit: How Synthetic Bacteria Could Revolutionize Chemical Production (scitechdaily.com)
DOI: 10.1038/s41929-024-01137-0

Science & Truth, Trust & Science Communication

Don’t sleep on storytelling in science
1 March
Don’t sleep on storytelling in science | Drug Discovery News

The ‘average’ revolutionized scientific research, but overreliance on it has led to discrimination and injury
1 March
The ‘average’ revolutionized scientific research, but overreliance on it has led to discrimination and injury (theconversation.com)

How to better study—and then improve—today’s corrupted information environment
1 March
How to better study—and then improve—today's corrupted information environment - Bulletin of the Atomic Scientists (thebulletin.org)

Millions of research papers at risk of disappearing from the Internet
4 March
Millions of research papers at risk of disappearing from the Internet (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00616-5

Although trust in science remains high, the public questions scientists' adherence to science's norms
4 March
Although trust in science remains high, the public questions scientists' adherence to science's norms (phys.org)
DOI: 10.1073/pnas.2319488121

China has a list of suspect journals and it’s just been updated
6 March
China has a list of suspect journals and it’s just been updated (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00629-0

Nature publishes too few papers from women researchers — that must change
6 March
Nature publishes too few papers from women researchers — that must change
DOI: https://doi.org/10.1038/d41586-024-00640-5

The Dark World of ‘Citation Cartels’
6 March
The Dark World of ‘Citation Cartels’ (chronicle.com)

Weekend reads: Citation cartels; a history of scientific integrity; another Nobelist retracts a paper – Retraction Watch
9 March
Weekend reads: Citation cartels; a history of scientific integrity; another Nobelist retracts a paper – Retraction Watch

Rejected paper pops up elsewhere after one journal suspected manipulation – Retraction Watch
15 March
Rejected paper pops up elsewhere after one journal suspected manipulation – Retraction Watch

Scientific Journal Publishes Paper with AI-Generated Introduction | Technology Networks
15 March
Scientific Journal Publishes Paper with AI-Generated Introduction | Technology Networks

Publications - Could uploading a paper on arXiv before publishing it in a journal lead to being "scooped", or does it actually prevent that? - Academia Stack Exchange
21 March
publications - Could uploading a paper on arXiv before publishing it in a journal lead to being "scooped", or does it actually prevent that? - Academia Stack Exchange

The Credibility Crisis in Science | RealClearScience
22 March
The Credibility Crisis in Science | RealClearScience

How logic and reasoning can fail as scientific tools - Big Think
21 March
How logic and reasoning can fail as scientific tools - Big Think

Weekend reads: More retractions at Columbia; ‘an epidemic of scientific fraud’; when articles cite retracted papers – Retraction Watch
23 March
Weekend reads: More retractions at Columbia; ‘an epidemic of scientific fraud’; when articles cite retracted papers – Retraction Watch

Schneider Shorts 22.03.2024 – Stop posting non-peer-reviewed and unauthenticated images – For Better Science
22 March
Schneider Shorts 22.03.2024 – Stop posting non-peer-reviewed and unauthenticated images – For Better Science

Journal editors are resigning en masse: what do these group exits achieve?
27 March
Journal editors are resigning en masse: what do these group exits achieve? (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00887-y

How papers with doctored images can affect scientific reviews
28 March
How papers with doctored images can affect scientific reviews (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00875-2

How scientists are making the most of Reddit
1 April
How scientists are making the most of Reddit (nature.com)
DOI: https://doi.org/10.1038/d41586-024-00906-y

Dodgy publications boost China's science stature - Asia Times
3 April
Dodgy publications boost China's science stature - Asia Times

The Challenges of a Large Interdisciplinary Project (guest post) - Daily Nous
4 April
The Challenges of a Large Interdisciplinary Project (guest post) - Daily Nous

Is ChatGPT corrupting peer review? Telltale words hint at AI use

10 April
Is ChatGPT corrupting peer review? Telltale words hint at AI use (nature.com)
DOI: https://doi.org/10.1038/d41586-024-01051-2

Persistent questioning of knowledge takes a toll: New study supports theories that baseless discrediting harms

16 April
Persistent questioning of knowledge takes a toll: New study supports theories that baseless discrediting harms (phys.org)
DOI: 10.1016/j.actpsy.2024.104157

Structure peer review to make it more robust

16 April
Structure peer review to make it more robust (nature.com)
DOI: https://doi.org/10.1038/d41586-024-01101-9

Weekend reads: Deans out following Retraction Watch reporting; making sense of retractions; why one university is having grants withheld – Retraction Watch

20 April
https://retractionwatch.com/2024/04/20/weekend-reads-deans-out-following-retraction-watch-reporting-making-sense-of-retractions-why-one-university-is-having-grants-withheld

Elisabeth Bik, expert in scientific integrity: 'We need to slow down scientific publishing' | Science | EL PAÍS English

26 April
Elisabeth Bik, expert in scientific integrity: 'We need to slow down scientific publishing' | Science | EL PAÍS English (elpais.com)

How reliable is this research? Tool flags papers discussed on PubPeer

29 April
How reliable is this research? Tool flags papers discussed on PubPeer (nature.com)
DOI: https://doi.org/10.1038/d41586-024-01247-6

'What is a fact?' A humanities class prepares STEM students to be better scientists

30 April
https://theconversation.com/what-is-a-fact-a-humanities-class-prepares-stem-students-to-be-better-scientists-226867

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

Nuclear Fusion Power - Saving Angel or Optimistic Dream? & Developments in Nuclear Technology

AI solves nuclear fusion puzzle for near-limitless clean energy | The Independent

1 March
AI solves nuclear fusion puzzle for near-limitless clean energy | The Independent

Scientists Demonstrate Effective Fusion “Spark Plug” in Groundbreaking Experiments

2 March
Scientists Demonstrate Effective Fusion “Spark Plug” in Groundbreaking Experiments (scitechdaily.com)

Visible Light-Promoted Regioselective Benzannulation of Vinyl Sulfoxonium Ylides with Ynoates | JACS Au

1 March
Visible Light-Promoted Regioselective Benzannulation of Vinyl Sulfoxonium Ylides with Ynoates | JACS Au
DOI: https://doi.org/10.1021/jacsau.3c00802

Plasma oscillations propel breakthroughs in fusion energy

4 March
Plasma oscillations propel breakthroughs in fusion energy (phys.org)
DOI: 10.1103/PhysRevLett.132.095101

UK startup breaks pressure record with its novel gun-type nuclear tech - Interesting Engineering

7 March
https://interestingengineering.com/energy/first-light-fusion-makes-a-breakthrough

Fusion Breakthrough at MIT

11 March
(34) Fusion Breakthrough at MIT - YouTube or
https://youtu.be/foPM2-A96MM?si=JLeZVZEtMsEoVpZ8

New research on tungsten unlocks potential for improving fusion materials

13 March
New research on tungsten unlocks potential for improving fusion materials (phys.org)
DOI: 10.1126/sciadv.adk9051

