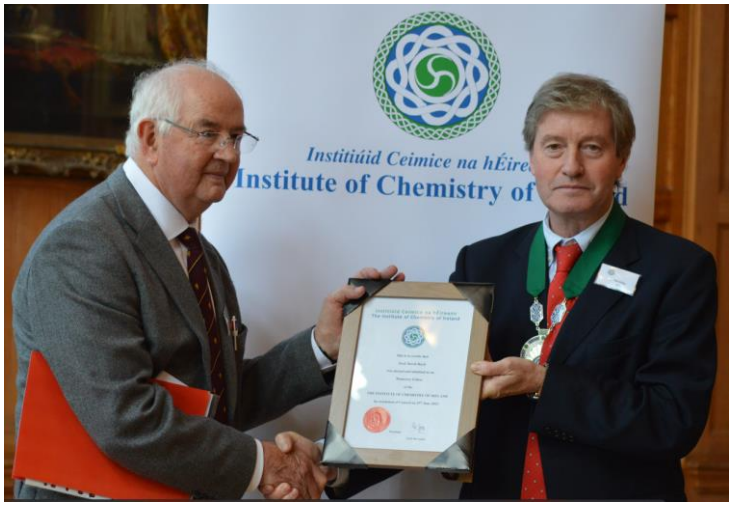
Irish Chemical News

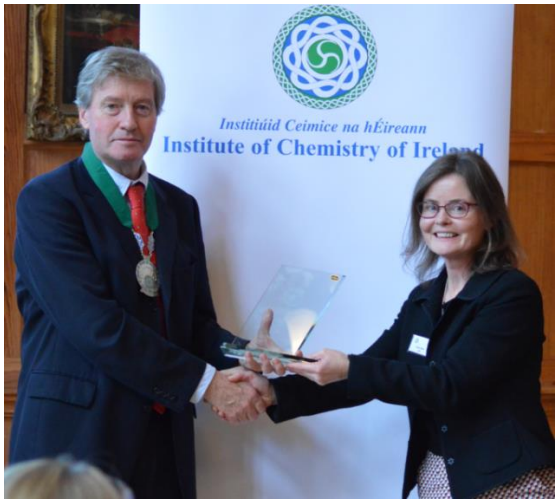
A Journal of the Institute of Chemistry of Ireland

ICI Awards 2023

Prof Pat Guiry presents Awards at ICI Annual Congress, Belfast



Prof Guiry presents Prof Derek Boyd with Hon. Fellow Certificate of ICI.



Prof Susan Quinn presented with Eva Philbin Award Plaque for 2023

Countdown to ECC9 has started for July 2024

has started.

Registration now Open

Registration – 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

Contents:

Sponsors:-


PREMIER
PUBLISHING & EVENTS


Henkel
Excellence is our Passion


LABPLAN


PerkinElmer
For the Better


Advion


Fisher Scientific


SIGMA-ALDRICH


Chemglass
Life Sciences


MASON
TECHNOLOGY


Megazyme


Waters
THE SCIENCE OF WHAT'S POSSIBLE.™


Agilent Technologies


IDA
IRELAND


LENNOX


CSCB
Centre for Synthesis
& Chemical Biology


ENTERPRISE
IRELAND


GPE
SCIENTIFIC LIMITED


UCD
DUBLIN


RCSI


Gute Chemie
abcr

A Message from the President

Dear Fellows, Members, Graduates and Associates,

In this issue, you will find a summary (with some great photographs of speakers, chairs and participants) of an excellent ICI Congress with the theme "Achieving Sustainability Through Chemistry" which was held in Queen's University Belfast on 24th October. It was my pleasure to present the Eva Philbin Public Lecture Award to Associate Professor Susan Quinn of UCD and the ICI Honorary Fellowship to Professor Derek Boyd (QUB). In addition to Susan's plenary lecture, we had short talks from Professor Peter Nockemann (QUB), Professor Kevin Ryan (UL), Professor Fiona Regan (DCU), Associate Professor Marcus Baumann (UCD), and Professor Pilar Fernandez-Ibanez. A lively set of elevator pitches and a poster session completed the programme. It was a great day to celebrate chemistry on the island of Ireland and I thank Professor Steven Bell (ICI Vice-President) for organising the event. The feedback throughout the Congress, attended by many young (and older) chemists, was very positive.

Work continues with the plans for ECC9, and we now have a full programme of plenary and invited lecturers in place. The International Scientific Committee, chaired by Professor David Leigh from the University of Manchester, with ICI representation from Professors Celine Marmion and Thorri Gunnlaugsson and myself, are very happy with the quality and breadth of the speakers. In addition to the eight themes, there will be a series of mini-symposia and workshops throughout the event. In October, we hosted a delegation of the EuChemS Executive Committee in Dublin, visiting the Convention Centre, having an update meeting in the RIA and lunch in the RCSI. They were very pleased with our updates and particularly pleased with the quality of the facilities in the Convention Centre. Registration for ECC9 is now open and abstracts for posters are still being accepted, with the deadline for those interested in presenting a short oral contribution closing on Friday. Our Local Organising Committee, co-chaired by Professor Thorri Gunnlaugsson and Professor Celine Marmion, are working hard to organise a one-day focus on the pharmaceutical industry in Ireland. Please do support this event by registering and asking colleagues and their research groups to do so too.

Many thanks to the ICI Young Chemists' Network (YCN) who continue to work hard to provide support to the younger members of our community. Seán Byrne (UCD) is the ICI YCN chair and do get in contact with him if there are issues you wish to highlight or events you wish to organise.

I wish to again thank our Editor, Patrick Hobbs, who continues to enlighten our community on national and international topics that are of most interest to our community. This is a significant undertaking and is much appreciated. This issue covers a broad range of topics from the ICI Congress to

sustainability, the relevance of quantum dots the subject of the Nobel Prize in Chemistry 2023, superconductivity, climate change and the importance of CRISPR technology and beyond! 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.

Can I take this opportunity to wish you and your families a very happy and peaceful Christmas and good health and happiness for 2024!

With best regards,

Professor Pat Guiry PhD FRSC FICI PRIA

President, Institute of Chemistry of Ireland

6th December 2023

Editorial

It's that time of year again and this is the last Issue of Irish Chemical News for 2023. There is a name change to one of the titled sections and two new titled sections have been introduced. Firstly, not many references to analytical chemistry papers have been included in past Issues as there were few open access articles readily available. That situation has changed somewhat so it is now appropriate to cover analytical chemistry. It is intended that it should be a bit edgy, to focus on novelty and innovation across all applications of analytical chemistry. Analytical chemistry plays an important role in chemistry, and this is reflected in most of the topics covered in ICN.

Second Biotech, a very important sector now in Ireland was included within the "Medicinal Chemistry, Chemical Biology & Life Sciences" section. It merits its own titled section. It is titled "Biotechnology with a Chemistry Emphasis".

The third change is to the section titled "Science & Truth – (Incl. Peritia Project)" has now been relabelled "Science, Truth, Trust & Science Communication" to reflect better the contents included in this section. The Peritia project has ended and is no longer included.

Planning for next year's EuChemS is at an advanced stage, with most of the scientific topics selected. The Local Organising Committee can now focus on local events and topics including a special Pharmaceutical Industry Day, to highlight the achievements of that industry in Ireland. ECC-9 is covered extensively in this Issue.

We were offered the opportunity and facilitated and by Premier Publishing and Events to attend the Chemistry Expo in Leopardstown Pavilion on November 8th. Prof Pat Guiry promoted the Institute and the ECC-9 Chemistry Congress, next year. Dr Joe Byrne presented the case for joining ICI YCN for chemists 35 years and younger. Later that morning our 2019 Boyle Higgins Gold Medal winner Prof Suresh Pillai, ATU gave a lecture on Innovation which was very enlightening.

On Friday 17th November as Editor, I attended the RSC Local Section AGM and North South Lecture in TCD and gave a short presentation on ECC-9. Bursaries are available from the RSC, EuChemS and ICI to attend ECC-9. Details are uploaded on the congress web site:

ECC-9 Bursary Programme – EuChemS 2024

https://www.chemistryireland.org/9th-euchems-congress.

Our Annual Congress was held in QUB, Belfast in the magnificent Great Hall and we had six great lectures and presentations from young chemists along with a posted session. The event was organised by ICI Vice President Prof Steven Bell, QUB and we are very thankful to him for his efforts. This was a great success.

The Annual Lecture Award (Eva Philbin) was presented to Prof Susan Quinn, UCD and an Honorary Fellowship was presented to Prof Derek Boyd, QUB. Both were presented by ICI President Pat Gury. He also presented the winning three students who gave the ECRs Elevator pitches and three poster winners with certificates. More details within this Issue.

The usual main topics are well covered, and it is very evident that enormous strides and developments are happening across all the topics. Hydrogen is emerging as somewhat controversial with concerns about costings and efficiency in transportation. Some major car manufactures, and transport companies have abandoned hydrogen vehicles and moved to EV power instead. How to transport it to where it is needed and producing sufficient quantities at speed and in time is also a problem.

More locally there is a new CEO at SFI, Prof Philip Nolan. The Irish Research Council and SFI will be merged into a new organisation in January 2024, and it is called Taighde Éireann. The IDA also has a new CEO Michael Lohan and a rebranding. Enterprise Ireland celebrated 25 years in April, and it too has undergone a rebranding. These changes are presented inside this Issue.

'Climate Change is well covered, and concerns are growing about the slow progress as carbon dioxide continue to rise despite sincere efforts to move more towards wind and solar energy. Methane leaks and hydrogen itself can be a contributor to climate change if there are leaks in the supply chain from production to end use. Well production leaks and flaring of gas is one area that must be addressed and eliminated in the short term if we are to stay under 1.5 degrees centigrade by 2030.

The upcoming United Nations Climate Change Conference – COP 28 will be held in the UAE along with The World Climate Action Summit (WCAS). President of the UAE has invited Heads of State or Government to participate in the Summit (WCAS), which will be held on Friday, 1 and Saturday, 2 December 2023, when the first part of the high-level segment for Heads of State or Government will also take place. Already there are concerns about UAE having such a prominent role where climate change is so important issue. This will be covered in the next Issue of ICN in 2024.

Covered in this Issue, the controversary and claims about LK-99 room temperature superconductivity has finally been settled. The paper has been withdrawn and the claim was not proven. This claim was initially published without any peer review and enthusiastically and with great excitement, taken up by some of the technical press mainly aimed at lay people and not professional researchers. The professionals and the scientific press then started paying attention and doubts were raised. Eventually after a lot of argument, reviews and attempts to failure reproduce the claims by others, the claim was refuted. This demonstrated that proper peer review is essential in any scientific endeavour.

Chemistry Nobel Prize 2023 and some articles explaining what quantum dots and their applications is covered

Note 1. Premier Publishing & Events will host conferences early in 2024 and the Institute will be present. It free to attend so register on their web site. These are big events with thousands attending.

Note 2. To get this Issue out very early in December items received in the last week of November will be included in the next issue of ICN.

With that I wish all ICI members and readers a very happy and joyful Christmas. I hope you enjoy reading ICN, browsing through and selecting articles from the main sections that take your interest. There are articles to explore and discover for everyone.

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
5th December 2023

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

THE COUNTDOWN IS ON
Website Active
EuChemS 2024

Call for Abstracts

Call for Abstracts – EuChemS 2024

The Institute of Chemistry of Ireland (ICI) is delighted and honoured to be organising the 9th EuChemS Chemistry Congress (ECC-9). The 9th EuChemS Congress is scheduled to take place in Dublin, Ireland from 7th to 11th of July 2024. The Congress will provide an ideal platform for knowledge exchange, collaboration, and will be showcasing the latest advancements in the field of chemistry across various disciplines.

THE CALL FOR ABSTRACTS IS NOW OPEN!

We invite colleagues from the international community to submit their research abstracts to be considered for an oral communication (15 minutes) and/or poster presentation at the Congress.
Detailed instructions for submitting your abstract are available here. We encourage you to read this document before commencing the submission process. Please note that many questions are marked with an asterisk * and must be answered in order to complete your submission.
The deadline for abstract submissions is **Friday 8th December 2023.** You may amend your abstract at any point up to this deadline - however, after this date, revisions will not be possible.
We look forward to receiving your submission.
With best wishes,
Professor David A. Leigh
Chair of the International Scientific Committee,
9th EuChemS Chemistry Congress

Abstract Submission Key Dates*
Call for Abstracts Opens Monday 4th September 2023
Call for Abstracts Closes Friday 8th December 2023
Notification of Authors Friday 23rd February 2024

Submit Abstract

More information on submissions

Call for Mini-Symposia and Workshops – EuChemS 2024

Deadline for applications: 8th December 2023

Registration for the Congress is managed by Keynote PCO.

Please note:

Keynote PCO are the only official agent and conference management company involved in ECC-9. No other agent or provider should be contacting you, offering registration, accommodation, sponsorship/exhibition or other services in relation to this event. Please disregard any emails from other third parties and contact us directly.

KEYNOTE
PROFESSIONAL CONFERENCE ORGANISERS

Bursaries

- **RSC Bursaries**

- **EuChemS Bursaries**
https://euchems2024.org/bursaries

- **ICI 20 Bursaries**

- ICI Bursaries: Must be a member ICI/YCN
- Must have Abstract accepted for Oral Presentation or Poster

➢ **There will be a special day to showcase the Pharma Industry in Ireland**

Increase your visibility

Showcase your products, services, innovations and expertise

Engage with a targeted audience of chemists, researchers, industry professionals, and decision-makers

Benefit from networking and collaboration opportunities

Industry insights – stay informed about the latest trends, research, and advancements in the Chemical, Pharma and Biotech industries

Talent Acquisition – engage with potential candidates, showcase your organisation's work culture, and attract top talent to join your team

https://www.chemistryireland.org/9th-euchems-congress

https://www.chemistryireland.org/membership

or on https://euchems2024.org under 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

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

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

CONGRESS THEMES

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

Physical, Analytical and Computational Chemistry
Machine Learning/AI

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

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

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

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

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

Education, History, Cultural Heritage, and Ethics in Chemistry

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

PLENARY SPEAKERS

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

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

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

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

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

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

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

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

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

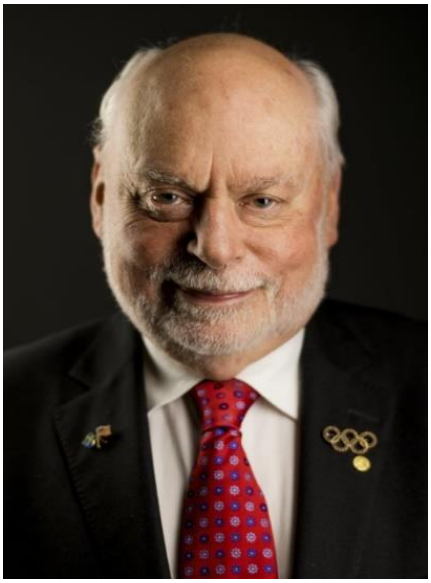
9th EuChemS Chemical Congress 2023 (ECC-9)
Conference Secretariat: Keynote PCO
Tel.: +353 1 400 3626 | Email: registration@euchems2024.org

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

Three Nobel Laurates will come to Dublin for the 9th EuChemS Chemistry Congress

Prof Sir James Stoddard, Northwestern University, USA

Nobel Prize in Chemistry 2016



Prize motivation: “for the design and synthesis of molecular machines”

Prise Share 1/3

A tiny lift, artificial muscles and minuscule motors. The Nobel Prize in Chemistry 2016 is awarded to Jean-Pierre Sauvage, Sir J. Fraser Stoddart and Bernard L. Feringa for their design and production of molecular machines. They have developed molecules with controllable movements, which can perform a task when energy is added. 2016’s Nobel Laureates in Chemistry have taken molecular systems out of equilibrium’s stalemate and into energy-filled states in which their movements can be controlled.