Study shows inverting fusion plasmas improves performance

12 March
Study shows inverting fusion plasmas improves performance (phys.org)
DOI: 10.1103/PhysRevLett.131.195101

Even as the fusion era dawns, we’re still in the Steam Age

18 March
Even as the fusion era dawns, we’re still in the Steam Age (theconversation.com)

First-of-its-kind energy company plans to build new facility at retired coal plant site: 'This is incredibly symbolic'

15 March
First-of-its-kind energy company plans to build new facility at retired coal plant site: 'This is incredibly symbolic' (yahoo.com)

University of Utah's 1989 cold fusion claims remain a cautionary tale 35 years later - Axios Salt Lake City
18 March
University of Utah's 1989 cold fusion claims remain a cautionary tale 35 years later - Axios Salt Lake City

Inside the world's first reactor that will power Earth using the same nuclear reactions as the Sun | Euronews
26 March
Inside the world's first reactor that will power Earth using the same nuclear reactions as the Sun | Euronews

Plasma fusion: Adding just enough fuel to the fire
28 March
Plasma fusion: Adding just enough fuel to the fire (phys.org)
DOI: 10.1088/1741-4326/ad2ca7

Ancient Japanese Art Inspires Next-Gen Fusion Reactor Breakthrough
30 March
Ancient Japanese Art Inspires Next-Gen Fusion Reactor Breakthrough (scitechdaily.com)
DOI: 10.1038/s41467-024-45454-1

Princeton Lab pushes plasma limit with lithium in fusion breakthrough - Interesting Engineering
29 March
Princeton Lab pushes plasma limit with lithium in fusion breakthrough - Interesting Engineering

In Pictures: A global tour of cutting-edge Tokamak reactors - Interesting Engineering
31 March
https://interestingengineering.com/photo-story/in-pictures-a-global-tour-of-cutting-edge-tokamak-reactors

Korean Fusion Reactor Sets New Record For Sustaining 100 Million Degree Plasma : ScienceAlert
2 April
Korean Fusion Reactor Sets New Record For Sustaining 100 Million Degree Plasma : ScienceAlert

Creating an island paradise in a fusion reactor
16 April
Creating an island paradise in a fusion reactor (phys.org)
DOI: 10.1088/1741-4326/ad2ca8

Fusion News,
17 April
Fusion News, April 17, 2024 - YouTube

The latest developments in fusion energy - with the UKAEA
16 April
The latest developments in fusion energy - with the UKAEA - YouTube

Fusion-energy quest makes big advance with EU-Japan reactor - Modern Diplomacy
21 April
Fusion-energy quest makes big advance with EU-Japan reactor - Modern Diplomacy

Scientists use magnets to make clean fusion energy breakthrough: 'At least 100 times better than any existing [device]'

22 April
Scientists use magnets to make clean fusion energy breakthrough: 'At least 100 times better than any existing [device]' (thecooldown.com)

US startup's fusion energy device reaches 37-million-degree temperature
23 April
US startup's fusion energy device reaches 37-million-degree temperature (interestingengineering.com)
DOI: https://doi.org/10.1103/PhysRevLett.132.155101

Fusion Energy Gets a Boost with Novel Plasma Control Technique | OilPrice.com
20 April
Fusion Energy Gets a Boost With Novel Plasma Control Technique | OilPrice.com

US and Japan team up to further development of nuclear fusion: 'Fusion is too important for needless competition'
27 April
US and Japan team up to further development of nuclear fusion: 'Fusion is too important for needless competition' (thecooldown.com)

More efficient than hydrogen and produces more energy: the chemical element we had ignored – ECONews
15 April
More efficient than hydrogen and produces more energy: the chemical element we had ignored - ECONews (ecoticias.com)

A high-density and high-confinement tokamak plasma regime for fusion energy | Nature
24 April
A high-density and high-confinement tokamak plasma regime for fusion energy | Nature
DOI: https://doi.org/10.1038/s41586-024-07313-3

Scientists Fused Two Methods to Contain Nuclear Plasma
29 April
Scientists Fused Two Methods to Contain Nuclear Plasma (popularmechanics.com)

New instrument could help scientists tailor plasma to produce more fusion heat
30 April
New instrument could help scientists tailor plasma to produce more fusion heat (phys.org)

Nuclear Fusion Breakthroughs Bring Near-Limitless Energy Closer
30 April
Nuclear Fusion Breakthroughs Bring Near-Limitless Energy Closer (newsweek.com)

Near-limitless+energy+closer+with+nuclear+fusion+breakthroughs
30 April
Nuclear Fusion Breakthroughs Bring Near-Limitless Energy Closer (newsweek.com)
DOI: https://doi.org/10.1038/s41586-024-07313-3

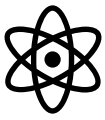
Modular Nuclear Reactors & New Technology for Conventional Fission Reactors

Indigenous fast breeder reactor will be a new global disruptor - The Sunday Guardian Live
17 March
Indigenous fast breeder reactor will be a new global disruptor - The Sunday Guardian Live

Pebble bed nuclear reactor gets a reboot
20 March
Pebble bed nuclear reactor gets a reboot - Moneyweb

Molten Salt Reactor Technology Development Continues as Countries Work Towards Net Zero | IAEA
8 April
Molten Salt Reactor Technology Development Continues as Countries Work Towards Net Zero | IAEA

Japan Informs IAEA About Corrosion of Tanks Holding ALPS Treated Water, Confirms No Structural Impact or Risk to Safety | IAEA
12 April
Japan Informs IAEA About Corrosion of Tanks Holding ALPS Treated Water, Confirms No Structural Impact or Risk to Safety | IAEA



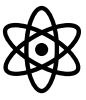
Thorium Nuclear Reactors

Onward to thorium
18 March
Onward to thorium (deccanherald.com)

15 Countries with the Largest Thorium Reserves in the World
31 March
15 Countries with the Largest Thorium Reserves in the World (yahoo.com)

India develops Thorium based Nuclear Reactor. Stage 2 of Nuclear Program. Don’t need NSG Membership (In two languages)
16 April
India develops Thorium based Nuclear Reactor. Stage 2 of Nuclear Program. Don’t need NSG Membership - YouTube

Thorium use in India's three stage nuclear plan
21 April
Thorium use in India's three stage nuclear plan (cosmosmagazine.com)



Hydrogen-Boron 11 Fusion Power Reactors

No updates this period.