More Details:

Sir J. Fraser Stoddart – Facts - NobelPrize.org

Press release: The 2016 Nobel Prize in Chemistry

Prof Frances Arnold California Institute of Technology (Caltech), Pasadena, CA, USA

© Nobel Media AB. Photo: A. Mahmoud

Nobel Prize in Chemistry 2018

Prize motivation: “for the directed evolution of enzymes”

Prize share: 1/3

Frances H. Arnold, the Linus Pauling Professor of Chemical Engineering, Bioengineering and Biochemistry, has won the 2018 Nobel Prize in Chemistry for "the directed evolution of enzymes," according to the award citation. Directed evolution, pioneered by Arnold in the early 1990s, is a bioengineering method for creating new and better enzymes in the laboratory using the principles of evolution. Arnold shares the prize with George P. Smith of the University of Missouri in Columbia, who developed a "phage display" method for evolving proteins, and Sir Gregory P. Winter of the MRC Laboratory of Molecular Biology in Cambridge, United Kingdom, who used phage display for evolving antibodies. One half of the prize, which comes with an award of 9 million Swedish krona (about $1 million), goes to Arnold, with the other half shared by Smith and Winter.

More details:

Frances H. Arnold – Facts – 2018 (nobelprize.org)

Frances Arnold Wins 2018 Nobel Prize in Chemistry | www.caltech.edu

Prof. Dr. Sir David W.C. MacMillan, Princeton University, Princeton, NJ, USA

© Nobel Prize Outreach. Photo: Risdon Photography

Nobel Prize in Chemistry 2021

Prize motivation: “for the development of asymmetric organocatalysis”

Prize share: 1/2

Sir David W.C. MacMillan shares the 2021 Nobel Prize in Chemistry with Benjamin List for the development of asymmetric organocatalysis. The concept of catalysts – molecules that facilitate chemical reactions – derives from research conducted in the 19th century and rapidly caught on in industrial processes. “David MacMillan is a brilliant chemist whose transformative insights and accomplishments have enhanced the power of organic chemistry to benefit human health and address other practical problems,” said University President Christopher L. Eisgruber.

More Details:

David W.C. MacMillan – Facts – 2021 - NobelPrize.org

Princeton’s David MacMillan receives Nobel Prize in chemistry

SPONSOR AND EXHIBIT AT EUCHEMS 2024

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

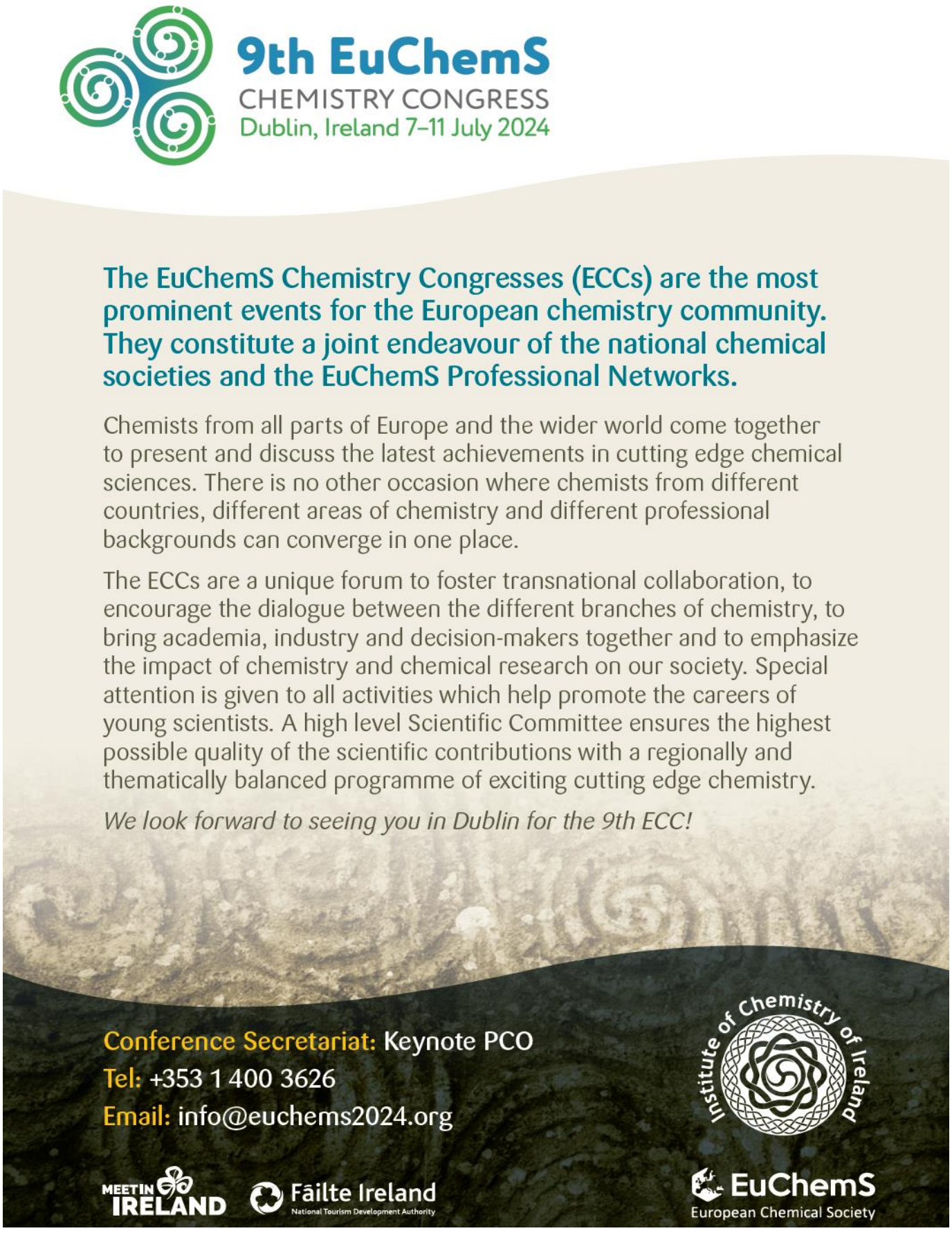
Professor Celine J. Marmion – Ireland – ECC-9 Local Organising Committee Co-Chair
Professor Thorfinnur (Thorri) Gunnlaugsson – Ireland – ECC-9 Local Organising Committee Co-Chair
Professor Artur M. S. Silva – Portugal – ECC-8 Chair
Professor Walter Leitner – Germany – Energy, Environment and Sustainability
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

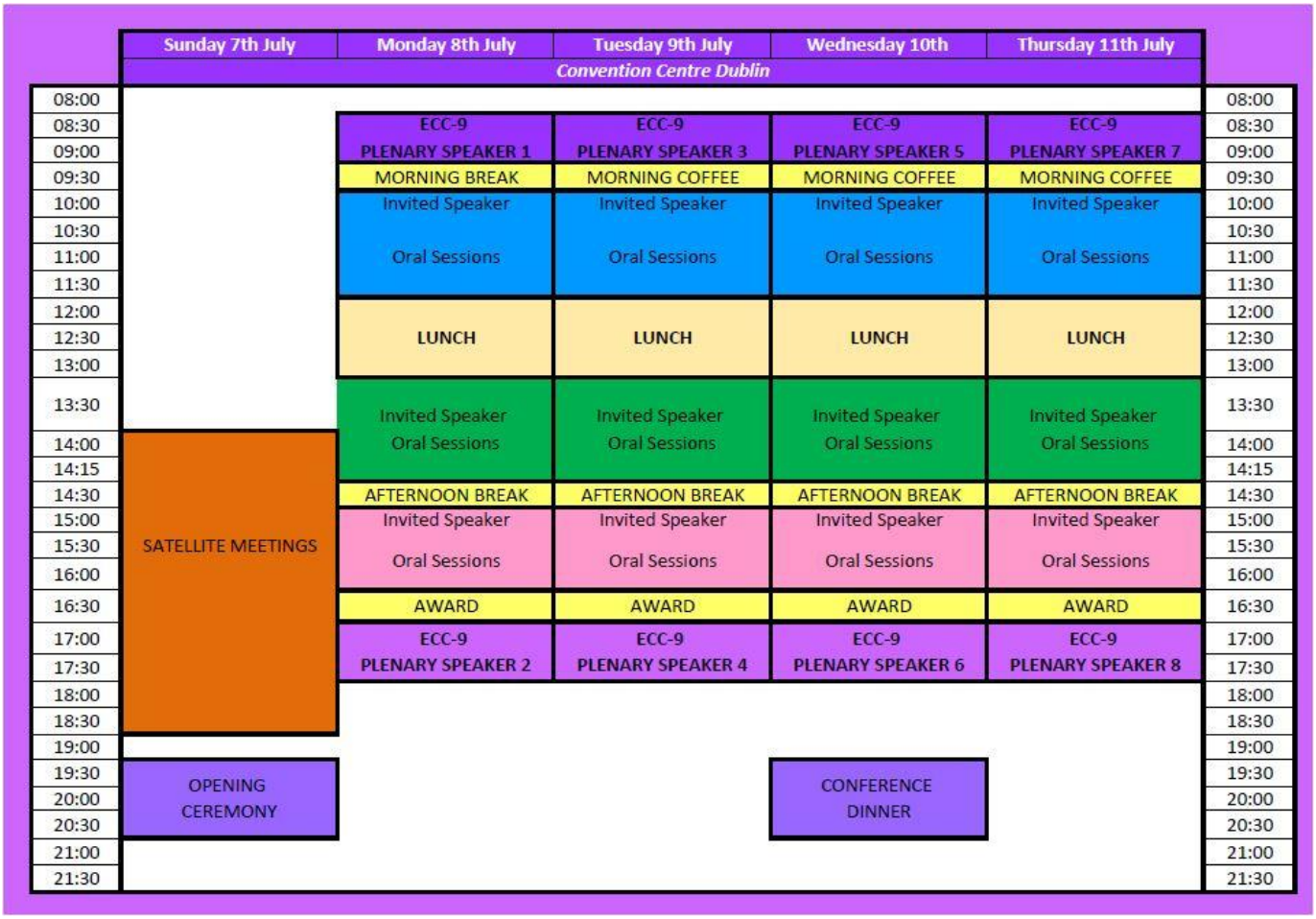
ECC-9 LOCAL ORGANISING COMMITTEE

Co-Chairs:

Professor Celine J. Marmion, RCSI University of Medicine and Health Sciences
Professor Thorfinnur (Thorri) Gunnlaugsson, Trinity College Dublin
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
Patrick Hobbs, Institute of Chemistry of Ireland Council Member
Dr. John Keegan, Institute of Chemistry of Ireland Treasurer
Colm McKeever, Institute of Chemistry of Ireland Young Chemists' Network Chair
Matt Moran, Director BioPharmaChem Ireland
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
Dublin, Ireland 7–11 July 2024
The EuChemS Chemistry Congresses (ECCs) are the most prominent events for the European chemistry community. They constitute a joint endeavour of the national chemical societies and the EuChemS Professional Networks.
Chemists from all parts of Europe and the wider world come together to present and discuss the latest achievements in cutting edge chemical sciences. There is no other occasion where chemists from different countries, different areas of chemistry and different professional backgrounds can converge in one place.
The ECCs are a unique forum to foster transnational collaboration, to encourage the dialogue between the different branches of chemistry, to bring academia, industry and decision-makers together and to emphasize the impact of chemistry and chemical research on our society. Special attention is given to all activities which help promote the careers of young scientists. A high level Scientific Committee ensures the highest possible quality of the scientific contributions with a regionally and thematically balanced programme of exciting cutting edge chemistry.
We look forward to seeing you in Dublin for the 9th ECC!
Conference Secretariat: Keynote PCO
Tel: +353 1 400 3626
Email: info@euchems2024.org
Institute of Chemistry of Ireland
MEET IN IRELAND
Fáilte Ireland
National Tourism Development Authority
EuChemS
European Chemical Society

9th EuChemS Chemistry Congress – Schedule at a Glance

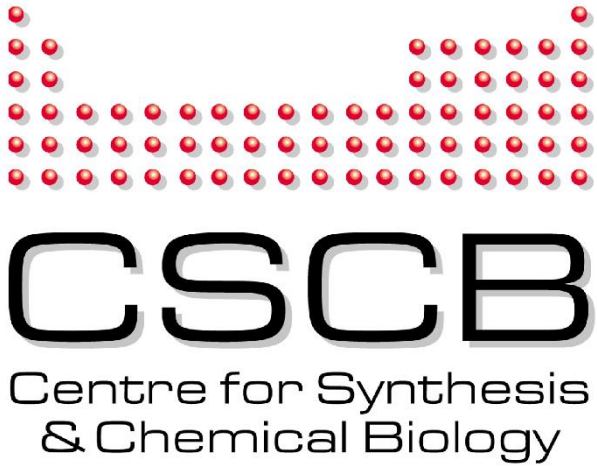


	Sunday 7th July	Monday 8th July	Tuesday 9th July	Wednesday 10th	Thursday 11th July	
	Convention Centre Dublin					
08:00						08:00
08:30		ECC-9 PLENARY SPEAKER 1	ECC-9 PLENARY SPEAKER 3	ECC-9 PLENARY SPEAKER 5	ECC-9 PLENARY SPEAKER 7	08:30
09:00						09:00
09:30		MORNING BREAK	MORNING COFFEE	MORNING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

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

Check website for updates: EuChemS 2024

We wish to thank the Institute following sponsors/exhibitors.



The Institute of Chemistry of Ireland
is delighted to announce the call for nominations for the following prestigious ICI award:
The ICI Boyle Higgins Gold Medal and Lecture Award 2024

The Boyle Higgins Gold Medal and Lecture Award 2023

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

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

Nominations to be addressed to the ICI President, Professor Pat Guiry and sent by email to: p.guiry@ucd.ie and secretary@instituteofchemistry.org

ICI website: http://www.chemistryireland.org

Closing date of Friday December 1st, 2023

Recent Past Recipients

- **2023** Professor Yurii Gunko (Nano materials)
- **2022** Professor Grace Morgan (Pure Chemistry)
- **2021** Professor Tadhg Begley (Pure Chemistry)
- **2020** Professor Amilra P. de Silva (Applied Chemistry)
- **2019** Professor Suresh Pillai (Applied Chemistry)
- **2018** Professor John Kelly (Applied Chemistry)
- **2017** Professor Henry Curran (Applied Chemistry)
- **2016** Professor Kieran Hodnett (Applied Chemistry)
- **2015** Professor Dermot Diamond (Applied Chemistry)
- **2014** Professor Pat Guiry (Pure Chemistry)
- **2013** Doctor Sheila Willis (Applied Chemistry)
- **2012** Professor Malcolm R. Smyth (Applied Chemistry)
- **2011** Professor Frank Hegarty (Pure Chemistry)
- **2009** Professor Seán Corish (Pure Chemistry)
- **2008** Professor Albert Pratt (Pure Chemistry)
- **2007** Professor Rory More O'Ferrall (Pure Chemistry)
- **2005** Professor Donald Fitzmaurice (Pure Chemistry)
- **2002** Doctor John F. O'Sullivan (Applied Chemistry)
- **2000** Professor Dervilla M.X. Donnelly (Pure Chemistry)

The Institute of Chemistry of Ireland

is delighted to announce the call for nominations for the following prestigious ICI award:

The ICI Annual Award for Chemistry (Eva Philbin Public Lecture Series) 2024

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

Nomination process: The nominator shall send one electronic copy of their nomination by email to the President of the Institute, Professor Pat Guiry (p.guiry@ucd.ie), which will include a cover letter providing a brief statement outlining the reasons for the nomination, together with a CV (maximum 3 pages) of the nominee. Nominations for this award will be externally reviewed. Please note that self-nominations are also allowed.