Contact Information:

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

Phone: +353(0)861305122

E-mail: info@gpescientific.co.uk

Website: http://www.gpescientific.ie

Company Information:

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

EuChemS
European Chemical Society

EuChemS
European Chemical Society

Angela Agostiano started her term as EuChemS President

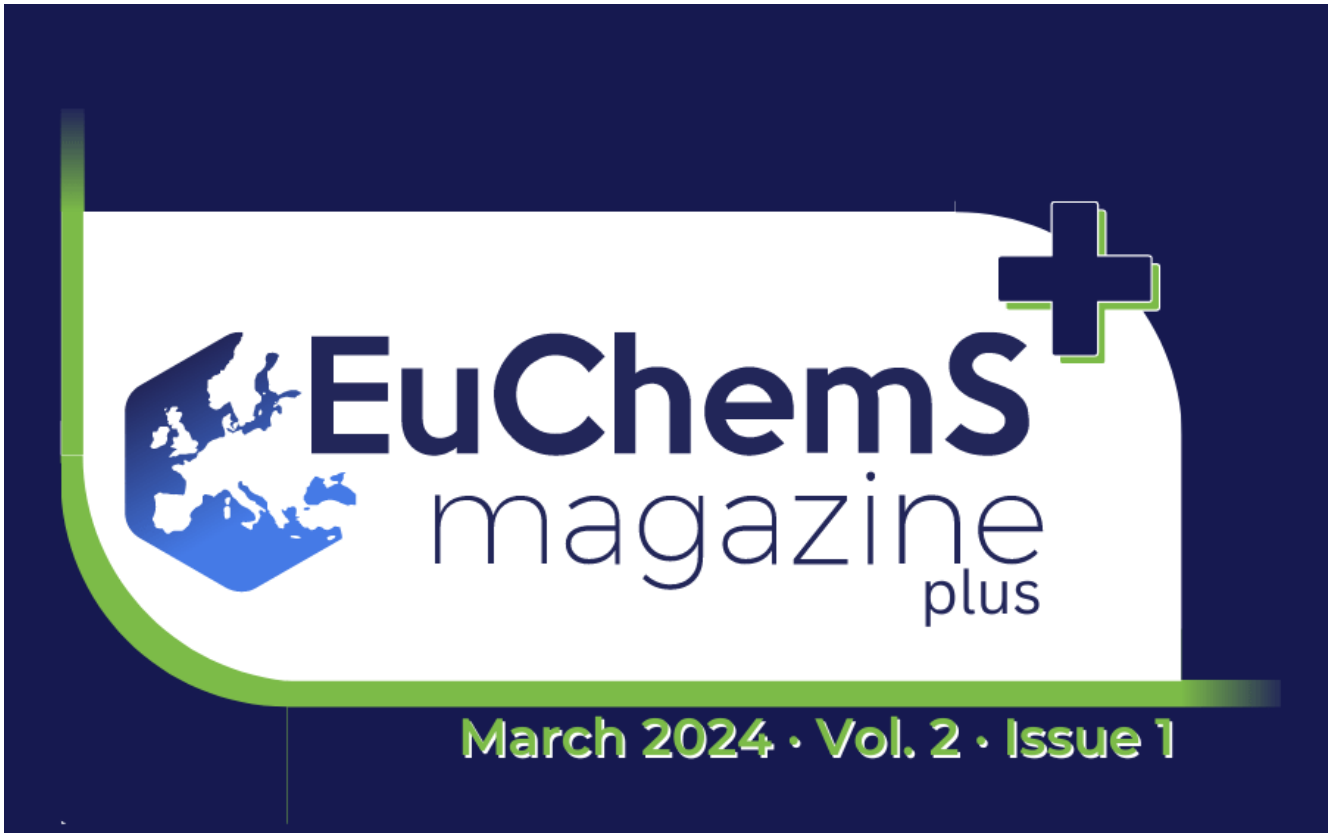
12 January 2024

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.

First 2024 issue of EuChemS Magazine Plus is released

March 15, 2024



On 14 March, the first issue of the second volume 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 this issue, Angela Agostiano covers her priorities as the new EuChemS President in the Editorial, and she discusses her commitment to gender equality in the President's Column.

In our policy essay, you can read a short guide to the upcoming European Elections. In our research segment, you can learn more about the upcoming 9th EuChemS Chemistry Congress and get to know a novel research infrastructure, NFDI4Chem.

Furthermore, you can hear perspectives from the EYCN, on their 19th Delegate Assembly, from the Slovak Chemical Society, and from GDCh. Last, but not least, you can find our interview with Martyna Kniazevaitė, the recipient of the 2023 EU Contest for Young Scientist EuChemS Award, as well as an interview conducted by ChemistryViews with Péter Szalay, the new president of the Hungarian Chemical Society in this issue.

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://www.magazine.euchems.eu

At the beginning of her service as President of EuChemS, Angela Agostiano outlines the value of an umbrella organization in speaking with a single, unbiased European voice in promoting the role and image of chemistry.

Angela Agostiano,
President, European Chemical Society (EuChemS)

March 13, 2024

On January 1, 2024, I assumed the presidency of EuChemS. Coincidentally, on the very same day in 2023, EuChemS Magazines were launched. One year later, we can confidently assert that EuChemS Magazines have proven to be a story of success. While my story as President is yet to be written, I cannot overstate the pride that comes with holding this prestigious position and the commitment to advancing EuChemS' pivotal role in promoting the role and image of chemistry. The voice of EuChemS is an important tool for keeping alive the dialogue between scientists around the world. The times we are living are marked by major changes in the geopolitical structure of the world and by the return of ghosts that we thought were relegated to the past, such as war and the pandemic, giving new emphasis to already existing problems related to climate change, food scarcity, accessibility of energy, health. These are monumental challenges that cannot be addressed solely at the individual or national level. Global collaboration among scientists is becoming more urgent than ever and must be kept in the foreground. Solutions to the plethora of challenges we face ask for prioritizing supranational interests, fostering inclusion, and eliminating prejudices and discrimination. From this perspective, transnational scientific societies, like EuChemS, play a crucial role in upholding the freedom and authoritativeness of science.

It was through encountering delirious interventions and the proliferation of fake news that the inspiration for this editorial come to me: we must reclaim chemistry from dubious figures passing themselves off

as experts who saturate the communication channels daily. The voices of scientists and professionals who can articulate the profound contributions of chemistry in forging an alternative and sustainable growth model, need to be amplified. Let us persist in discussing the 'beauty of chemistry,' its remarkable achievements, and the ongoing challenges, especially with young people. By nurturing their imagination and innate inclination toward solving significant problems, we empower them to envision a brighter future.

EuChemS Magazine and EuChemS Magazine+ (https://www.magazine.euchems.eu/) serve as invaluable platforms for both writing and reading updated news and articles on chemistry science and policy. The 9th EuChemS Chemistry Congress (ECC9), scheduled in Dublin this July, presents a great opportunity for your active involvement and contribution. It offers a floor to reflect on themes and issues through open debate among chemists and civil society. I sincerely look forward to meeting as many of you as possible, as it is crucial to ensure that our voices are heard. We have many important things to express and insights to share.

Interview with Martyna Kniazevaitė

Martyna Kniazevaitė is the recipient of the 2023 EU Contest for Young Scientists EuChemS Award.