Nominations to be sent by email to the ICI President, Professor Pat Guiry at: p.guiry@ucd.ie and secretary@instituteofchemistry.org

Closing date of Friday December 1st, 2023

***ICI website:* http://www.chemistryireland.org**

Past Recipients

- **2005** Professor David A. Leigh
- **2006** Professor A. Prasanna de Silva
- **2007** Dr Mary Archer
- **2008** Professor Peter Atkins
- **2009** Professor Martyn Poliakoff
- **2011** Dr Malachy McCann
- **2012** Professor Lesley Yellowlees
- **2013** Professor Herbert W. Roeskey
- **2014** Professor Thorfinnur Gunnlaugsson
- **2015** Professor Michael J. Zaworotko
- **2016** Professor John Sodeau
- **2017** Professor Donal O'Shea
- **2018** Professor Anita Maguire
- **2019** Professor Declan McCormack
- **2020** Professor Declan Gilheany
- **2021** Professor Paula Colavita
- **2022** Professor Carmel Breslin
- **2023** Professor Susan Quinn

The Institute of Chemistry of Ireland

is delighted to announce the call for nominations for the following prestigious ICI award:

The ICI Postgraduate Award for Chemistry 2024

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

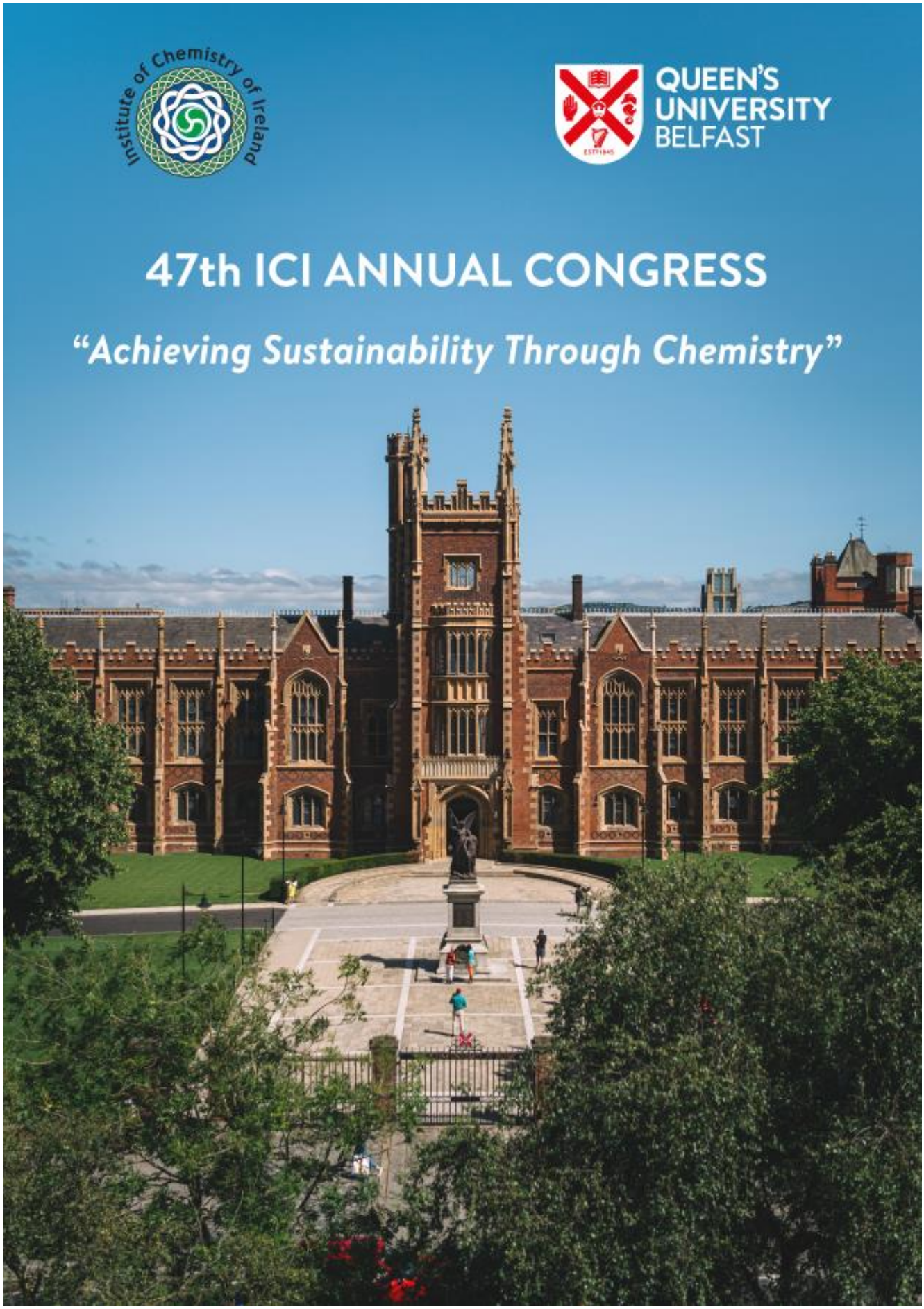
Nominations to be addressed to the ICI President, Professor Pat Guiry and sent by email to: p.guiry@ucd.ie and secretary@instituteofchemistry.org

ICI website: http://www.chemistryireland.org

Closing date of Friday December 1st, 2023

ICI Postgraduate Awardees to Date:

2023: Kris O'Dowd (Atlantic Technical University Sligo)
2022: Dr Niamh O'Mahoney (UCC) (Supervisor: Dr Dara Fitzpatrick)
2021: Dr Ioannis Mylonas Margaritis (NUIG) (Supervisor: Dr Constantina Papatriantafyllopoulou)
2020: Dr Priyanka Ganguly (Sligo IT) (Supervisor: Professor Suresh Pillai)
2020: Dr Conor Crawford (UCD) (Supervisor: Professor Stefan Oscarson)
2019: Dr Saoirse Dervin (Sligo IT) (Supervisor: Professor Suresh Pillai)
2018: Dr Adele Gabba (NUIG) (Supervisor: Professor Paul Murphy)


Institute of Chemistry of Ireland
QUEEN'S UNIVERSITY BELFAST
47th ICI ANNUAL CONGRESS
"Achieving Sustainability Through Chemistry"

Congress Venue – The Great Hall

"Achieving Sustainability Through Chemistry"

The Congress was opened by Prof Stephen Bell, School of Chemistry and Chemical Engineering with welcome and introductory remarks.

Prof John Cassidy, TU Dublin, chaired the Morning Session and introduced the speakers.

Invited Speakers

The principle invited speakers gave excellent and dynamic presentations on the topics indicated below:

•**Professor Peter Nockemann**, Queen's University Belfast - "Sustainable Recycling of Rare Earth Metals – From Fundamentals to Application"

•**Professor Kevin Ryan**, University of Limerick - "Driving Increases in Energy Density in Li-ion and Beyond Li-ion Batteries for Electric Vehicles and Stationary Storage using Alloying Anodes"

•**Professor Fiona Regan**, Dublin City University - "Lab-on-a-Disc: Transforming How Chemical Pollutants Can Be Monitored in the Aquatic Environment"

The Afternoon Session was chaired by Prof Celine Marmion RCSI and Immediate Past President of ICI.

•**Professor Susan Quinn**, University College Dublin, ICI Annual Award for Chemistry (Eva Philbin Lecture Series) 2023 - "Adventures in DNA: Exploring New Avenues for Light Activated Diagnostics and Therapeutics"

•**Dr Marcus Baumann**, University College Dublin - "Continuous Flow Chemistry - From Improving Known Reactions to the Discovery of New Reactivity"

•**Professor Pilar Fernandez-Ibanez**, University of Ulster - "Photoelectrocatalysis to Address Emerging Pollutants and Pathogens in Aquatic Environment: From the Lab to the Real World"

Summary of the Invited Speakers Lectures

- *Professor Peter Nockemann, Queen's University Belfast* - "Sustainable Recycling of Rare Earth Metals – From Fundamentals to Application"

- *Professor Kevin Ryan, University of Limerick* - "Driving Increases in Energy Density in Li-ion and Beyond Li-ion Batteries for Electric Vehicles and Stationary Storage using Alloying Anodes"

- *Professor Fiona Regan, Dublin City University* - "Lab-on-a-Disc: Transforming How Chemical Pollutants Can Be Monitored in the Aquatic Environment"

- *Professor Susan Quinn, University College Dublin*, ICI Annual Award for Chemistry (Eva Philbin Lecture Series) 2023 - "Adventures in DNA: Exploring New Avenues for Light Activated Diagnostics and Therapeutics"

- *Dr Marcus Baumann, University College Dublin* - "Continuous Flow Chemistry - From Improving Known Reactions to the Discovery of New Reactivity"

- *Professor Pilar Fernandez-Ibanez, University of Ulster* - "Photoelectrocatalysis to Address Emerging Pollutants and Pathogens in Aquatic Environment: From the Lab to the Real World"

Names of the ECRs who gave Elevator pitches.

1. Dr Hannah Crory. Hannah is a post-doc.
Carbohydrate Functionalised Materials: towards antimicrobial surfaces

2. Christine Coffey
Towards Phosphorus Cations as Main Group Catalysts

3. Michela Pacchione
Assessment of polymer stability for Phosphorus recovery

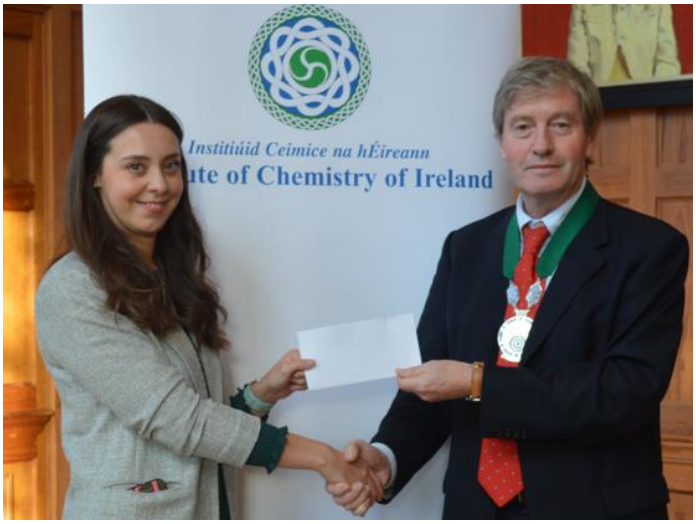
4. Bodhayan Biswas
Towards the Automated Synthesis of Monosaccharide Building Blocks and Applications in Oligosaccharide”

5. Aloisia King
Intrinsically IL FLPs and Their Applications

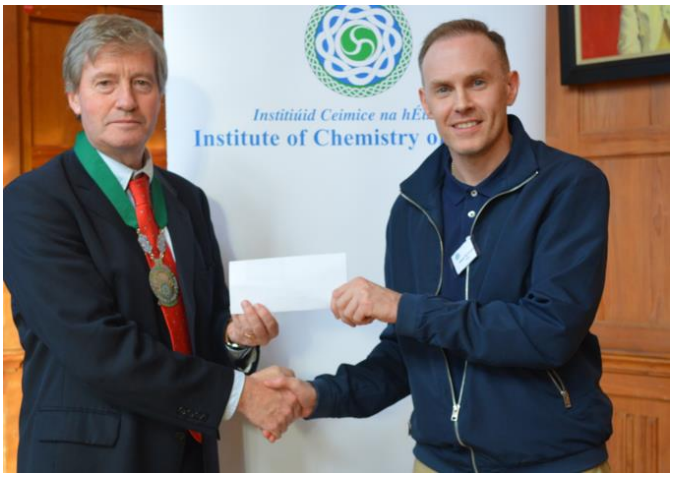
6. Kathryn Yeow
Biocatalytic Cascade Synthesis of Iminosugars from Monosaccharides

The Poster winners were:

Poster 5. Hannah Crory

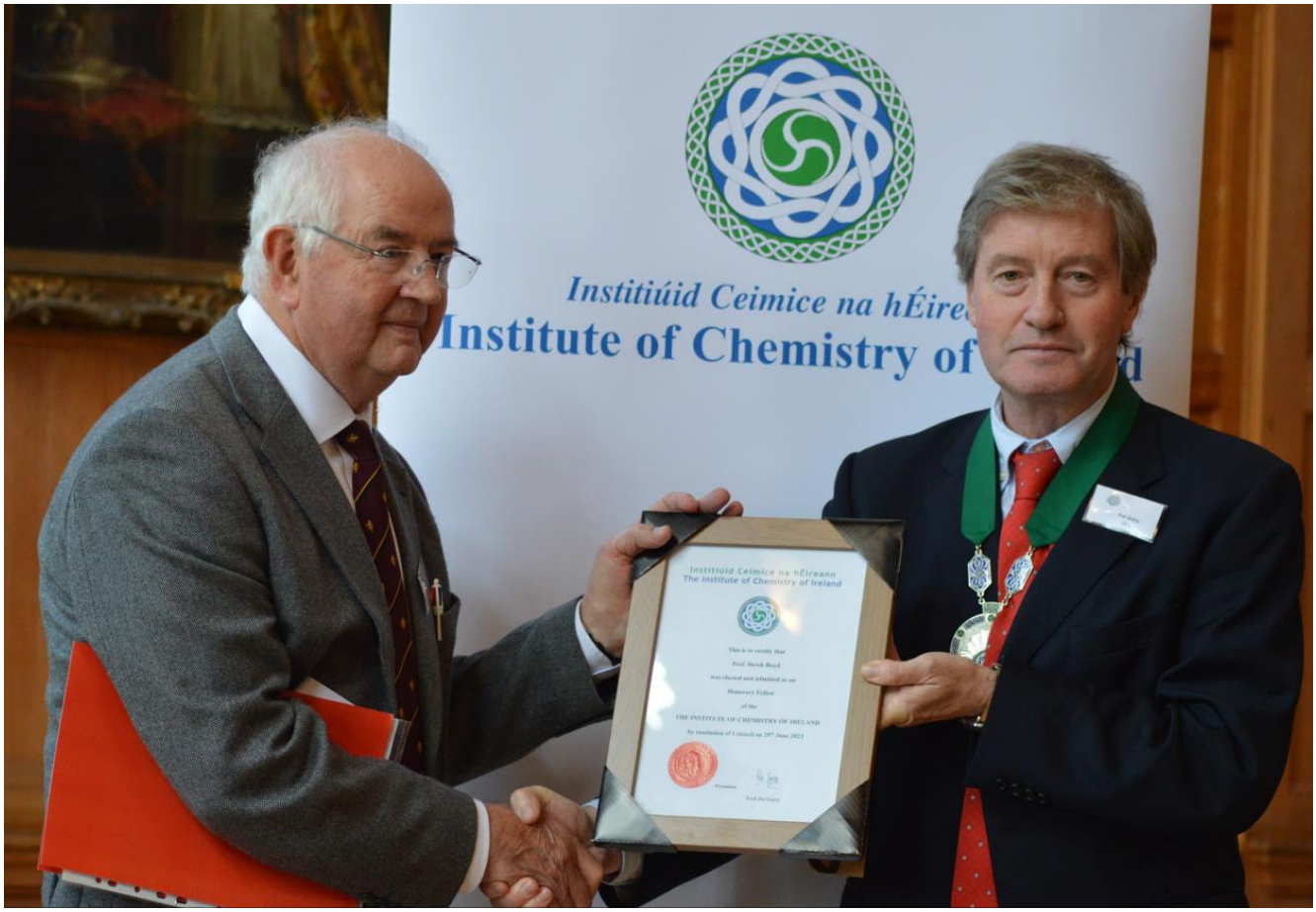


Poster 11 Wesley McCormick



Poster 13 (Rachel O'Sullivan)

Presentation of Honorary ICI Fellowship to Professor Derek Boyd



Presentation of Honorary ICI Honorary Fellowship to Professor Derek Boyd, QUB by ICI President Professor Pat Guiry, UCD

Prof Derek Boyd

Prof Boyd is a native of Northern Ireland, educated at Coleraine Academical Institution before studying Chemistry at Queen's.

He obtained his PhD at Queen's working with Prof Bernard Henbest as the first research student to work on enzyme-catalysed chemistry in the Chemistry Department, a topic that was to become a life-long interest. Indeed, he went on to gain an international reputation in this area and his work was often carried out in collaboration with other laboratories in the USA (NIH, MIT, Universities of Texas, and Iowa), in Ireland (UCD and UCC), in England (Unis of Warwick and Birmingham) and Poland (Adam Mickiewicz University).

Even in QUB his work had an international connection through his longstanding work with Dr Narain Sharma, who came to Queen's from India. This enzyme work, which was on animal and microbial metabolism pathways, metabolite identification and chemoenzymatic synthesis, led to numerous publications.

Following his PhD, which was awarded in 1966, and then postdoctoral work on plant alkaloid synthesis and biosynthesis, Prof Boyd was appointed as Lecturer in QUB in 1967 where he remained, apart from three separate sabbatical years spent in the USA at NIH (Bethesda) at MIT (Boston), until his retirement.

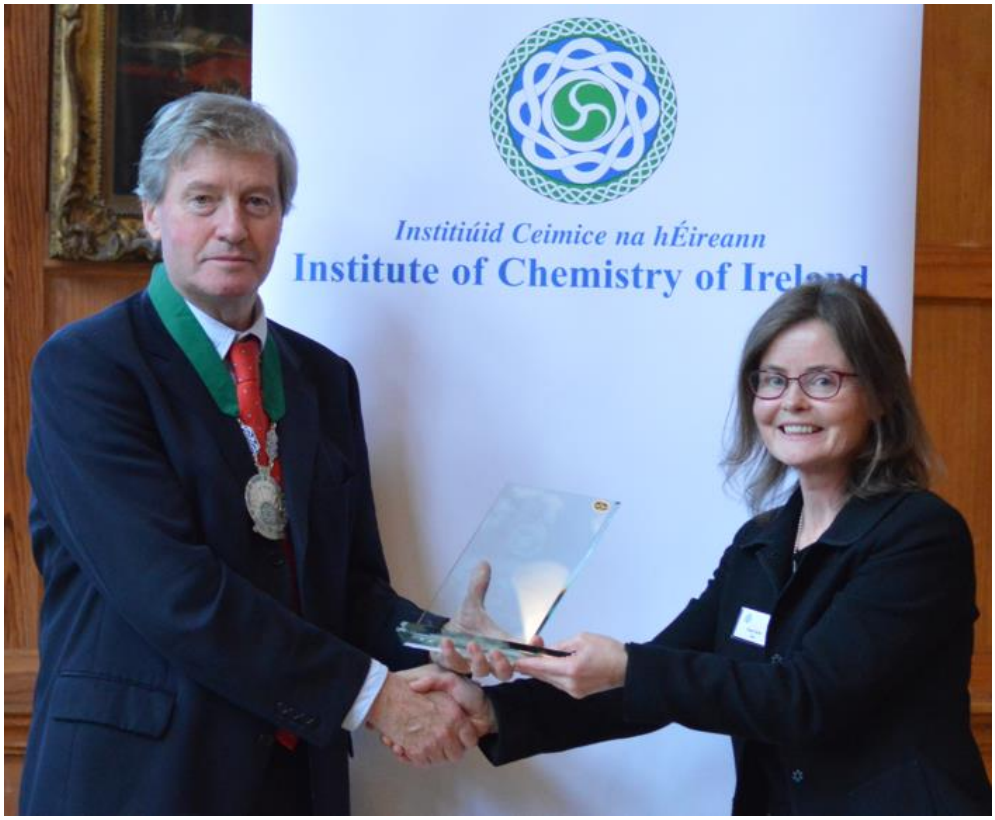
In addition to the work described above, Prof Boyd has also made significant contributions to studies of stereochemistry, which included, for example, the discovery of edge-to-face (T-bonding) aromatic interactions in alkenes, nitrones and imines and similar interactions binding arene substrates to aryl groups present in dioxygenase enzyme active sites. He has also made important contributions to the understanding of animal and bacterial metabolic pathways involving a range of unstable arene metabolites, including arene oxides, hydrates and cis and trans dihydrodiols.

It is notable that following his "nominal" retirement in 2006, he has published > 50 additional papers, the most recent of which, where Prof Boyd was first author, was published in 2022. Bringing his current total to >300.

Finally, Prof Boyd has been a tremendous mentor to many students and early career researchers, where his unfailing generosity and common sense have had a great impact across the island of Ireland. After the award Prof Boyd spoke graciously and expressed his thanks for the Honorary Fellowship.

On the right Dr Sheila Willis formally Head of Forensic Science Ireland Laboratory who was made an ICI Honorary Fellow at the ICI Awards Day earlier this year with Professor Pat Guiry and ICI Honorary Fellow, Professor Derek Boyd at the ICI 47th Annual Congress at QUB.

Winner of the 2023 ICI Annual Lecture (Eva Philbin) Award



Professor Susan Quinn, UCD presented with her plaque by Professor Pat Guiry, UCD
(Susan was unavailable for the formal Awards day event earlier this year)

Dr Susan Quinn pursued both her undergraduate and postgraduate studies at UCD. Following her honours degree she studied for her PhD in chemistry under the supervision of Professor Donald Fitzmaurice.

After a postdoctoral stay in Trinity College Dublin with Professors John Kelly and Thorri Gunnlaugsson, Susan was appointed as a College Lecturer in the School of Chemistry in UCD in 2009. She is currently an Associate Professor in Physical Chemistry (and Director of Teaching and Learning). In just a few short years, her research has already had international impact in areas stretching from ultrafast spectroscopy of nucleic acids and coordination compounds to nanomaterials such as quantum dots.

Susan is now globally recognised as one of the leading experts in the area of nucleic acid photophysics, and of the mechanism of photosensitised damage to nucleic acids. Her notable achievements in this area have already been recognised by the joint award of the *Cornforth Medal* by the Royal Society of Chemistry with Professors John Kelly (TCD) and Christine Cardin (Reading). Another of Dr Quinn's interests lies in the area of carbon materials, including species with fascinating molecular architectures such as carbon nano-horns, and she is one of the most sought-after collaborators in this area, especially for the experiments on the incorporation of these particles into biological cells.

Some of Susan's work involves the use of picosecond laser spectroscopy carried out in the Central Laser Facility of the Rutherford-Appleton laboratory in England. This work has allowed her group to probe the reactivity of key short-lived intermediate species such as excited states and radicals formed from the nucleic acid bases. The respect with which she is held in the community of laser scientists is attested to by the fact that she was asked to serve as one of two international experts on the committee

assessing projects (ranging from fundamental physics to cellular biology) submitted to this world-leading laboratory.

In recent years, Susan is now one of Ireland's most visible international speakers having delivered invited plenary and keynote lectures at major conferences and symposia world-wide, from Amsterdam to Auckland and Oxford to Melbourne, as well as invited seminars at the Royal Society (London), Madison (Wisconsin), Berlin, Hamburg, and numerous other venues in Europe, the USA, Australia/NZ and Japan, 60 in all. This remarkable trajectory is testimony to her talent, her enthusiasm for science, and her success in building an internationally competitive group of Irish student collaborators who are now themselves gaining recognition for their accomplishments.

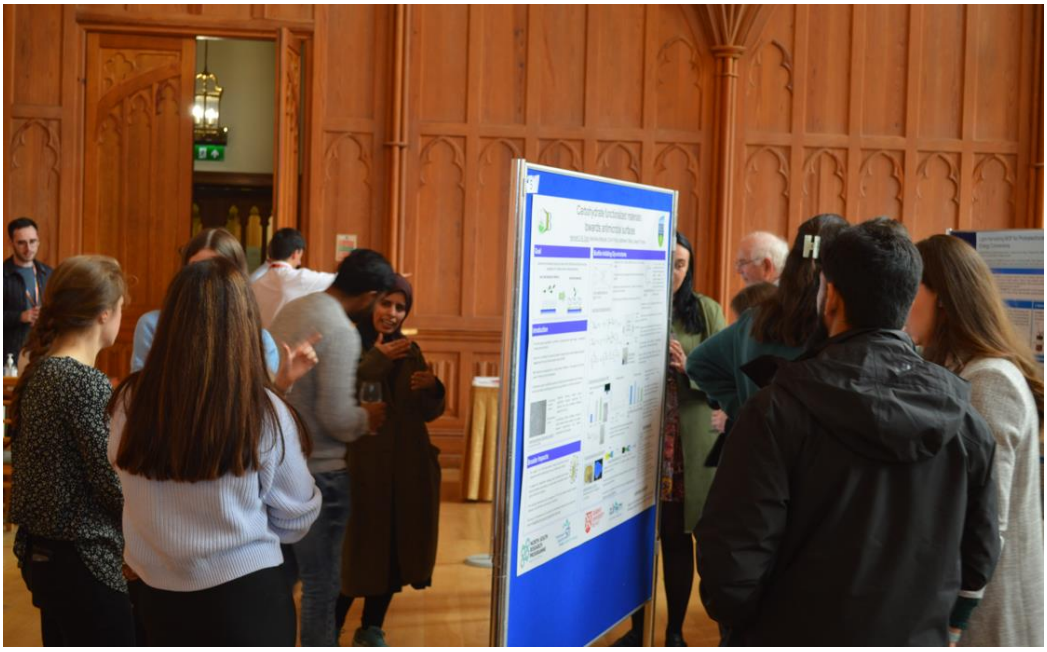
The selection of Dr Susan Quinn as the recipient of the ICI Eva Philbin award recognises not only her outstanding research achievements, her service to the public and scientific communities, but also her enthusiasm for a wide range of chemistry evidenced by her teaching commitments.

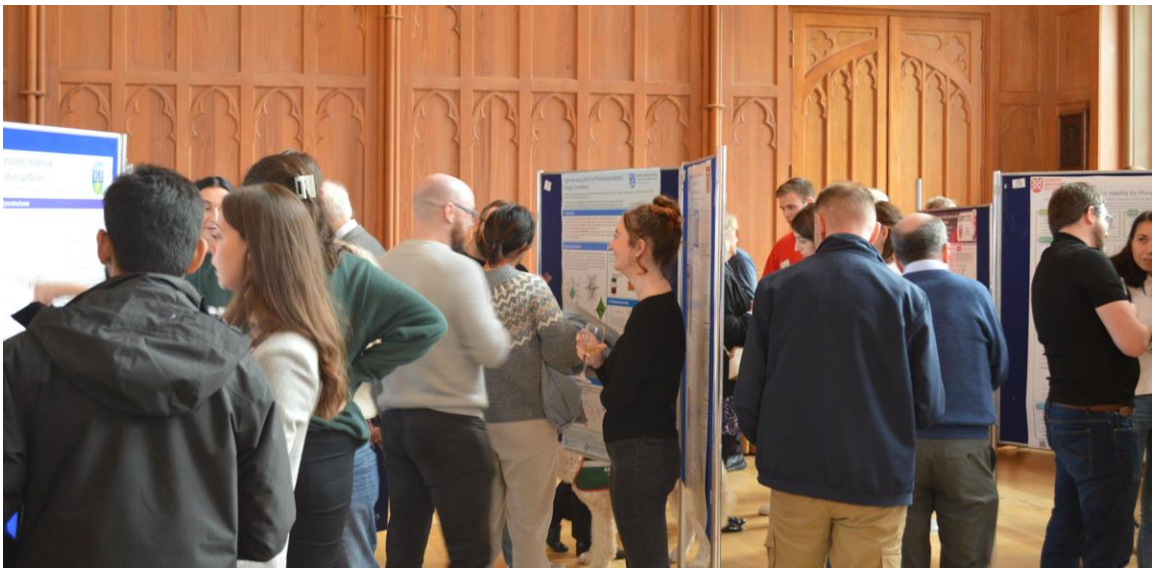
****

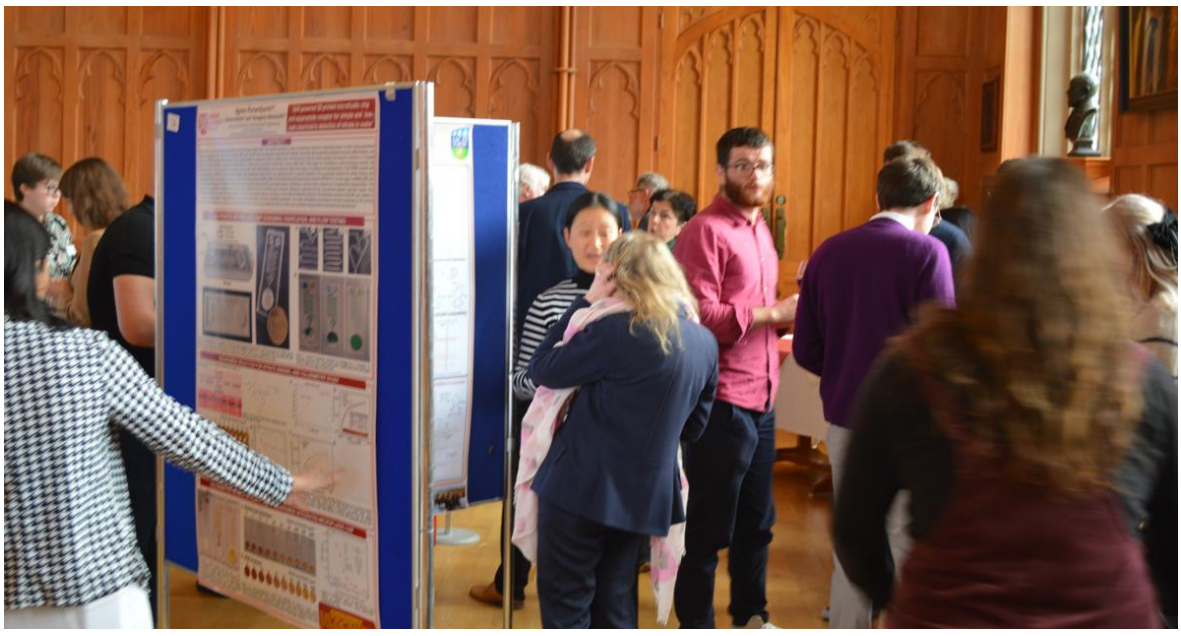
Council Members and Yound Chemists at the ICI Annual Congress QUB

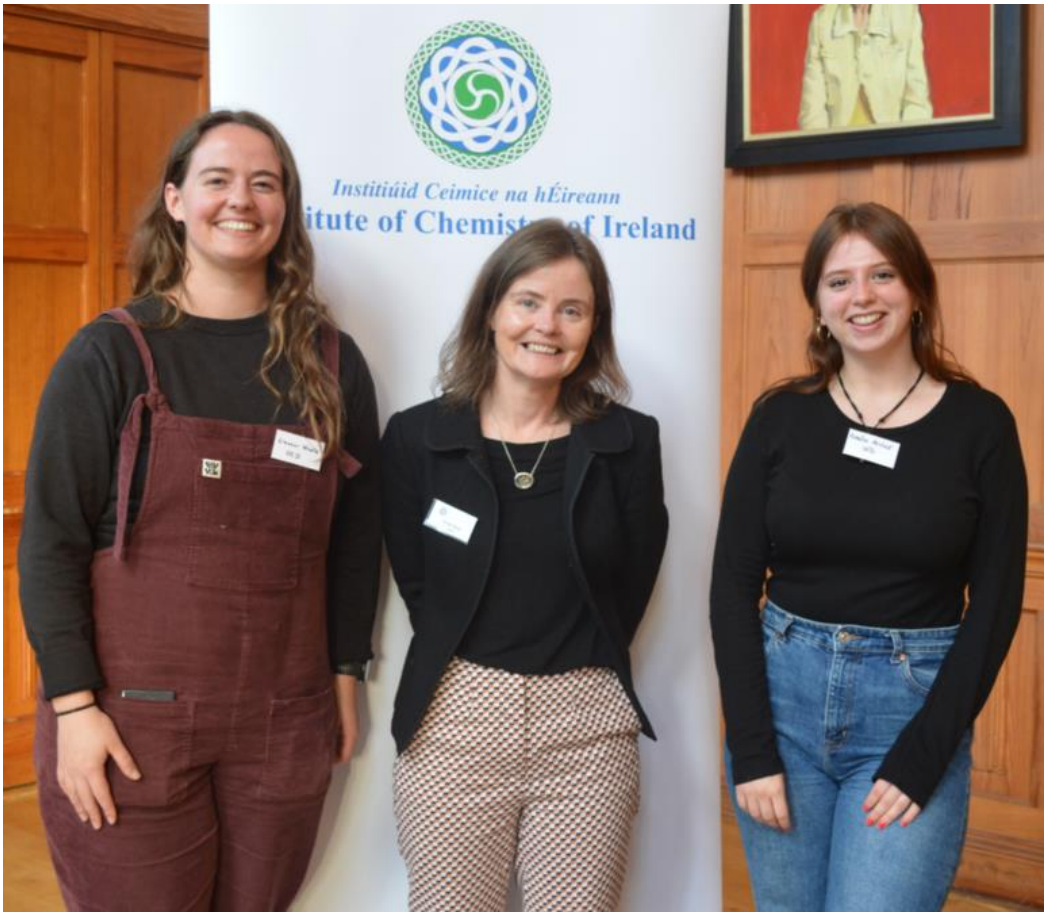
Back: Dr Joe Byrne, Prof John Cassidy, Dr Marcus Baumann, Prof Mike Lyons, Editor, Patrick Hobbs & Cathal Kelly QUB & Vice Chair, YCN
Front: Prof Stephen Bell, Prof Pat Guiry, Dr John Keegan, Treasurer, Prof Celine Marmion