Read here: https://www.magazine.euchems.eu/interview-with-martyna-kniazevaite

Conducted by Marton Kottmayer,
EuChemS
March 13, 2024

Welcome + New Chairs of EuChemS Divisions

See here: EuChemS Magazine Plus - EuChemS magazine (scroll down to topic)

Two new Professional Networks in EuChemS

The EuChemS Division of Glycoscience and the EuChemS Working Party on Mechanochemistry will begin to operate on 1 January 2024.
See Here: Two new Professional Networks in EuChemS - EuChemS magazine

Marton Kottmayer,
EuChemS

December 14, 2023

New EuChemS Executive Board Members

At the EuChemS Annual Meetings, the new elected and appointed members of the EuChemS Executive Board were confirmed.
See More Here: New EuChemS Executive Board Members - EuChemS magazine

Marton Kottmayer,
EuChemS
December 15, 2023

Connecting Chemists

Péter Szalay, President of the Hungarian Chemical Society (MKE), discusses the society and his vision for connecting chemists in Hungary.
Read here: Connecting Chemists - EuChemS magazine

Vera Koester,
ChemistryViews

March 13, 2024

EU works with global partners on Critical Raw Materials

On 5 April, the international Minerals Security Partnership Forum (MSP Forum) was launched. This is set to bolster international cooperation related to Critical Raw Materials (CRMs), essential for green technologies, as well as innovation and industry in general.
Read here: EU works with global partners on Critical Raw Materials - EuChemS magazine

Marton Kottmayer,
EuChemS

April 12, 2024

2023 EuChemS Yearbook released

We are delighted to announce the release 2023 EuChemS Yearbook. The Yearbook was coordinated by the EuChemS Secretariat, and we extend our gratitude to all EuChemS members whose contributions ensured the accuracy and high standards of the publication.
Link here: 2023 EuChemS Yearbook (calameo.com)

Marton Kottmayer,
EuChemS

March 13, 2024

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.
Read about it here: Delegates of the EuChemS Young Chemists' Network met in London - EuChemS

Marton Kottmayer,
EuChemS

February 13, 2024

https://erc.europa.eu/homepage

ERC

Report: ERC has invested over €2 billion in AI research since 2007
26 March
Report: ERC has invested over €2 billion in AI research since 2007 | ERC (europa.eu)

Upcoming report assesses the impact of the ERC's first years of research
18 March
Upcoming report assesses the impact of the ERC's first years of research | ERC (europa.eu)

ERC grants – launch of negotiations between the EU and Switzerland
18 March
ERC grants – launch of negotiations between the EU and Switzerland | ERC (europa.eu)

Thirty-three science journalists apply for ERC-funded residency programme
20 March
Thirty-three science journalists apply for ERC-funded residency programme | ERC (europa.eu)

Opportunities for Canadian researchers to join ERC teams
22 March
Opportunities for Canadian researchers to join ERC teams | ERC (europa.eu)

ERC Advanced Grants: €652 million for leading researchers in Europe
11 April
ERC Advanced Grants: €652 million for leading researchers in Europe | ERC (europa.eu)

IRC

Researchers, community organisations and Government bodies to collaborate on 56 New Foundations projects to change society for the better

14 December

The **Irish Research Council** (IRC) is delighted to announce funding for 56 projects under the New Foundations scheme that are designed to reach communities across the country and beyond, focusing on diverse societal challenges. New Foundations awards help bring researchers, civic society organisations and policy makers together to enhance the evidence base for policies and practices that will have a tangible impact, locally, nationally, and internationally. The scheme enables awardees to pursue research, networking or dissemination activities within and across the diversity of disciplines. Today's announcement represents a total investment of €633,000. Forty-three projects are funded by the IRC to enhance research partnerships with civic society organisations. Through these partnerships with researchers, diverse community organisations will attain new evidence and insights to enhance their services and their impact.

In addition, a further thirteen projects are funded by Government departments and agencies. These address a range of themes including global north-south research development, global citizenship education and education for sustainable development, understanding the scale of social enterprise in Ireland, and exploring policing and community safety. A number of projects awarded New Foundations grants this year will see researchers leveraging new knowledge and evidence and participating in devising strategies and policies that will have measurable societal impact.

Commenting on today's announcement, **Peter Brown, Director of the Irish Research Council** stated: "The Irish Research Council is very proud of the connections that have been enabled between researchers and wider stakeholders through the many awards made under the New Foundations programme over a number of years. This year will build further on the many successful partnerships, many of which endure and continue beyond the lifetime of the specific award. The research system and the experts that work within it, in myriad disciplines, are a strategic national resource and the New Foundations scheme helps to create a vibrant cross-stakeholder community to enhance evidence and knowledge for better policy and practice. I look forward to seeing fruitful and mutually beneficial collaborations develop between the awardees and their partners in civil society organisations and government departments & agencies.
Among the new research projects that will be funded with civic society partners are:

- **Dr Conor O' Mahony** (University College Cork), *Child Participation in Family Court Proceedings in Ireland.* Since 2012, the Irish Constitution has mandated that children's views should be taken into account as part of family court judgements. Working with the Children's Rights Alliance, this project will gather evidence to provide a basis for policy and law reforms to ensure child participation requirements can be best met.
- **Dr Paraic Kerrigan** (University College Dublin), *Resisting Hate: New Foundations for Developing Safeguards and Toolkits for Public Librarians Against Reactionary Responses to LGBTQ Materials*. Working with public libraries and LGBT Ireland, this project will

examine the impact of censorship challenges to libraries and develop a safeguarding toolkit for public librarians in confronting and managing censorship attempts.

- **Dr Nicole Gross** (National College of Ireland), *The promises and perils of ChatGPT AI for healthcare: A Data Justice Perspective for Ireland.* This project, in collaboration with the Dublin Inner City Community Co-operative Society, explores the promises and perils of AI for Irish healthcare, in particular the power and politics issues that come with data generation, use and ownership in relation to social values and community healthcare.

The New Foundations programme call also features four strands run in partnership with Government departments and agencies. In addition to fostering the development of new evidence and insights on national and global policy themes, the strands also contribute to strengthening the connections between Government and the public research system.

The Department of Rural and Community Development is funding a project related to the **National Social Enterprise Policy for Ireland 2019 – 2022**:

- **Dr Mary O'Shaughnessy** (University College Cork), *Assessing the Multidimensional Impact of Social Enterprises in Ireland*. This project aims to develop a comprehensive framework for assessing the economic, social and environmental impact of social enterprise in Ireland, following the first ever National Social Enterprise Policy in 2019.

The Policing Authority is funding a project supporting evidence-based policy and strategies in relation to policing and community safety:

- **Prof Colum Dunne** (University of Limerick), *'Hidden Voices': a research-led collaborative network to elicit marginalised community perspectives regarding community safety challenges in Ireland*. The project will work with marginalised communities, from people with intellectual disabilities to asylum seekers, to answer questions of how to build "community safety", including in relation to An Garda Síochána.

The Department of Foreign Affairs (Irish Aid) is funding four awards under the 'A Better World' strand, aiming to support consortia for global north-south research partnerships, including:

- **Dr Áine Travers** (Dublin City University), *Developing a research network to prevent and respond to partner violence in Ugandan refugee settlements*. Uganda currently hosts over 1.5 million refugees, more than 80% of whom are women and children. Displaced women experience a greater risk of gender-based violence, including violence perpetrated by intimate partners. This project, collaborating with Makerere University, will develop new strategies to prevent and respond to such violence in Ugandan refugee settlements.
- **Dr Edward Lahiff** (University College Cork), *Building capacity in civil society and local communities for sustainable rural development in Vietnam, in the context of the EU-Vietnam Trade Agreement and Investment Protection Agreement*. Following the EU-Vietnam Free Trade Agreement of 2020, which creates opportunities in areas such as coffee, timber and food products, this project engages with NGOs to understand their role and lay the foundation for further linkages between Vietnamese and Irish researchers and grassroots organisations.

The Department of Foreign Affairs (Irish Aid), the Department of Education and the Department of Children, Equality, Disability, Integration and Youth are co-funding seven awards, to support implementation of the Irish Aid Global Citizenship Education Strategy and the National Strategy on Education for Sustainable Development, including:

- **Dr Marija Mojicevic** (Technological University of the Shannon), *Tackling plastic pollution and climate change through education*. This project will work with several schools to investigate and improve children's knowledge on plastic pollution and solutions.
- **Dr Jolanta Burke** (Royal College of Surgeons Ireland, University of Medical and Health Sciences), *Greening Your Mind Challenge: Integrating environmental and wellbeing interventions for school.* Through focusing on children's water usage in schools, this project will promote sustainability, foster a sense of global citizenship among schoolchildren, and promote positive mental health.

- **Dr Ashling Bourke** (Dublin City University), *CC-EASE: Climate Change Education for Action, Sustainability, and Empowerment*, focusing on the aspects of climate change education that alleviate the impacts of climate change on youth mental health.

Further information about the New Foundations scheme is available **here**.

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

Programme Calls in 2024 – Provisional Schedule

Early-career stage			
Programme	**Description**	**Launch**	**Outcome**
Government of Ireland Postgraduate Scholarship Programme 2025	Supporting suitably qualified research master's and doctoral candidates pursuing, or intending to pursue, full-time research in any discipline	Q3 2024	Q2 2025
Enterprise Partnership Scheme (Postgraduate Scholarships) 2025	Supporting suitably qualified research master's and doctoral candidates in any discipline working in partnership with academia and enterprise	Q4 2024	Q2 2025
Employment-Based Postgraduate Programme 2025	Supporting suitably qualified research master's and doctoral candidates in any discipline working in partnership with academia while employed by an enterprise partner	Q4 2024	Q2 2025
Government of Ireland Postdoctoral Fellowship Programme 2025	Supporting exceptional individuals at an early stage of their postdoctoral career to develop as an independent researcher	Q3 2024	Q2 2025
Enterprise Partnership Scheme (Postdoctoral Fellowships) 2025	Supporting researchers at an early stage of their postdoctoral career working in partnership with academia and enterprise	Q4 2024	Q2 2025
SFI-IRC Pathway Programme (Joint Call)	Enabling talented postdoctoral researchers across all disciplines to develop their track record and establish themselves as independent investigators	Launched in 2023	Q4 2024
Lindau Nobel Laureate Meeting Awards	Supporting the next generation of leading scientists to attend the 74th Lindau Nobel Laureate Meeting (Chemistry)	Q3 2024	Q1 2025
Irish Research Council-European Southern Observatory Studentship Programme	Supporting an astronomer of the future to gain experience at the most productive ground-based astronomical observatory in the world	Q2 2024	Q4 2024

***Please note this is a provisional call schedule and is subject to change.**

Principal investigator-led and other			
Programme	**Description**	**Launch**	**Outcome**
New Foundations 2024	Supporting eligible researchers intending to pursue research, networking or dissemination activities within and across the diversity of disciplines	Q2 2024	Q4 2024
Researcher of the Year Awards	Commending the very best of our current awardees or alumni working in academia, industry, civic society or the public sector	Q2 2024	Q4 2024
Ulysses	Supporting collaborations between Irish- and French-based researchers in areas important for both economies	Q2 2024	Q3 2024
COALESCE (Collaborative Alliances for Societal Challenges) 2025	Supporting excellent research addressing national and global challenges, including partnerships with government departments and agencies	Q4 2024	Q2 2025
CHIST-ERA 2023	Reinforcing the transnational collaboration between participating states in challenging multidisciplinary research in the area of information and communication sciences and technologies	Launched in 2023	Q2 2025
DARIAH National Coordinator	Appointment of a national coordinator for Ireland's participation in Digital Research Infrastructure for the Arts and Humanities (DARIAH ERIC). DARIAH aims to enhance and support digitally-enabled research and teaching across the arts and humanities	Q1 2024	Q2 2024
HERA Joint Research Programme: Crisis - Perspectives from the Humanities	Supporting Irish researchers to participate in humanities-led, collaborative, transnational research projects aimed at gaining a deeper understanding of societal challenges. By launching the HERA JRP CRISIS, the national funding organisations involved want to create opportunities for research that will result in new academic insights relevant to major social, cultural, and political challenges facing Europe and the world.	Launched in 2023	Q4 2024

***Please note this is a provisional call schedule and is subject to change.**

December 2023

CAS Insights

Top 10 areas of green energy research
29 February
Top 10 areas of green energy research | CAS

Is aspartame safe? The landscape of artificial sweeteners and sugar substitutes
8 March
Is aspartame safe? The landscape of artificial sweeteners and sugar substitutes | CAS

Nuclear power in your pocket? 50-year battery innovation
11 March
Nuclear power in your pocket? 50-year battery innovation | CAS

Science Fact Fiction: Can we really recycle semiconductors?
8 March
Science Fact Fiction: Can we really recycle semiconductors? | CAS

Scientific breakthroughs: 2024 emerging trends to watch
28 December 2023
Top scientific discoveries and breakthroughs for 2024 | CAS

From batteries to drug delivery: Emerging applications of carbon nanotubes
29 March
From batteries to drug delivery: Emerging applications of carbon nanotubes | CAS

R&D TRENDS: SWEETENERS AND THEIR IMPACT ON HUMAN HEALTH
April 2024
INSGENENGWHP101900-Editorial-Artificial-Sweeteners-Insights Summary (cas.org)

16 billion reasons for hope: How biomarkers are reshaping cancer outcomes
20 March
16 billion reasons for hope: How biomarkers are reshaping cancer outcomes | CAS

The material difference: How biomaterials are reshaping medicine and patient outcomes
24 April
The material difference: How biomaterials are reshaping medicine and patient outcomes | CAS

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

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

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

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

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andreina.moran@sial.com

SFI News, Updates & Reports

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

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)

21 February 2024

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.

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."*

To rear more on this topic, click here:

Minister Harris and NSF Director Panchanathan announce PhD Student Mobility Programme between the United States and Ireland (sfi.ie)

SFI Frontiers for the Future Programme Supporting excellent independent researchers

Supporting excellent independent researchers

Open
Projects 2024 Deadline: 17 May 2024, 13:00 Dublin Local Time; Awards: OPEN rolling call.
DURATION: Awards 4 - 5 years; Projects 2 - 4 years.
CONTACT: **ffp@sfi.ie**

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 opportunities for high-risk, high-reward research projects.

Our Partners
The Programme will be run in collaboration with the Geological Survey of Ireland (GSI)(opens in a new tab), the Sustainable Energy Authority of Ireland (SEAI)(opens in a new tab), and the Children's Health Foundation (CHF)(opens in a new tab). SFI is open to forging new co-funding partnerships with agencies and organisations.