Poster Session









From left, Eleanor Windle (3rd year PhD) Prof Susan Quinn, and Amélia Auville (1st year PhD) Both PhD students are from the Quin Research Group

Sponsors 47th Annual ICI Congress
"Achieving Sustainability Through Chemistry"

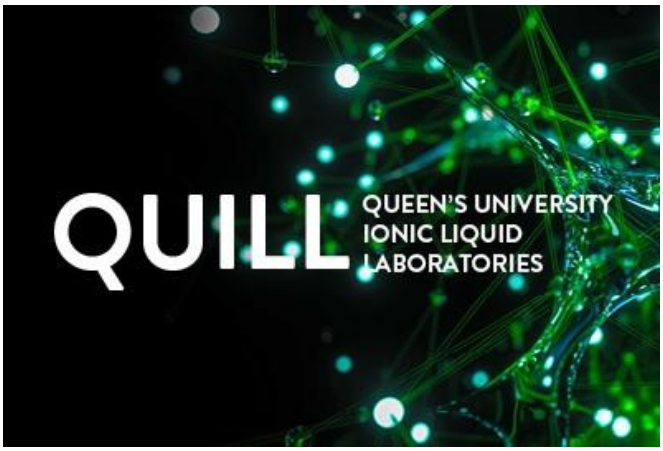
The organisers of today's event would like to thank the following for their generous sponsorship:

ALMAC

Partnering to Advance Human Health

INOV8

Customer Inspired Innovation



IBICS

Irish Biological Inorganic Chemistry Society

The Irish Biological Inorganic Chemistry Society will host its 7th Symposium (IBICS-7) in University College Dublin, UCD Village, Dublin 4 on Friday, 15th December 2023

The symposium will include 2 plenary lectures from international experts:

Professor Petra Heffeter
Applied and Experimental Oncology,
Medical University of Vienna, Austria
Development of new strategies to overcome the therapeutic limitations of inorganic anticancer drugs

Professor Ramón Vilar
Medicinal Inorganic Chemistry
Imperial College London, UK
Targeting DNA with luminescent metal complexes – imaging and therapy

The symposium will include the presentation of the IBICS Postgraduate Gold Medal 2023
Nominations are open: https://ibics.ie/ibics-awards/

DETAILS

IBICS AGM: *During the morning session of the symposium*

Registration:
https://forms.office.com/e/h1M2qQHN12
Free for registered members or €30 via EFT

Call for abstracts now open (Oral, poster, flash)
Abstract deadline: Friday 24th Nov 2023, Registration deadline: Friday 8th Dec 2023
Getting to University College Dublin: https://ucdestates.ie/commuting
Further details on our website: https://ibics.ie/ and via Twitter @IbicsIreland

IRC

Minister Simon Harris announces €24.6 million in Irish Research Council funding to support rising researchers and pioneering projects | News | Irish Research Council

11 September
Minister Simon Harris announces €24.6 million in Irish Research Council funding to support rising researchers and pioneering projects | News | Irish Research Council

COALESCE (Collaborative Alliances for Societal Challenges)

October
https://research.ie/funding/coalesce

Public Engagement with Research Award

14 November
Public Engagement with Research Award | ERC (europa.eu)

New ERC Scientific Council member and new ERC Vice President

6 November
New ERC Scientific Council member and new ERC Vice President | ERC (europa.eu)

Science Communication (links to short video on science communication0

(263) SCIENCE COMMUNICATION - YouTube

Frontiers of Research podcast

Podcast | ERC (europa.eu)

First awardees of the DOROTHY MSCA COFUND programme showcase innovative research to tackle public health crises

16 November
https://research.ie/2023/11/16/first-awardees-of-the-dorothy-msca-cofund-programme-showcase-innovative-research-to-tackle-public-health-crises

Gut-brain connection expert Professor Carel le Roux named Irish Research Council Researcher of the Year

21 November
https://research.ie/2023/11/21/gut-brain-connection-expert-professor-carel-le-roux-named-irish-research-council-researcher-of-the-year

Minister Harris announces Taighde Éireann- Research Ireland as the official name of the new Research and Innovation funding agency

16 November
https://research.ie/2023/11/16/minister-harris-announces-taighde-eireann-research-ireland-as-the-official-name-of-the-new-research-and-innovation-funding-agency

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

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

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

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

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

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

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

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

List of Confirmed Invited Speakers

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

The Institute of Chemistry of Ireland

Irish Young Chemists' Network (IYCN)

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

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

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

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

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

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

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

ICI's Young Chemists Network Committee for 2023/2024

The ICI Young Chemists Network is dedicated to facilitating networking opportunities and fostering connections among chemists in Ireland. We provide a platform for knowledge sharing, professional development, and career enhancement. Given the fundamental changes of Irish culture in recent decades, this year's committee is dedicating it is efforts towards equality, diversity and inclusion within the field of chemistry.

ICI YCN Committee at the 74th Irish Universities Chemistry Research Colloquium at NUIG June 2023

"We are fortunate to have a committee of self-motivated and diligent individuals, committed to the same mission. Ireland has changed as a society over recent decades. It is diverse and full of people with unique and wonderful cultures. As a professional body for chemistry within Ireland we want to ensure this diversity is reflected within Irish chemistry. It is our responsibility to change. We would be delighted to work with stakeholders, who would like to boost representation of those underrepresented within Irish chemistry".

***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

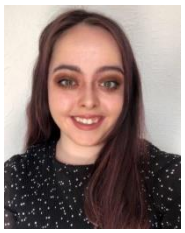
Róisín Byrne
DCU

Aaron McCormack
NUIG

Hanka Besic
NUIG

Kwadwo Asare Owusu
UL

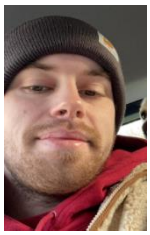
Keela Kessie
MU



Mary Flood
UCD/ Trinity

Francesca Adami
UCD

Alumenda Moreno Borralo
Trinity



Keane McNamee
MU

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

Last but not least, a big thanks to the outgoing Committee and Chair Colm McKeever at Maynooth University for their efforts in running events and building up the Young Chemists Network here in Ireland.

Chemistry Nobel Prize 2023 & Articles on Quantum Dots

Trio win chemistry Nobel for 'quantum dots' after leak
4 October
https://www.rte.ie/news/world/2023/1004/1408863-nobel-prize-chemistry

Press release: The Nobel Prize in Chemistry 2023 - NobelPrize.org
4 October
https://www.nobelprize.org/prizes/chemistry/2023/press-release

Nobel Prize Honors Inventors of ‘Quantum Dot’ Nanoparticles
4 October
Nobel Prize Honors Inventors of ‘Quantum Dot’ Nanoparticles | Quanta Magazine

What are quantum dots?
?
https://www.nanowerk.com/what_are_quantum_dots.php

Quantum Dot - an overview | ScienceDirect Topics (Selection of papers)
?
https://www.sciencedirect.com/topics/materials-science/quantum-dot

Synthesis, Properties and Applications of Quantum Dots - Nanografi Nano Technology
?
Synthesis, Properties and Applications of Quantum Dots - Nanografi Nano Technology

Wikipedia - Quantum Dot
Quantum dot - Wikipedia

Watch "Quantum Dots, what are they? How they work and what their Applications?" on YouTube
2020
https://youtu.be/0Eokkhdppg E?si=MeLpMDdmi3ZoWZsV

"Quantum dots can be seen as one milestone for the whole field of nanotechnology." 2023 chemistry
4 October
https://youtu.be/kMCebcq_QBI?si=uBWdMZsxqZxsDr3w

Quantum Dots and Their Applications: What Lies Ahead? | ACS Applied Nano Materials
26 June 2020
Quantum Dots and Their Applications: What Lies Ahead? | ACS Applied Nano Materials
DOI: Quantum Dots and Their Applications: What Lies Ahead? | ACS Applied Nano Materials

What is a quantum dot? | British Council
28 August 2019
https://www.britishcouncil.org/voices-magazine/what-quantum-dot

Quantum Dots in Cell Biology – PMC
March 2011
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3201154/
DOI: 10.1369/0022155411398487

Biomedical Applications of Quantum Dots: Overview, Challenges, and Clinical Potential – PMC
2 May 2022
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9076002
DOI: 10.2147/IJN.S357980

What Are Quantum Dots, and Why Do I Want Them in My TV? | WIRED
19 January 2015
What Are Quantum Dots, and Why Do I Want Them in My TV? | WIRED

Properties and Applications of Quantum Dots - CD Bioparticles (Commercial)
?
https://www.cd-bioparticles.com/t/Properties-and-Applications-of-Quantum-Dots_56.html

Frontiers | Quantum Dots: An Emerging Approach for Cancer Therapy
10 January 2022
https://www.frontiersin.org/articles/10.3389/fmats.2021.798440
DOI: https://doi.org/10.3389/fmats.2021.798440

Semiconductor quantum dots: Technological progress and future challenges | Science
6 August 2021
https://www.science.org/doi/10.1126/science.aaz8541
DOI: 10.1126/science.aaz8541

(PDF) Introduction to quantum dots definition and applications
June 2022
https://www.researchgate.net/publication/361464678_Introduction_to_quantum_dots_definition_and_applications

Graphene Quantum Dots: Introduction and Market News | Graphene-Info
?
https://www.graphene-info.com/graphene-quantum-dots

Modeling electronic and optical properties of III–V quantum dots—selected recent developments | Light: Science & Applications
17 January 2022
Modeling electronic and optical properties of III–V quantum dots—selected recent developments | Light: Science & Applications (nature.com)
DOI: https://doi.org/10.1038/s41377-021-00700-9

Quantum dots | MIT News | Massachusetts Institute of Technology (Selection of papers)
4 October
Quantum dots | MIT News | Massachusetts Institute of Technology

Quantum dots news and latest updates
4 October
https://phys.org/tags/quantum+dots

Tiny 'quantum dot' particles win chemistry Nobel
10 October
Tiny 'quantum dot' particles win chemistry Nobel (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03048-9

Nobel Prize in Chemistry for Quantum Dots | The Scientist Magazine(R)
4 October

Nobel Prize in Chemistry for Quantum Dots | The Scientist Magazine® (the-scientist.com)

Nobel Prize in Chemistry 2023
4 October
Nobel Prize in Chemistry 2023 (nature.com)

Nobel prize in chemistry awarded for 'quantum dot' technology that gave us today's high definition TVs
5 October
Nobel prize in chemistry awarded for 'quantum dot' technology that gave us today's high definition TVs (theconversation.com)

I helped select the Nobel laureates in physics – here's how our committee decides — The Conversation
5 October
I helped select the Nobel laureates in physics – here's how our committee decides (theconversation.com)

Swedish media report that the winners of the Nobel Prize in chemistry may have been announced early
4 October
Swedish media report that the winners of the Nobel Prize in chemistry may have been announced early (phys.org)

One Small Quantum Dot, One Giant Leap for Nanoscience: Moungi Bawendi ’82 Wins Nobel Prize in Chemistry | News | The Harvard Crimson
6 October
One Small Quantum Dot, One Giant Leap for Nanoscience: Moungi Bawendi ’82 Wins Nobel Prize in Chemistry | News | The Harvard Crimson (thecrimson.com)

Behind the research that won this year's Nobel Prize in chemistry
5 October
Behind the research that won this year's Nobel Prize in chemistry (cosmosmagazine.com)

Leak sheds light on secretive Nobel selection process
6 October
https://cen.acs.org/people/nobel-prize/Leak-sheds-light-secretive-Nobel-selection-process/101/web/2023/10

Quantum Dots (Nobel Prize 2023) - Periodic Table of Videos
6 October
(164) Quantum Dots (Nobel Prize 2023) - Periodic Table of Videos - YouTube

Nobel Laureates Explain Their Winning Science By Drawing It On Their Hands
6 October
Nobel Laureates Explain Their Winning Science By Drawing It On Their Hands (forbes.com)

American Chemical Society’s president comments on award of 2023 Nobel Prize in Chemistry - American Chemical Society
4 October
American Chemical Society’s president comments on award of 2023 Nobel Prize in Chemistry - American Chemical Society (acs.org)

Levity and gravity: The Ig Nobel Prize celebrates research that makes us first laugh and then think. We look at some of this year’s not so ignoble highlights.
11 October
Levity and gravity | Nature Physics

DOI: https://doi.org/10.1038/s41567-023-02264-4

Persistence Pays Off: Recognizing Katalin Karikó and Drew Weissman, the 2023 Nobel Prize Winners in Physiology or Medicine – NIH Director's Blog

12 October
Persistence Pays Off: Recognizing Katalin Karikó and Drew Weissman, the 2023 Nobel Prize Winners in Physiology or Medicine – NIH Director's Blog

Meet the unsung scientists behind the Nobel for quantum dots

18 October
Meet the unsung scientists behind the Nobel for quantum dots (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03179-z

Premier Publishing &Events 2024 Ireland

BioPharma & Lifesciences Connected Live

January 25th 2024 | Radisson Blu Hotel & Spa, Cork

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

National Sustainability Summit

22nd February 2024 | RDS, Dublin

Details & Free Registration here:
https://www.sustainabilitysummit.ie

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

ALL IRELAND CHEMICAL EXPO

8th November 2023
The Leopardstown Pavilion
Leopardstown Racecourse

The Institute attended the All-Ireland Chemical Expo in Leopardstown Pavilion on November 8th.

Prof Pat Guiry spoke about the Institute and EuChemS Chemical Congress 9 next July. Then follower Dr Joe Byrne, UCD representing the ICI Young Chemists Network explaining what they do and encouraging member of ICI and YCN. A little later Suresh Pillai gave an interesting talk on Innovation. Our speakers were introduced by Dr Diane Turner, founder of Anthias Consulting Ltd, and previous Chair of the RSC Analytical Chemistry Group. Throughout the day there were many interesting presentations as can be seen on the two pages ahead. The Editor was present and talked to the exhibitors about exhibiting at ECC-9 and took some photographs.

Dr Diane Turner introducing the talks and presentations

Prof Pat Guiry giving his presentation on the Institute of Chemistry of Ireland and ECC-9 next July

Dr Joe Byrne UCD highlighting the ICI Young Chemists Network

Prof Suresh Pillai ATU (ICI Boyle Higgins Gold Medal Winner) presenting his talk on Innovation

Times	Name	Topic
9.35-9.40	Dr Diane Turner , Founder, Director & Senior Consultant, Anthias Consulting Ltd.	Opening Remarks
THE FUTURE OF LABORATORIES		
9.40-9.55	Professor Pat Guiry, Director of the Centre for Synthesis and Chemical Biology, School of Chemistry, University College Dublin	The Institute of Chemistry of Ireland and the 9th EuChemS Congress in Dublin 7-11 July 2024
9.55-10.00	Dr Joseph Byrne, Lecturer &Assistant Professor, University College Dublin	Institute's Young Chemists Network
10.00-10.20	James Fenton, LIMS Consultant, Autoscribe Informatics	Driving Automation, Management and Profitability in Your Laboratory
10.20-10.40	Jack O'Grady, Senior Programmes Manager, My Green Labs	My Green Lab - Building a Global Culture of Sustainability in Science
10.40-11.00	Mike Griffin, Founder & Managing Director, Lab Works	Ductless vs Ducted Fume Cupboards
11.00-11.20	Aratz Akarregi, Area Director, Burdinola Safer Labs	Burdinola Laboratory Furniture & Fume Cupboards
11.20-11.40	Dermot Murphy, IoT Research Engineer, Irish Manufacturing Research	Cleanroom Optimisation using Industrial IoT
REGULATORY COMPLIANCE AND CRITICAL ENVIRONMENTAL MONITORING		
11.40-12.00	Dubhaltach MacLochlainn, Technical Manager - Temperature Section, NSAI	How to Measure with Confidence
12.00-12.20	Kieran Falvey, Director & Principal Consultant, Pharmalliance Consulting Ltd	Contamination Control - How the updated EU Annex 1 Regulation Impacts Your Cleanroom
12.20-12.40	Prof Suresh Pallai, Atlantic Technological University, Sligo	Maximizing the Potential of Innovation: Connecting Conceptualization to Real-world Impact
12.40-13.00	**LUNCH BREAK & NETWORKING**	
13.00-13.20	Pat Browne, Head of Fixed Sales, OBW Technologies	The Future of Gas Detection Solutions
13.20-13.40	Gethin Jones, Director, Clean Air Monitoring Solutions	Continuous (Viable) Monitoring for Annex 1 Compliance
13.40-14.00	Martin Lill, Marketing Manager EMEA, Lakeland Europe	The common mis-intepretation of Infectious Agent Standard EN 14126 and how it could mean operators are not as well protected as you think
LAB & CHEMICAL SUSTAINABILITY		
14.00-14.20	Lucy Moore, Sustainability Manager, Scientific Laboratory Supplies	The Journey to Determining Product Sustainability
14.20-14.40	Dr Diane Turner , Founder, Director & Senior Consultant, Anthias Consulting Ltd.	Gas Chromatography & GC-MS Sustainability & Health Check
14.40-15.00	Kevin Walsh, CEO & Founder, Chemishield	Digitizing Waste Management in the lab - Eliminating paper, enhancing safety & the move towards a circular economy
15.00-15.20	Alf Gregg, Commercial Director, SteriTech Process Solutions	Lab Scale-Up in Pharma: Bridging Discovery to Production
15.20-15.40	Dr Ciarán Seoighe, Deputy Director General, SFI	SFI Spearheads Drive for Sustainable Laboratories
15.40-15.45	Dr Diane Turner , Founder, Director & Senior Consultant, Anthias Consulting Ltd.	Closing Remarks

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

Physical Chemistry Chemical Physics
07 August 2023, Issue 29,
Phys. Chem. Chem. Phys.,
2023,25, 19435-19445
DOI https://doi.org/10.1039/D3CP01688A

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

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.

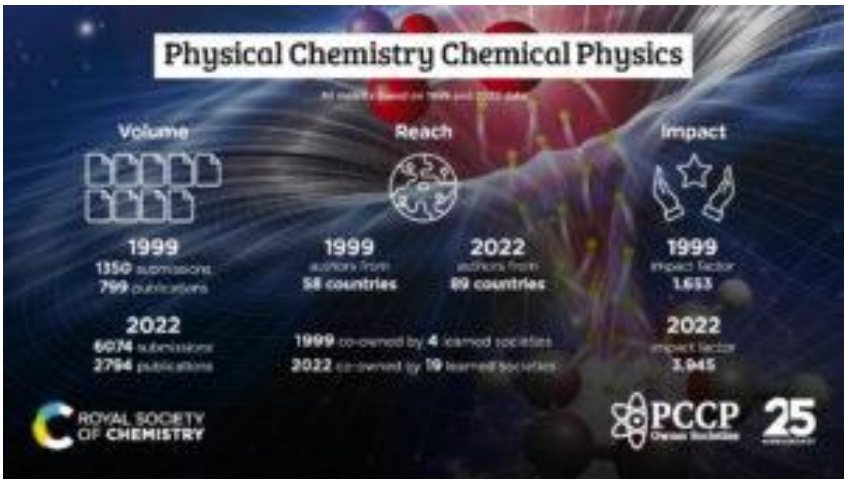
Impact factor: 4.493*
Publishing frequency: 48 per year
Indexed in MEDLINE and Web of Science

This year, PCCP is celebrating the 25th volume of PCCP. A lot has changed since our first issue – PCCP was launched by four international chemistry and physical chemistry societies, but over the years, another 15 learned societies including ICI joined this journal. In 2023, our community is now represented by an internationally renowned editorial board, comprising of 14 associate editors carefully selected by our 19 Owner Societies. With their support, we have published 45,000 articles from over 120 countries to date.

PCCP is a Transformative Journal and Plan S compliant

- Impact factor: 3.3*
- Eigenfactor Score: 0.08661*
- Time to first decision (all decisions): 31.0 days**
- Time to first decision (peer reviewed only): 40.0 days***
- CiteScore: 5.9****
- Indexed in MEDLINE and Web of Science
- Chair: Anouk Rijs
  Deputy Chair: Henry Schaefer
- Article submissions (2022): 5766
- Article publications (2022): 2769
- Open access publishing options available

A quick look at the difference from 1999 to 2023: Celebrating 25 years of PCCP – PCCP Blog (rsc.org)



Chemistry and related Sciences around the World

Adaptive Catalysts for Coupling Reactions | Science | AAAS
1 September
Adaptive Catalysts for Coupling Reactions | Science | AAAS

Chemistry Breakthrough: Scientists Take Photoclick Chemistry to the Next Level
2 September
Chemistry Breakthrough: Scientists Take Photoclick Chemistry to the Next Level (scitechdaily.com)
DOI: 10.1039/D3SC01760E

Organophotocatalysed synthesis of 2-piperidinones in one step via [1 + 2 + 3] strategy | Nature Communications
2 September
Organophotocatalysed synthesis of 2-piperidinones in one step via [1 + 2 + 3] strategy | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-40197-x

Scientists manipulate quantum mechanics to slow down a chemical reaction by 100 billion times | Live Science
4 September
Scientists manipulate quantum mechanics to slow down a chemical reaction by 100 billion times | Live Science

Evidence of finite-momentum pairing in a centrosymmetric bilayer
4 September
Evidence of finite-momentum pairing in a centrosymmetric bilayer | Nature Physics
DOI: https://doi.org/10.1038/s41567-023-02202-4

Researchers develop a new reagent and method to create DNA and RNA polymer biohybrids
4 September
Researchers develop a new reagent and method to create DNA and RNA polymer biohybrids (phys.org)
DOI: 10.1016/j.chempr.2023.07.013

Microwave synthesis of molybdenene from MoS2 | Nature Nanotechnology
4 September
Microwave synthesis of molybdenene from MoS2 | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01484-2

Neural network boosts chiral ligand design | Research | Chemistry World
5 September
https://www.chemistryworld.com/news/neural-network-boosts-chiral-ligand-design/4018008.article

Formation and characterization of polymetallic {CrxMy} rings in vacuo | Nature Synthesis

4 September
Formation and characterization of polymetallic {CrxMy} rings in vacuo | Nature Synthesis
DOI: https://doi.org/10.1038/s44160-023-00383-7

Ni-Electrocatalytic Decarboxylative Arylation to Access Quaternary Centers | Organic Chemistry | ChemRxiv | Cambridge Open Engage

4 September
Ni-Electrocatalytic Decarboxylative Arylation to Access Quaternary Centers | Organic Chemistry | ChemRxiv | Cambridge Open Engage
DOI: 0.26434/chemrxiv-2023-srlm6-v2

Measuring and predicting collision cross section values for unknown compounds

5 September
Measuring and predicting collision cross section values for unknown compounds (phys.org)
DOI: 10.1002/jms.4973

White House Proposes Definition for "Sustainable Chemistry" – Lexology

31 August
White House Proposes Definition for "Sustainable Chemistry" - Lexology

A bulk form Cu-based ferromagnetic semiconductor (La, Ba)(Cu, Mn)SO with the Curie temperature up to 170 K | Scientific Reports

5 September
A bulk form Cu-based ferromagnetic semiconductor (La,Ba)(Cu,Mn)SO with the Curie temperature up to 170 K | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-41895-8

Wireless Electrochemical Reactor for Accelerated Exploratory Study of Electroorganic Synthesis | ACS Central Science

4 September
Wireless Electrochemical Reactor for Accelerated Exploratory Study of Electroorganic Synthesis | ACS Central Science
DOI: https://doi.org/10.1021/acscentsci.3c00856

Synthesis and characterization of a formal 21-electron cobaltocene derivative | Nature Communications

5 September
Synthesis and characterization of a formal 21-electron cobaltocene derivative | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-40557-7

Synthesis of Functionalized Pyrrolidinone Scaffolds via Smiles-Truce Cascade | Organic Letters

5 September
Synthesis of Functionalized Pyrrolidinone Scaffolds via Smiles-Truce Cascade | Organic Letters (acs.org)
DOI: https://doi.org/10.1021/acs.orglett.3c02559

In creating new technological universities, did we make a mistake? – The Irish Times

5 September
https://www.irishtimes.com/ireland/education/2023/09/05/in-creating-new-technological-universities-did-we-make-a-mistake

Self-adaptive amorphous CoOxCly electrocatalyst for sustainable chlorine evolution in acidic brine | Nature Communications

2 September

Self-adaptive amorphous CoOxCly electrocatalyst for sustainable chlorine evolution in acidic brine | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41070-7

Valence Bond Theory Allows a Generalized Description of Hydrogen Bonding | Journal of the American Chemical Society

4 September
Valence Bond Theory Allows a Generalized Description of Hydrogen Bonding | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c08196

Carbon-Bonding Metal Catalysis (CBMC): A Supramolecular Complex Directs Structural-Isomer Selection in Gold-Catalyzed Reactions | Journal of the American Chemical Society

5 September
Carbon-Bonding Metal Catalysis (CBMC): A Supramolecular Complex Directs Structural-Isomer Selection in Gold-Catalyzed Reactions | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c07551

Simplified 3D hydrodynamic flow focusing for lab-on-chip single particle study | Scientific Reports

6 September
Simplified 3D hydrodynamic flow focusing for lab-on-chip single particle study | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-40430-z

Aromatic Molecules Rapidly Transformed Into Harmful Aerosols by Hot Chemistry | Technology Networks

24 August
Aromatic Molecules Rapidly Transformed Into Harmful Aerosols by Hot Chemistry | Technology Networks
DOI: 10.1038/s41467-023-40675-2

SSPC Symposium 2023 – celebrating 15 years

1 September
SSPC Symposium 2023 - celebrating 15 years - SSPC

A catalytically active oscillator made from small organic molecules | Nature

6 September
A catalytically active oscillator made from small organic molecules | Nature
DOI: https://doi.org/10.1038/s41586-023-06310-2

Chemists devise a method for C-H activation of alcohols

6 September
Chemists devise a method for C-H activation of alcohols (phys.org)
DOI: 10.1038/s41586-023-06485-8

Novel titanium dioxide catalyst shows promise for electrocatalytic carbon dioxide reduction

5 September
Novel titanium dioxide catalyst shows promise for electrocatalytic carbon dioxide reduction (phys.org)
DOI: 10.1016/j.scitotenv.2023.166018

UK to return to EU's flagship Horizon science research programme – The Irish Times

6 September

https://www.irishtimes.com/world/uk/2023/09/06/uk-to-return-to-eus-flagship-horizon-science-research-programme

Chemists Develop New Way to Split Water

6 September
Chemists Develop New Way To Split Water (scitechdaily.com)
DOI: 10.1038/s41586-023-06141-1

Syntrophic entanglements for propionate and acetate oxidation under thermophilic and high-ammonia conditions | The ISME Journal

7 September
Syntrophic entanglements for propionate and acetate oxidation under thermophilic and high-ammonia conditions | The ISME Journal (nature.com)
DOI: https://doi.org/10.1038/s41396-023-01504-y

News | TU Dublin Opens €14.7m Campus Development in Tallaght | TU Dublin

6 September
News | TU Dublin Opens €14.7m Campus Development in Tallaght | TU Dublin

Investigating the mechanical stability of flexible metal–organic frameworks | Communications Chemistry

5 September
Investigating the mechanical stability of flexible metal–organic frameworks | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00981-8

Chemo-enzymatic total synthesis of the spirosorbicillinols | Communications Chemistry

6 September
Chemo-enzymatic total synthesis of the spirosorbicillinols | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00996-1

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

5 September
Some Items of Interest to Process R&D Chemists and Engineers | Organic Process Research & Development (acs.org)
DOI: https://doi.org/10.1021/acs.oprd.3c00291

Nanoparticles will change the world, but whether it's for the better depends on decisions made now

7 September
Nanoparticles will change the world, but whether it's for the better depends on decisions made now (theconversation.com)

Electrochemical: A More Efficient Way of Capturing CO2 than DAC? • Carbon Credits

8 September
Electrochemical: A More Efficient Way of Capturing CO2 than DAC? • Carbon Credits

Catalyst- and metal-free C(sp2)–H bond selenylation of (N-hetero)-arenes using diselenides and trichloroisocyanuric acid at room temperature | Scientific Reports

31 August
Catalyst- and metal-free C(sp2)–H bond selenylation of (N-hetero)-arenes using diselenides and trichloroisocyanuric acid at room temperature | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-41430-9

Scalable Electrochemical Decarboxylative Olefination Driven by Alternating Polarity - Garrido-Castro - Angewandte Chemie International Edition - Wiley Online Library

1 September
Scalable Electrochemical Decarboxylative Olefination Driven by Alternating Polarity - Garrido-Castro - Angewandte Chemie International Edition - Wiley Online Library
DOI: https://doi.org/10.1002/anie.202309157

A Game-Changing Discovery: Scientists Invent Unique Method To Create Better Molecule-Based Magnets

8 September
A Game-Changing Discovery: Scientists Invent Unique Method To Create Better Molecule-Based Magnets (scitechdaily.com)
DOI: 10.1038/s41557-023-01208-y

Scientists elucidate the corrosion mechanism of anodes in seawater electrolysis

8 September
Scientists elucidate the corrosion mechanism of anodes in seawater electrolysis (phys.org)
DOI: 10.1038/s41467-023-40563-9

AABBA: Atom–Atom Bond–Bond Bond–Atom Graph Kernel for Machine Learning on Molecules and Materials | Theoretical and Computational Chemistry | ChemRxiv | Cambridge Open Engage

5 September
AABBA: Atom–Atom Bond–Bond Bond–Atom Graph Kernel for Machine Learning on Molecules and Materials | Theoretical and Computational Chemistry | ChemRxiv | Cambridge Open Engage
DOI: The DOI within the publication does not seem to work properly.

Revolutionizing lithium production on a string

7 September
Revolutionizing lithium production on a string (techxplore.com)
DOI: 10.1038/s44221-023-00131-3

The UK has joined the EU's Horizon science funding scheme – but if we want the UK to lead, the hard work has just begun

8 September
The UK has joined the EU's Horizon science funding scheme – but if we want the UK to lead, the hard work has just begun (theconversation.com)

Experts explain how diamonds are grown in a lab

8 September
Experts explain how diamonds are grown in a lab (phys.org)

Stereospecific synthesis of silicon-stereogenic optically active silylboranes and general synthesis of chiral silyl Anions | Nature Communications

9 September
Stereospecific synthesis of silicon-stereogenic optically active silylboranes and general synthesis of chiral silyl Anions | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41113-z

Hybrid catalyst produces critical fertilizer and cleans wastewater

11 September
Hybrid catalyst produces critical fertilizer and cleans wastewater (phys.org)
DOI: 10.1038/s41929-023-01020-4

Two EU agencies 'dismissed' cancer risk in glyphosate claim action group
11 September
Two EU agencies 'dismissed' cancer risk in glyphosate claim action group (agriland.ie)

Synthesis of novel antibacterial nanocomposite CuO/Ag-modified zeolite for removal of MB dye | Scientific Reports
11 September
Synthesis of novel antibacterial nanocomposite CuO/Ag-modified zeolite for removal of MB dye | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-40790-6

Discovery of a three-proton insertion mechanism in α-molybdenum trioxide leading to enhanced charge storage capacity | Nature Communications
7 September
Discovery of a three-proton insertion mechanism in α-molybdenum trioxide leading to enhanced charge storage capacity | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41277-8

Scientists Unearth Primordial Photoredox Catalyst
4 September
Scientists Unearth Primordial Photoredox Catalyst (scitechdaily.com)
DOI: 10.1002/anie.202307236

Camphor - American Chemical Society
11 September
Camphor - American Chemical Society (acs.org)

New water treatment approach helps to avoid harmful chemicals
11 September
New water treatment approach helps to avoid harmful chemicals (phys.org)
DOI: 10.1021/acs.est.2c09389

Investigation of Mechanochemical Sonogashira Couplings─From Batch Solution to Continuous Reactive Extrusion through Ball-Milling Optimization | Organic Process Research & Development
6 September
Investigation of Mechanochemical Sonogashira Couplings─From Batch Solution to Continuous Reactive Extrusion through Ball-Milling Optimization | Organic Process Research & Development (acs.org)
DOI: https://doi.org/10.1021/acs.oprd.3c00200

Coupled reaction equilibria enable the light-driven formation of metal-functionalized molecular vanadium oxides | Nature Communications
9 September
Coupled reaction equilibria enable the light-driven formation of metal-functionalized molecular vanadium oxides | Nature Communications
DOI: https://www.nature.com/articles/s41467-023-41257-y

Revolutionizing Organometallic Chemistry: The 21-Electron Metallocene “Sandwich”
5 September
Revolutionizing Organometallic Chemistry: The 21-Electron Metallocene “Sandwich” (scitechdaily.com)
DOI: 10.1038/s41467-023-40557-7