Summary
The programme comprises two streams: Projects and Awards

- Projects provides funding for high-risk, high-reward research that facilitates highly innovative and novel approaches to research.
- Awards provides larger scale funding for innovative, collaborative and excellent research programmes that have the potential to deliver economic and societal impact.

The programme design is driven by feedback from the research community (SFI strategy workshops and SFI Researcher Survey) seeking funding for individual-led research and access to shorter-term project funding.

Check here for full details: SFI Frontiers for the Future Programme

####################

€7 million joint investment for US-Ireland Research Programme

15 March

A combined investment exceeding €7 million has been announced today through the US-Ireland programme – a tripartite research and development (R&D) partnership between the United States of America (USA), Republic of Ireland (RoI) and Northern Ireland (NI).

Under the Programme, six awards have been announced spanning 11 institutions which will support more than 11 research positions in RoI, 10 research positions in NI, and over 20 positions in the US. The funded projects, covering three to four years, include research in the areas of sustainable collection and management of water, photonic integrated circuits, wearable sensors to monitor health, telecommunications, and microbial activity.
See: €7 million joint investment for US-Ireland Research Programme (sfi.ie)

SFI Industry RD&I Fellowship Programme

The **SFI Industry RD&I Fellowship Programme 2024 Call** is now open.

This programme, run in collaboration with Enterprise Ireland and IDA Ireland, supports academic partnerships with industry. Grants can be awarded to academic researchers wishing to spend time in industry to support industry-informed research and the exchange of knowledge and expertise between academia and industry.

The deadline for submission of proposals is **26th June 2024**, 13:00 (Dublin local time).

The **SFI Industry RD&I Fellowship LinkedIn group** allows academic researchers and prospective industry partners to network and identify opportunities to apply.

A webinar about the Call will be held on 11th April 2024. Please register to attend **here**.

Further information on the Programme and application is available on our website:

SFI Industry RD&I Fellowship Programme

SFI Frontiers for the Future Programme 2024

A recording of the **webinar** covering the **SFI Frontiers for the Future Programme** 2024 Call is available on our website:

SFI Frontiers for the Future

Reminder: Lead Applicants submitting proposals on the **Projects** stream must submit a proposal to SFI, through their host institution Research Office, before the deadline of **17th May 2024** at 13:00 Dublin Local Time.
Lead Applicants submitting proposals on the **Awards** stream may submit a proposal to SFI, through their host institution Research Office, at any time. The Awards stream call will remain open until further notice.

Taoiseach Leo Varadkar awards prestigious SFI St. Patrick's Day Science Medal to US-Ireland diaspora experts in data mining and agri-food

14 March 2024

Pictured (l-r): Mr John Hartnett, Founder and CEO of SVG Ventures|THRIVE, Taoiseach Leo Varadkar TD, Dr Eamonn Keogh, Distinguished Professor of Computer Science, University of California, Riverside, Prof Philip Nolan, Director General of Science Foundation Ireland. Image by: John Harrington Photography.

Taoiseach Leo Varadkar today awarded the prestigious Science Foundation Ireland (SFI) St. Patrick's Day Science Medal to Dr Eamonn Keogh, Distinguished Professor of Computer Science, University of California, Riverside, and to Mr John Hartnett, Founder and CEO of SVG Ventures|THRIVE, in honour of their exceptional contribution to research and innovation.

The SFI St. Patrick's Day Science Medal is awarded annually to two distinguished US-based science, engineering or technology leaders with strong Irish connections. This award recognises their support in developing the research ecosystem in Ireland and beyond.

At a celebratory event in Washington DC, Taoiseach Leo Varadkar congratulated the recipients, saying: "On behalf of the Government of Ireland and Science Foundation Ireland, I am delighted to present the SFI St. Patrick's Day Science Medal to Dr Eamonn Keogh and Mr John Hartnett. This award recognises their outstanding success in data mining and agri-food.

Full story click here: Taoiseach Leo Varadkar awards prestigious SFI St. Patrick's Day Science Medal to US-Ireland diaspora experts in data mining and agri-food

SFI Fellowship Programme

Open: 15 May 2024, **DURATION** up to 2 years, **CONTACT:** **Fellowship@sfi.ie**

Science Foundation Ireland is pleased to launch the Science Foundation Ireland Fellowship Programme. This programme aims to provide postdoctoral researchers with the opportunity to develop their career through experiencing first-hand, the diversity of activities carried out by a funding agency, through a placement within SFI.
Science Foundation Ireland is keen to be part of a framework that can enable researchers to seek and secure diverse career opportunities in areas such as industry, research funding and administration, public administration and Government affairs. For those individuals interested in these types of careers, the Fellowship Programme will provide an opportunity to develop key skills which may assist them in securing these types of roles.
Details here: SFI Fellowship Programme

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

Physical Chemistry Chemical Physics
Phys. Chem. Chem. Phys.,
28 April 2024, **26** Issue 16,
Page 12249 to 12896
https://doi.org/10.1039/D4CP90074J

Support our Institute by publishing your new research results in this prestigious peer reviewed journal.

Scope

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

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

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

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

https://www.idaireland.com

IDA Updates & Reports

Bristol Myers Squibb to Invest over $400m in Facility Expansion

23 February 2024

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 haematology, 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.

Full story here: Latest IDA Press Releases & News Updates | IDA Ireland | IDA Ireland

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.

More here: Latest IDA Press Releases & News Updates | IDA Ireland | IDA Ireland

How Ireland solves the people challenges for business Ireland's Extraordinary Talent

1 May 2024

From AI to semiconductors and from biopharmaceuticals and engineering to language skills, Ireland provides the talent and skills that FDI companies need to start fast and maintain momentum as they grow.

Ireland has extraordinary talent. In this article, we show what makes Ireland such a rich source of skills, and hear directly from some of these companies about their experiences of hiring and scaling in Ireland.

But first: how is a small country in population terms, situated on Europe's Western edge, able to make this claim? By its population, which is one of the youngest and best educated in Europe. And by being part of the European Union, giving full access to the EU labour market of close to 200 million people.

In Ireland, we like to think our size is our strength. We're big enough to have welcomed more than 1,800 multinationals to these shores over 75 years, and today they collectively employ more than 300,000 people. At the same time, we're small and agile enough to react quickly to changing skills needs and identify trends early.

Identifying talent trends

Artificial Intelligence might have exploded into common conversations in the past two years; we've been getting ready for this moment for the past two decades, by building up expertise in data analytics, one of the foundational technologies behind generative AI.

Cybersecurity is a field that's constantly evolving, and in need of skills; to meet this long-standing need, Ireland developed a pioneering programme. In 2020, the Irish Universities Association (IUA) was awarded €12.3 million through Ireland's Department of Further and Higher Education to become the first country in Europe to establish a national framework for nationally accredited micro-credentials. It put this funding to use in developing cyberskills micro-credential programmes together with industry. These highly focused short courses suit companies that want to upskill internal staff or access new talent in critical areas such as network systems, security standards and risk, security architecture, malware, reverse engineering and more.