Team develops new gold nanocluster-rich titanium dioxide photocatalyst for the oxidative coupling of methane
13 September

Team develops new gold nanocluster-rich titanium dioxide photocatalyst for the oxidative coupling of methane (phys.org)
DOI: 10.1038/s41560-023-01317-5

Multilength Scale Hierarchy in Metal-Organic Frameworks: Synthesis, Characterization and the Impact on Applications - Tsang - Advanced Functional Materials - Wiley Online Library

10 September
Multilength Scale Hierarchy in Metal-Organic Frameworks: Synthesis, Characterization and the Impact on Applications - Tsang - Advanced Functional Materials - Wiley Online Library
DOI: https://doi.org/10.1002/adfm.202308376

A novel method to obtain acetone in slow-cost, simple manner

13 September
A novel method to obtain acetone in slow-cost, simple manner (phys.org)
DOI: 10.1021/acscatal.3c02092

Selective Electrocatalytic Reduction of Nitrous Oxide to Dinitrogen with an Iron Porphyrin Complex | ACS Catalysis

13 September
Selective Electrocatalytic Reduction of Nitrous Oxide to Dinitrogen with an Iron Porphyrin Complex | ACS Catalysis
DOI: https://doi.org/10.1021/acscatal.3c02707

Predicting Crystals | Science | AAAS

14 September
Predicting Crystals | Science | AAAS

What is Crystal Structure Prediction? And why is it so difficult? | CCDC

9 April 2021
What is Crystal Structure Prediction? And why is it so difficult? | CCDC (cam.ac.uk)
https://www.ccdc.cam.ac.uk/discover/blog/what-is-crystal-structure-prediction-csp

Optimality guarantees for crystal structure prediction | Nature

5 July
Optimality guarantees for crystal structure prediction | Nature
DOI: https://www.nature.com/articles/s41586-023-06071-y

Austere Crystals | Science | AAAS

11 September
Austere Crystals | Science | AAAS
https://www.science.org/content/blog-post/austere-crystals

Stalking Polymorphs | Science | AAAS

14 March
Stalking Polymorphs | Science | AAAS
https://www.science.org/content/blog-post/stalking-polymorphs

Surface-immobilized cross-linked cationic polyelectrolyte enables CO2 reduction with metal cation-free acidic electrolyte | Nature Communications

13 September
Surface-immobilized cross-linked cationic polyelectrolyte enables CO2 reduction with metal cation-free acidic electrolyte | Nature Communications
DOI: https://www.nature.com/articles/s41467-023-41396-2

Majority rule in complex mixtures: Study identifies new mechanism for control of phase separation

13 September
Majority rule in complex mixtures: Study identifies new mechanism for control of phase separation (phys.org)
DOI: 10.1103/PhysRevLett.131.058401

Cost-Effective Chromium: The Next Big Thing in Green Energy?

13 September
Cost-Effective Chromium: The Next Big Thing In Green Energy? | OilPrice.com

'Crappier-than-crap' molecule exposed in overhaul of carbon-nitrogen-hydrogen chemistry

15 September
'Crappier-than-crap' molecule exposed in overhaul of carbon-nitrogen-hydrogen chemistry (phys.org)
DOI: 10.1021/acs.jpclett.3c01753

Scalable electrosynthesis of commodity chemicals from biomass by suppressing non-Faradaic transformations | Nature Communications

12 September
Scalable electrosynthesis of commodity chemicals from biomass by suppressing non-Faradaic transformations | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41497-y

Surfactants can cause toxic chemicals in aerosols to last longer in the air

12 September
Surfactants can cause toxic chemicals in aerosols to last longer in the air (phys.org)
DOI: 10.1021/acs.accounts.3c00194

Artificial Photosynthesis Breakthrough – Researchers Produce Hybrid Solid Catalysts

16 September
Artificial Photosynthesis Breakthrough – Researchers Produce Hybrid Solid Catalysts (scitechdaily.com)
DOI: 10.1021/acs.nanolett.3c02355

Green synthesis of TiO2 for furfural production by photohydrolysis of tortilla manufacturing waste | Scientific Reports

16 September
Green synthesis of TiO2 for furfural production by photohydrolysis of tortilla manufacturing waste | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-41529-z

Thioxobimanes | The Journal of Organic Chemistry

15 September
Thioxobimanes | The Journal of Organic Chemistry (acs.org)
DOI: https://doi.org/10.1021/acs.joc.3c00873

Amino-induced cadmium metal–organic framework based on thiazole ligand as a heterogeneous catalyst for the epoxidation of alkenes | Scientific Reports

16 September
Amino-induced cadmium metal–organic framework based on thiazole ligand as a heterogeneous catalyst for the epoxidation of alkenes | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-42666-1

Identifying the active sites in unequal iron-nitrogen single-atom catalysts | Nature Communications

11 September
Identifying the active sites in unequal iron-nitrogen single-atom catalysts | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41311-9

Electrochemical Reduction of N2O with a Molecular Copper Catalyst | ACS Catalysis

14 September
Electrochemical Reduction of N2O with a Molecular Copper Catalyst | ACS Catalysis
DOI: https://doi.org/10.1021/acscatal.3c02658

Future science at the molecular level | MIT News | Massachusetts Institute of Technology

15 September
Future science at the molecular level | MIT News | Massachusetts Institute of Technology

Synthesis, Structure, and Reactivity of Magnesium Pentalenides | Inorganic Chemistry

15 September
Synthesis, Structure, and Reactivity of Magnesium Pentalenides | Inorganic Chemistry (acs.org)
DOI: https://doi.org/10.1021/acs.inorgchem.3c02087

Researchers propose novel paradigm of metal electron-shuttle catalysis

18 September
Researchers propose novel paradigm of metal electron-shuttle catalysis (phys.org)
DOI: 10.1038/s41929-023-01015-1

MIT's Game-Changing Hack: Energy-Efficient CO2 Capture & Conversion

18 September
MIT's Game-Changing Hack: Energy-Efficient CO2 Capture & Conversion (scitechdaily.com)
DOI: 10.1021/acscatal.3c02500

Carbon Atoms Diffuse on Interstellar Ice Grains to Form Complex Organic Compounds

18 September
Carbon Atoms Diffuse on Interstellar Ice Grains To Form Complex Organic Compounds (scitechdaily.com)
DOI: 10.1038/s41550-023-02071-0

Revolutionary "true zero carbon" cement uses electrolysis, not furnaces

18 September
Revolutionary "true zero carbon" cement uses electrolysis, not furnaces (newatlas.com)

Concurrent oxygen reduction and water oxidation at high ionic strength for scalable electrosynthesis of hydrogen peroxide | Nature Communications

19 September
Concurrent oxygen reduction and water oxidation at high ionic strength for scalable electrosynthesis of hydrogen peroxide | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41397-1

Improving the properties of sweeteners for enhanced thermal energy storage

18 September
Improving the properties of sweeteners for enhanced thermal energy storage (phys.org)
DOI: 10.1039/D3MH00905J

A CO2 electrolyzer tandem cell system for CO2-CO co-feed valorization in a Ni-N-C/Cu-catalyzed reaction cascade | Nature Communications

14 September
A CO2 electrolyzer tandem cell system for CO2-CO co-feed valorization in a Ni-N-C/Cu-catalyzed reaction cascade | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41278-7

A scalable approach to fabricate ultrathin protonic ceramic electrochemical cells with lower operating temperatures

19 September
https://techxplore.com/news/2023-09-scalable-approach-fabricate-ultrathin-protonic.html
DOI: 10.1038/s41560-023-01350-4

EU Commission recommends glyphosate licence renewal

20 September
EU Commission recommends glyphosate licence renewal (rte.ie)

New model to help valorize lignin for bio-based applications

19 September
New model to help valorize lignin for bio-based applications (phys.org)
DOI: 10.1039/D3GC00948C

Molybdenene—the 'metallic' relative of graphene

20 September
Molybdenene—the 'metallic' relative of graphene (phys.org)
DOI: 10.1038/s41565-023-01484-2

Scientists unravel the chemical mechanism behind silica-coated nanodiamonds

20 September
Scientists unravel the chemical mechanism behind silica-coated nanodiamonds (phys.org)
DOI: 10.1021/acsnanoscienceau.3c00033

Strategic application of C–H oxidation in natural product total synthesis | Nature Reviews Chemistry (Subscription)

20 September
Strategic application of C–H oxidation in natural product total synthesis | Nature Reviews Chemistry
DOI: https://doi.org/10.1038/s41570-023-00534-6

EPA chemicals chief snaps back at industry: ‘Come in earlier’ - E&E News by POLITICO

20 September
EPA chemicals chief snaps back at industry: ‘Come in earlier’ - E&E News by POLITICO (eenews.net)

Precisely arranging nanoparticles to develop plasmonic molecules

19 September
Precisely arranging nanoparticles to develop plasmonic molecules (phys.org)
DOI: 10.1002/anie.202309798

A metal-free photoactive nitrogen-doped carbon nanosolenoid with broad absorption in visible region for efficient photocatalysis | Nature Communications

20 September
A metal-free photoactive nitrogen-doped carbon nanosolenoid with broad absorption in visible region for efficient photocatalysis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41467-4

Learning lessons from the history of chemistry | Opinion | Chemistry World

20 September
Learning lessons from the history of chemistry | Opinion | Chemistry World

Team develops novel ligands for transition-metal catalysis of photoreactions
19 September
Team develops novel ligands for transition-metal catalysis of photoreactions (phys.org)
DOI: 10.1021/acscatal.3c01654

Clara Sousa-Silva seeks molecular signatures of life in alien atmospheres
19 September
Clara Sousa-Silva seeks molecular signatures of life in alien atmospheres (sciencenews.org)

50 years ago, the quest for superheavy elements was just getting started
8 September
50 years ago, the quest for superheavy elements was just getting started (sciencenews.org)

To form pink diamonds, build and destroy a supercontinent
19 September
To form pink diamonds, build and destroy a supercontinent (sciencenews.org)

Reduction: The Ichikawa/Hosokawa Synthesis of Axisonitrile-3
18 September
https://www.organic-chemistry.org/Highlights/2023/18September.shtm
DOI: 10.1021/jacs.2c05586

Chemists use nature as inspiration for a sustainable, affordable adhesive system
13 September
Chemists use nature as inspiration for a sustainable, affordable adhesive system (phys.org)
DOI: 10.1038/s41586-023-06335-7

Anionic ring-opening polymerization of functional epoxide monomers in the solid state | Nature Communications
20 September
Anionic ring-opening polymerization of functional epoxide monomers in the solid state | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41576-0

Rapid design of top-performing metal-organic frameworks with qualitative representations of building blocks | npj Computational Materials
21 September
Rapid design of top-performing metal-organic frameworks with qualitative representations of building blocks | npj Computational Materials (nature.com)
DOI: https://doi.org/10.1038/s41524-023-01125-1

Ultrathin films achieve record hydrogen-nitrogen separation
21 September
Ultrathin films achieve record hydrogen-nitrogen separation (phys.org)
DOI: 10.1038/s41563-023-01669-z

Click Chemistry and Radiochemistry: An Update | Bioconjugate Chemistry
22 September
Click Chemistry and Radiochemistry: An Update | Bioconjugate Chemistry (acs.org)
DOI: https://doi.org/10.1021/acs.bioconjchem.3c00286

Olefination of Aromatic Carbonyls via Site-Specific Activation of Cycloalkanone Ketals
21 September

Olefination of Aromatic Carbonyls via Site-Specific Activation of Cycloalkanone Ketals | Organic Chemistry | ChemRxiv | Cambridge Open Engage
DOI: https://doi.org/10.26434/chemrxiv-2023-tp55l

Researchers reveal origins of zirconium nitride's superior performance

21 September
Researchers reveal origins of zirconium nitride's superior performance (phys.org)
DOI: 10.1039/D3SC01827J

Brazilian researchers develop method of purifying water contaminated by glyphosate

22 September
Brazilian researchers develop method of purifying water contaminated by glyphosate (phys.org)
DOI: 10.1515/pac-2022-1205

Grinding-induced supramolecular charge-transfer assemblies with switchable vapochromism toward haloalkane isomers | Nature Communications

23 September
Grinding-induced supramolecular charge-transfer assemblies with switchable vapochromism toward haloalkane isomers | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41713-9

Strong structuring arising from weak cooperative O-H···π and C-H···O hydrogen bonding in benzene-methanol solution

22 September
Strong structuring arising from weak cooperative O-H···π and C-H···O hydrogen bonding in benzene-methanol solution | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41451-y

Game-Changing Titanium Dioxide Electrode Transforms CO2 To Clean Fuel | OilPrice.com

23 September
Game-Changing Titanium Dioxide Electrode Transforms CO2 To Clean Fuel | OilPrice.com

Carbon dioxide and nitrate co-electroreduction to urea on CuOxZnOy | Communications Chemistry

19 September
Carbon dioxide and nitrate co-electroreduction to urea on CuOxZnOy | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01001-5

Formation of nitrogen-containing gas phase products from the heterogeneous (photo)reaction of NO2 with gallic acid | Communications Chemistry

16 September
Formation of nitrogen-containing gas phase products from the heterogeneous (photo)reaction of NO2 with gallic acid | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01003-3

Minimum conditions for accurate modeling of urea production via co-electrolysis | Communications Chemistry

13 September
Minimum conditions for accurate modeling of urea production via co-electrolysis | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00990-7

Copper-catalyzed intermolecular formal (5 + 1) annulation of 1,5-diynes with 1,2,5-oxadiazoles | Communications Chemistry

12 September
Copper-catalyzed intermolecular formal (5 + 1) annulation of 1,5-diynes with 1,2,5-oxadiazoles | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00999-y

Open questions in attochemistry | Communications Chemistry

4 September
Open questions in attochemistry | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00989-0

Acceptorless cross-dehydrogenative coupling for C(sp3)-H heteroarylation mediated by a heterogeneous GaN/ketone photocatalyst/photosensitizer system | Communications Chemistry

1 September
Acceptorless cross-dehydrogenative coupling for C(sp3)-H heteroarylation mediated by a heterogeneous GaN/ketone photocatalyst/photosensitizer system | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00947-w

Efficient fuel-molecule sieving using graphene

22 September
Efficient fuel-molecule sieving using graphene (phys.org)
DOI: 10.1002/advs.202304082

Health Benefits of Tea Impacted by Glaze of Your Cup

12 September
Health Benefits of Tea Impacted by Glaze of Your Cup | Technology Networks
DOI: 10.1038/s41598-023-37480-8

Cakes Get a Boost from Spent Tea and Coffee

21 September
Cakes Get a Boost From Spent Tea and Coffee | Technology Networks
DOI: 10.1021/acsomega.3c03747

Applications of Boron Nitride-Based Hydrogels

25 September
https://www.azonano.com/article.aspx?ArticleID=6551
DOI: org/10.1039/D1SM00212K

Fleeting form of nitrogen stretches nuclear theory to its limits | Science | AAAS

25 February
Fleeting form of nitrogen stretches nuclear theory to its limits | Science | AAAS

Measuring Molecular Complexity | Science | AAAS

26 September
Measuring Molecular Complexity | Science | AAAS

Never Before Detected – Organic Molecule Essential for Life Found in Interstellar Space

26 September
Never Before Detected – Organic Molecule Essential for Life Found in Interstellar Space (scitechdaily.com)
DOI: 10.1093/mnras/stad1535

Hydrolase mimic via second coordination sphere engineering in metal-organic frameworks for environmental remediation | Nature Communications

25 September
Hydrolase mimic via second coordination sphere engineering in metal-organic frameworks for environmental remediation | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41716-6

Round-Trip Journey of a Physical Chemist

21 September
Round-Trip Journey of a Physical Chemist | The Journal of Physical Chemistry B (acs.org)
DOI: https://doi.org/10.1021/acs.jpcb.3c05597

Core-Labelling (Radio) Synthesis of Phenols | Organic Letters

26 September
Core-Labeling (Radio) Synthesis of Phenols | Organic Letters (acs.org)
DOI: https://doi.org/10.1021/acs.orglett.3c02838