Two years later, in 2022, Ireland was one of only a few countries to make progress in addressing the global problem of cybersecurity talent shortages. A report by ISC2, the independent cybersecurity professional group, found that Ireland reduced its cybersecurity skills gap by 19.5%, whereas the global gap grew by 26.2%.

Skills in multiple disciplines
Countless companies pay tribute to the talent on offer in Ireland across multiple disciplines, from skills spanning engineering and software development to facility with languages, customer service, backoffice functions, and more.

Bloomberg's Global FDI Study from 2023 showed that investors rank Ireland well above average for access to talent.

It was a factor in investment decisions in 47% of investors choosing Ireland, compared to 29% for other locations.

IDA Ireland CEO Michael Lohan explains that Ireland's talent pipeline relies on two strong flows. "First of all, we're developing that talent ourselves through our own education system. And secondly, we're an open economy so we attract a lot of talent in. We have free flow of talent from around the globe into Ireland," he told CNBC's Last Call.

Zendesk CEO Mikkel Svane agrees. "Ireland has really become a place where a lot of Europeans want to work and we've been very lucky in attracting great talent from all over Europe that are now working in Dublin," he says.

Attracting international talent to Ireland
In fact, international and multicultural talent is a growing feature of Ireland's workforce. The latest data from the Central Statistics Office shows there are close to 470,000 people working in Ireland who are non-Irish citizens, a 21% increase since 2016. We also attract people to relocate from other countries outside the EU, with processes that smooth the path for skilled workers.

Sequoia Capital's recent Atlas report on Europe's technical talent ranked Dublin top of the list in five categories – more than any other European city. Per capita, Ireland's capital has more skilled people working in AI and machine learning, data science, DevOps, finance, cybersecurity, server and cloud computing. "It is no surprise that tech giants in Dublin, such as Amazon and Microsoft, are building out their AI teams using the city's pool of AI talent," Sequoia concluded.
Microsoft recently echoed this finding, saying that Ireland is on the "world stage" for artificial intelligence.

"The industry here, the attraction of foreign investment and the ability of Ireland, enables it to really be a leader across the EU, US and around the world," said Mary Snapp, the company's vice president of strategic initiatives, at a conference in Dublin.

Scaling sales teams for Europe
And the talent goes beyond technology skills: Frontline Ventures' European Expansion Report highlighted the sales expertise that's critical to helping companies scale and grow. "For companies targeting mid-market and SMB customers, Dublin has a deep talent pool with experience scaling inbound sales teams to cover most of Europe from a single location," Frontline found.

That's been the experience of Vanta, a cybersecurity company that set up a base in Ireland in 2022. Paolo Rodriguez, the company's head of international, points to another asset in Ireland's favour: the availability of talent that specifically helps scaling companies to set up a sales and support hub to serve multiple regions from one place. "We have a talent pool that allows us to serve a large population in a very effective way, both with language and specialisation skills like sales or customer success."

Skills aligned to industry needs
A combination of third-level education that's closely aligned with industry needs, and our longstanding connection with multinationals, means that there's a cadre of managers and leaders, often with direct experience of starting or scaling an overseas company within Ireland.

Rodriguez himself is proof of this, having served at the Irish offices of Google and Dropbox earlier in his career. He made a strong case to Vanta HQ that Dublin should be the location for its international headquarters, above other destinations. “English is the native language so if it’s a US or international company, it makes everything incredibly easy,” he says.

That’s true no matter where in Ireland a company chooses to locate.
Medtech company Dexcom was so sure of tapping into talent near Galway in the West of Ireland that it’s investing $327 million in a facility with up to 1,000 high-tech jobs.

The location is no accident; Dexcom is surrounded by operations of almost 20 other medtech providers in the area. “Ireland has an exceptional talent pool and an established medtech sector, making Athenry the perfect location for us,” says Barry Regan, Dexcom’s Executive Vice President of Global Operations.

Galway was also the preferred location for the governance software company Diligent, which chose the city over 20 possible locations around Europe. Ruairi Conroy, Diligent’s VP of sales development, says the presence of University of Galway and Atlantic Technological University swung the deal in favour of the West of Ireland. He noted their industry focused third-level courses and their history of partnering with employers in the region.

An adaptable workforce
Diligent’s story also shows the benefit of an adaptable workforce. The company was setting up in Ireland in late 2020, after COVID-19 had hit, and it was able to help people in the area, who had been working in the hospitality sector, pivot to customer service roles. As a result, Diligent quickly cleared its original target of hiring 200 people. Today, the Galway site has 285 employees and has established itself as one of the company’s three core global hubs. It’s also one of the most multifunctional offices in the Diligent network, with roles ranging from 24/7 customer support and customer success, to sales, human resources, marketing, and finance.

Sometimes, talent is needed for roles outside the companies themselves. Seamus Carroll, Vice President with IDA Ireland, points out that the country’s track record of attracting semiconductor fabs has developed native skills in related areas like engineering and construction. “Constructing a semiconductor fab is a highly specialised and expensive process, down to the level of welders employed. Ireland is fortunate to have a world-leading capability in fab engineering and construction,” Carroll says.
“Ireland is fortunate to have a world-leading capability in fab engineering and construction” - Seamus Carroll, Vice President at IDA Ireland.

Financial services companies have also found the talent they need in Ireland. even in highly specific roles. State Street has multiple offices in Ireland and it added a new cybersecurity unit to its operations in Kilkenny, aiming to employ up to 400 people. Terri Dempsey, country head for the company, says: “Kilkenny’s thriving talent pool and dynamic innovation landscape make it an ideal base for our established cybersecurity fusion centre and enables us to actively promote female participation in the tech industry.”

Driving innovation in financial services
In May 2023, BNY Mellon announced an €8 million investment in a Digital R&D Hub in Dublin that will focus on innovation in AI, machine learning, and data analytics for global clients. Paul Kilcullen, CEO of the bank’s Irish Funds Services group, says this “helps cement Ireland’s position at the forefront in driving innovation in the financial services sector globally”.

Ireland’s talent story is about more than people at the earliest stages of their careers: the country has also been successfully attracting leading researchers in a variety of fields to collaborate with universities and further education institutes. One example of this is Professor Sakis Mantalaris, a

leading figure in cell therapy research. In early 2024, he received a €4.88 million award under Science Foundation Ireland's Research Professorship Programme which aims to attract world-class researchers.

A joint appointment with Trinity College Dublin and the National Institute for Bioprocessing Research and Training (NIBRT), the award will facilitate Prof Mantalaris and a team of researchers in spearheading a pioneering research programme to improve the biomanufacturing of cellular therapeutics that could potentially lead to improved clinical outcomes.

Across Ireland, knowledge-intensive businesses are finding the talent they need, from school leavers and university graduates right up to experienced professionals, international leaders and distinguished researchers.

Visit get in touch below to discover how Ireland produces, attracts, and develops the skills for this generation of companies and the ones to follow.

Astellas Breaks Ground on New €330 Million State-of-the-Art Facility in Tralee, Co. Kerry, Ireland

27 March 2024

- Facility will manufacture pharmaceutical products, including innovative antibody drugs
- 600 construction jobs and 100 highly specialised roles in engineering, science, and technology created in the area during construction phase and when fully operational

Astellas Ireland Co., Ltd, a wholly owned subsidiary of Astellas Pharma Inc., held a ceremony to mark the breaking of the ground and start of construction for its new €330 million, state-of-the-art facility at Kerry Technology Park, Tralee, Co. Kerry. The ceremony, held at the site and Munster Technological University, was attended by Minister for Enterprise, Trade and Employment, Simon Coveney, Minister for Education, Norma Foley TD, IDA CEO Michael Lohan, representatives of Kerry County Council, project partners and senior Astellas executives.

The new facility, which has been designed with sustainability at its core, will accelerate the expansion of Astellas' in-house production capabilities and ensure a stable supply of high-quality medicines to patients around the world. The project is set to create significant employment opportunities in the area, including 600 construction jobs and 100 highly specialised roles in engineering, science, and technology. The facility is planned to be operational by 2028.

Continue reading: Latest IDA Press Releases & News Updates | IDA Ireland | IDA Ireland

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https://enterprise-ireland.com/en

Enterprise Ireland Updates & Reports

Limerick based company Serosa's mission to improve medical testing

Date

In the highly competitive world of medical diagnostics, Serosep received an Agile Innovation Fund grant to help in the development of a new medical test the company believes could be game-changing.

In the medical diagnostics industry, accuracy and reliability are essential to ensure optimal and appropriate patient management and care. The technology we are developing is aimed at replacing current standards of care methods to aid in the clinical diagnosis of an illness that affects millions of people each year. The current standard of care diagnostics lacks sensitivity and specificity, and this diagnostic gap presents significant challenges for both the individual patient and the healthcare system as a whole and is a significant contributor to the overuse of antibiotics and antimicrobial resistance.

Limerick-based Serosep believes this new test may be a game changer in the market and received a grant from the Agile Innovation Fund to help drive the test's development. The company's new test has the potential to be faster and more accurate than what is used today.

Emma Morgan, Serosep's Chief Financial Officer, says: "Currently, the gold standard is very old technology with inherent flaws, yet it is the best method still available today. Due to the shortcomings of the current standard of care diagnostics, patient care and management is sub-optimal with consequential impact on the healthcare industry in terms of repeat visits, progression to more serious illness, longer-term support and over prescribing".

Providing the indicators

Serosep is deep into the process of developing the new test and preparing to apply for a patent. The Agile Fund was essential to get the project off the ground, as there were many unknowns before the company was able to start investigating. It would have been a risk beyond prudence for Serosep to fund the investigation process completely from its own resources. The Agile Funding gave Serosep the start it needed and provided the indicators that the company was on the right track and that the idea was both feasible and realistic.

Emma explains: "It actually helped plant the seed for what we're preparing now to patent the idea for further development. It gave us the courage to go on to look at possibility of developing a new disruptive test.

"Having the assistance of grant aid has helped ease the financial burden as we move into the next stages with this project. Development is costly, and the Agile Innovation Fund was of great value. It allowed us to get the answers we needed fast, in a cost-efficient manner, which is very valuable in a highly competitive market."

Expanding R&D department

Serosep's R&D department has expanded to over 25 people now, who are working on the Agile-funded project and others within the company. The project has also allowed the company to deepen its

relationship the University of Limerick, and particularly with the college's Bernal institute, says Emma: "We've developed a great relationship with the Bernal Institute, and we used their expertise to deliver part of the project. As a result of this relationship, we are doing more projects with them, we see them as a strategic partner in our innovation journey. Building key strategic relationships is an added bonus that emerged as a result of the Agile fund."

Emma notes the ease of the application and claims process. The application process is online, and it takes a few days. Within two or three days, Serosep had its application in with Enterprise Ireland.

Grant lets companies explore ideas

Emma would encourage other companies to apply to the Agile Innovation Fund: "It's a great grant to use if you have an idea that you would like to explore further. Under the Agile grant the intellectual property that is potentially developed remains with you and can lead a company to prepare a patent application. This in turn has led Serosep to further collaboration opportunities, safe in the knowledge that the background IP is protected. – The Agile fund is a really good grant, it takes the sting out of the risk for small companies."

Serosep a laboratory diagnostics company that has been in operation for a quarter of a century. Located in Limerick, it is a family-owned business, which started as a distributor. Founder and CEO, Dermot Scanlon spotted a need in the market and started to develop niche complementary products. The company has grown from there and now more than 75% of its turnover is generated from its own products, which are manufactured in Limerick. The company has been awarded Best Regional SME of the Year by the Limerick Chamber, was also awarded med-tech company of the year 2021, and recently named one of the best workplaces in the country by its own employees.

ATU Innovation Hub secures €45.75m of Disruptive Technologies Innovation Funding (DTIF)

11 April 2024

Picture captions [Photos by Aengus McMahon. No repro fee]
L to R: Giuseppe Ruvio, CSO, EndoWave, Turlough Rafferty, Operations Manager, ATU iHub Galway, Meabh Conaghan, Regional Director, West and North West Regions, Enterprise Ireland, Tim Jones, CEO SymPhysis Medical, Dr Elizabeth McGloughlin, CEO, Tympany Medical, George McCourt, Head of Innovation & Enterprise, ATU, Ena Brophy, Innovation Grants Project Manager, InVera Medical, Tony O'Halloran, CTO, Aurigen Medical, Tomás Thompson, CEO, Rockfield Medical Devices, Sharon White, Technology Gateway Manager, Medical and Engineering Technology Gateway ATU.

12 ATU iHub projects aimed at revolutionising healthcare delivery and improving patient outcome

Demonstrating a commitment to innovation and technological advancement, Atlantic Technological University's (ATU) Innovation Hubs (iHubs) have achieved outstanding success within the Disruptive

Technologies Innovation Fund (DTIF), with its Galway iHub client companies securing €45.75m over the last five years, across twelve projects representing 12% of total funding awarded (details of the projects are outlined in the tables below).
Established under Project Ireland 2040 and managed by the Department of Enterprise, Trade and Employment in conjunction with Enterprise Ireland, the DTIF aims to invest in disruptive technologies and applications, facilitating collaborations between Ireland's research base and industry to drive economic growth and innovation. To date €371 million has been awarded to 104 projects across six DTIF calls. Among the notable projects funded through the DTIF are innovations in medical devices, healthcare systems, and minimally invasive treatments.

Of the 12 ATU iHub clients which secured DTI funds, three client companies secured two DTI funds each - Endowave, Tympany Medical & Crannmed, while several client companies such as Aurigen Medical, Rockfield Medical and Symphysis Medical received significant funding for projects aimed at revolutionising healthcare delivery and improving patient outcomes.
The Enterprise Ireland Medical and Engineering Technologies (MET) Gateway based in ATU was selected as a Research Partner Organisation on four DTI funds.

Full story here: https://www.enterprise-ireland.com/en/news/atu-innovation-hub-secures-of-dtif