Measuring Molecular Complexity | Science | AAAS

26 September
Measuring Molecular Complexity | Science | AAAS

Watch "What are Super Acids? (Super Acid Lore)" on YouTube

25 September
https://youtu.be/vd2PfNZrsxQ

Rhodium: A metal 10 times more valuable than gold you might already own

27 September
Rhodium: A metal 10 times more valuable than gold you might already own - The Jerusalem Post (jpost.com)

Researchers realize direct conversion of methane with oxygen at room temperature

27 September
Researchers realize direct conversion of methane with oxygen at room temperature (phys.org)
DOI: 10.1038/s41929-023-01030-2

Synthesis of a covalent organic framework with hetero-environmental pores and its medicine co-delivery application | Nature Communications

28 September
Synthesis of a covalent organic framework with hetero-environmental pores and its medicine co-delivery application | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41622-x

Thiophosphate photochemistry enables prebiotic access to sugars and terpenoid precursors | Nature Chemistry

13 July
Thiophosphate photochemistry enables prebiotic access to sugars and terpenoid precursors | Nature Chemistry
DOI: https://doi.org/10.1038/s41557-023-01251-9

Building bridges and stairways with scientific awards | Science | AAAS

29 September
Building bridges and stairways with scientific awards | Science | AAAS

Just 3 Nobel Prizes cover all of science – how research is done today poses a challenge for these prestigious awards

29 September

Just 3 Nobel Prizes cover all of science – how research is done today poses a challenge for these prestigious awards (theconversation.com)

Concave, umbrella-like metal complexes provide space for giant molecular rotors to operate in solid state

29 September
Concave, umbrella-like metal complexes provide space for giant molecular rotors to operate in solid state (phys.org)
DOI: 10.1002/anie.202309694

Guest editorial: Where chemists work

29 September
https://cen.acs.org/people/Guest-editorial-chemists-work/101/i32

Revolutionary X-ray microscope unveils sound waves deep within crystals

28 September
Revolutionary X-ray microscope unveils sound waves deep within crystals (phys.org)
DOI: 10.1073/pnas.2307049120

An amide to thioamide substitution improves the permeability and bioavailability of macrocyclic peptides | Nature Communications

28 September
An amide to thioamide substitution improves the permeability and bioavailability of macrocyclic peptides | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41748-y

Researchers develop minimal nanozymes with carbon dioxide capture capacity

26 September
Researchers develop minimal nanozymes with carbon dioxide capture capacity (phys.org)
DOI: 10.1021/acsnano.3c04164

Insights into ethylene copolymerization with linear and end-cyclized olefins using a metallocene catalyst

29 September
Insights into ethylene copolymerization with linear and end-cyclized olefins using a metallocene catalyst (phys.org)
DOI: 10.1016/j.eng.2023.07.001

1,2-Redox Transpositions of Tertiary Amides | Journal of the American Chemical Society

27 September
1,2-Redox Transpositions of Tertiary Amides | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c08466

Turning single molecule vibrations into visible light | Nature Photonics

29 September
Turning single molecule vibrations into visible light | Nature Photonics
DOI: https://doi.org/10.1038/s41566-023-01289-8

A density functional theory study of the molecular structure, reactivity, and spectroscopic properties of 2-(2-mercaptophenyl)-1-azaazulene tautomers and rotamers | Scientific Reports

20 September
https://www.nature.com/articles/s41598-023-42450-1
DOI: https://doi.org/10.1038/s41598-023-42450-1

The Dos and Don'ts of Peer Reviewing
27 September
The Dos and Don'ts of Peer Reviewing | RealClearScience
DOI: https://doi.org/10.1029/2023EO235029

Technological universities are not a 'mistake', they're a milestone in 21st-century higher education – The Irish Times
3 October
https://www.irishtimes.com/ireland/education/2023/10/03/technological-universities-are-not-a-mistake-theyre-a-milestone-in-21st-century-higher-education

Face-directed assembly of tailored isoreticular MOFs using centring structure-directing agents | Nature Synthesis
2 October
Face-directed assembly of tailored isoreticular MOFs using centring structure-directing agents | Nature Synthesis
DOI: https://doi.org/10.1038/s44160-023-00401-8

Ancient architecture inspires a new way to work with metal-organic frameworks
2 October
Ancient architecture inspires a new way to work with metal-organic frameworks (phys.org)
DOI: 10.1038/s44160-023-00401-8

Chiral detection of molecules gets a laser-driven boost – Physics World
3 October

Chiral detection of molecules gets a laser-driven boost – Physics World
DOI: 10.1126/sciadv.adj1429

A special molecule that violates the laws of physics could lead to limitless energy
3 October
A special molecule that violates the laws of physics could lead to limitless energy (bgr.com)

Multicomponent synthesis of pyrimido[4,5-b] quinolines over a carbocationic catalytic system | Scientific Reports
1 October
Multicomponent synthesis of pyrimido[4,5-b] quinolines over a carbocationic catalytic system | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43793-5

Chinese chemists take 'Holy Grail' leap to make low-carbon methanol | South China Morning Post
1 October
Chinese chemists take 'Holy Grail' leap to make low-carbon methanol | South China Morning Post (scmp.com)

Ballistic transport spectroscopy of spin-orbit-coupled bands in monolayer graphene on WSe2 | Nature Communications
30 September
Ballistic transport spectroscopy of spin-orbit-coupled bands in monolayer graphene on WSe2 | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-41826-1

Visualizing the Structure, Composition and Activity of Single Catalyst Particles for Olefin Polymerization and Polyolefin Decomposition - Werny - Angewandte Chemie International Edition - Wiley Online Library

2 October
https://onlinelibrary.wiley.com/doi/10.1002/anie.202306033
DOI: https://doi.org/10.1002/anie.202306033

New Technology Transforms Traditionally Unrecyclable Plastics into Useful Chemicals

3 October
New Technology Transforms Traditionally Unrecyclable Plastics Into Useful Chemicals (scitechdaily.com)
DOI: 10.1039/D3MH00801K

Using humidity-powered technology, researchers find several new ions that facilitate low-energy carbon sequestration

3 October
Using humidity-powered technology, researchers find several new ions that facilitate low-energy carbon sequestration (techxplore.com)
DOI: 10.1021/acs.est.3c02543

Scientists develop nanozyme mimetic that degrades effluents under sunlight

3 October
Scientists develop nanozyme mimetic that degrades effluents under sunlight (phys.org)
DOI: 10.1039/D3NR02081A

Streamlining efficient and selective synthesis of benzoxanthenones and xanthenes with dual catalysts on a single support | Scientific Reports

30 September
Streamlining efficient and selective synthesis of benzoxanthenones and xanthenes with dual catalysts on a single support | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43746-y

Formation of Colloidal In(As, P) Quantum Dots Active in the Short-Wave Infrared, Promoting Growth through Temperature Ramps | ACS Nano

3 October
Formation of Colloidal In(As,P) Quantum Dots Active in the Short-Wave Infrared, Promoting Growth through Temperature Ramps | ACS Nano
DOI: https://doi.org/10.1021/acsnano.3c05138

Modular, automated synthesis of spirocyclic tetrahydronaphthyridines from primary alkylamines | Communications Chemistry

4 October
Modular, automated synthesis of spirocyclic tetrahydronaphthyridines from primary alkylamines | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01012-2

What is an attosecond? A physical chemist explains the tiny time scale behind Nobel Prize-winning research

4 October
What is an attosecond? A physical chemist explains the tiny time scale behind Nobel Prize-winning research

WATCH: 3 scientists share Nobel in physics for research on electron movement | PBS NewsHour

2 October
WATCH: 3 scientists share Nobel in physics for research on electron movement | PBS NewsHour

Synthesis of non-equivalent diamides and amido-esters via Pd-catalysed carbonylation | Nature Synthesis

5 October

Synthesis of non-equivalent diamides and amido-esters via Pd-catalysed carbonylation | Nature Synthesis

DOI: https://doi.org/10.1038/s44160-023-00411-6

TNT Is Still with Us | Science | AAAS

6 October

TNT Is Still With Us | Science | AAAS

Using metal organic frameworks to provide a safer and cleaner way to handle fluorinated gases

6 October

Using metal organic frameworks to provide a safer and cleaner way to handle fluorinated gases (phys.org)

DOI: 10.1126/science.adg8835

Researchers catch protons in the act of dissociation with ultrafast 'electron camera'

6 October

https://phys.org/news/2023-10-protons-dissociation-ultrafast-electron-camera.html

DOI: 10.1103/PhysRevLett.131.143001

Renewable energy through photo-electrochemistry

5 October

Renewable energy through photo-electrochemistry (phys.org)

DOI: 10.1002/anie.202307948

Chemists obtain derivatives of the natural polymer chitosan, which outpace existing antibiotics

5 October

Chemists obtain derivatives of the natural polymer chitosan, which outpace existing antibiotics (phys.org)

DOI: 10.3390/polym15163469

Discovery made about Fischer–Tropsch process could help improve fuel production

5 October

Discovery made about Fischer–Tropsch process could help improve fuel production (phys.org)

DOI: 10.1126/science.adh8463

Common Plastic Additive Linked to Autism And ADHD, Scientists Discover

7 October

Common Plastic Additive Linked to Autism And ADHD, Scientists Discover : ScienceAlert

Energy-saving and product-oriented hydrogen peroxide electrosynthesis enabled by electrochemistry pairing and product engineering | Nature Communications

7 October

Energy-saving and product-oriented hydrogen peroxide electrosynthesis enabled by electrochemistry pairing and product engineering | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-41997-x

Glyphosate approval proposal will not be turned upside down, EU Commissioner says – EURACTIV.com

5 October
Glyphosate approval proposal will not be turned upside down, EU Commissioner says - EURACTIV.com

Enantioselective Total Synthesis of (+)-Pedrolide with Marlene Fadel

6 October
(164) Enantioselective Total Synthesis of (+)-Pedrolide with Marlene Fadel - YouTube
https://youtu.be/wy5IFF5U8c8?si=5zk5rsmChMiXJfPK

Unveiling the dynamic active site of defective carbon-based electrocatalysts for hydrogen peroxide production | Nature Communications

7 October
Unveiling the dynamic active site of defective carbon-based electrocatalysts for hydrogen peroxide production | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41947-7

Mild and scalable synthesis of phosphonorhodamines - Chemical Science (RSC Publishing)

5 October
Mild and scalable synthesis of phosphonorhodamines - Chemical Science (RSC Publishing)
DOI: https://doi.org/10.1039/d3sc02590j

Novel probe based on rhodamine B and quinoline as a naked-eye colorimetric probe for dual detection of nickel and hypochlorite ions | Scientific Reports

9 October
Novel probe based on rhodamine B and quinoline as a naked-eye colorimetric probe for dual detection of nickel and hypochlorite ions | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44395-x

ICP-OES as a Viable Alternative to ICP-MS for Trace Analysis: Meeting the Detection Limits Challenge

1 October
ICP-OES as a Viable Alternative to ICP-MS for Trace Analysis: Meeting the Detection Limits Challenge (spectroscopyonline.com)
DOI: https://doi.org/10.56530/spectroscopy.do3475y9

Researcher develops better ways to convert CO2 and biofuel byproducts into valuable chemicals

10 October
Researcher develops better ways to convert CO2 and biofuel byproducts into valuable chemicals (phys.org)
DOI: 10.1021/acsami.3c00183

Mechanophotocatalysis | Organic Chemistry | ChemRxiv | Cambridge Open Engage

10 October
https://chemrxiv.org/engage/chemrxiv/article-details/6523e71dbda59ceb9a2c14e2
DOI: https://doi.org/10.26434/chemrxiv-2023-qbd0s

An ultra-mild and functional-group tolerant method to produce arynes

An ultra-mild and functional-group tolerant method to produce arynes (phys.org)
DOI: 10.1038/s44160-023-00408-1

Visible light-triggered selective C(sp2)-H/C(sp3)-H coupling of benzenes with aliphatic hydrocarbons | Nature Communications

11 October

Visible light-triggered selective C(sp2)-H/C(sp3)-H coupling of benzenes with aliphatic hydrocarbons | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42191-9

PdCu nanoalloy decorated photocatalysts for efficient and selective oxidative coupling of methane in flow reactors | Nature Communications

10 October
PdCu nanoalloy decorated photocatalysts for efficient and selective oxidative coupling of methane in flow reactors | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41996-y

A General Strategy for N–(Hetero)aryl Piperidine Synthesis Using Zincke Imine Intermediates | Organic Chemistry | ChemRxiv | Cambridge Open Engage

11 October
A General Strategy for N–(Hetero)aryl Piperidine Synthesis Using Zincke Imine Intermediates | Organic Chemistry | ChemRxiv | Cambridge Open Engage and
a-general-strategy-for-n-hetero-aryl-piperidine-synthesis-using-zincke-imine-intermediates.pdf (chemrxiv.org)
DOI: https://doi.org/10.26434/chemrxiv-2023-68575

Supramolecular catalysis with ethers enabled by dual chalcogen bonding activation | Nature Communications

10 October
Supramolecular catalysis with ethers enabled by dual chalcogen bonding activation | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42129-1

Understanding Attoseconds: The Tiny Time Scale Behind Nobel Prize-Winning Research

10 October
Understanding Attoseconds: The Tiny Time Scale Behind Nobel Prize-Winning Research (scitechdaily.com)

Realizing attosecond core-level X-ray spectroscopy for the investigation of condensed matter systems

11 October
Realizing attosecond core-level X-ray spectroscopy for the investigation of condensed matter systems (phys.org)
DOI: https://dx.doi.org/10.34133/ultrafastscience.0004

One-Millionth of One-Millionth of a Second – Scientists View the "Transition State" of a Photochemical Reaction in Real-Time

13 October
https://scitechdaily.com/one-millionth-of-one-millionth-of-a-second-scientists-view-the-transition-state-of-a-photochemical-reaction-in-real-time
DOI: 10.1038/s41467-023-38513-6

Scientists unlock the secrets of nitrogen's solid phase

12 October
https://phys.org/news/2023-10-scientists-secrets-nitrogen-solid-phase.html
DOI: 10.1038/s41467-023-41968-2

South East Technological University to become first TU to bestow honorary doctorate awards | Independent.ie

12 October
South East Technological University to become first TU to bestow honourary doctorate awards | Independent.ie

Achieving maximum overall light enhancement in plasmonic catalysis by combining thermal and non-thermal effects | Nature Catalysis

12 October
Achieving maximum overall light enhancement in plasmonic catalysis by combining thermal and non-thermal effects | Nature Catalysis
DOI: https://doi.org/10.1038/s41929-023-01045-9

'Mona Lisa' Hides a Surprising Mix of Toxic Pigments, Study Shows

11 October
'Mona Lisa' hides a surprising mix of toxic pigments, study shows - American Chemical Society (acs.org)
DOI: 10.1021/jacs.3c07000

'Mona Lisa' has a rare compound that suggests Leonardo da Vinci was ahead of his time | CNN

17 October
https://www.cnn.com/2023/10/16/style/mona-lisa-leonardo-da-vinci-experimental-paint-technique-scn/index.html

Structural details of carboxylic acid-based Hydrogen-bonded Organic Frameworks (HOFs) | Polymer Journal

12 October
Structural details of carboxylic acid-based Hydrogen-bonded Organic Frameworks (HOFs) | Polymer Journal (nature.com)
DOI: https://doi.org/10.1038/s41428-023-00840-2

Philip Nolan: 'We are significantly underinvesting in science' – The Irish Times

12 October
Philip Nolan: 'We are significantly underinvesting in science' – The Irish Times

An electrical switch to control chemical reactions

12 October
An electrical switch to control chemical reactions (phys.org)
DOI: 10.1126/sciadv.adj5502

Investigating the detection limit of electrochemistry

13 October
Investigating the detection limit of electrochemistry (phys.org)
DOI: 10.1021/acs.analchem.3c00694

Nanotechnology for electrochemical energy storage | Nature Nanotechnology

13 October
Nanotechnology for electrochemical energy storage | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01529-6

Catalytic 4-exo-dig carbocyclization for the construction of furan-fused cyclobutanones and synthetic applications | Nature Communications

11 October
Catalytic 4-exo-dig carbocyclization for the construction of furan-fused cyclobutanones and synthetic applications | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42032-9

A systematic study of key elements underlying molecular property prediction | Nature Communications

13 October
A systematic study of key elements underlying molecular property prediction | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-41948-6

Direct electroconversion of air to nitric acid realized under mild conditions

10 October
Direct electroconversion of air to nitric acid realized under mild conditions (phys.org)
DOI: 10.1038/s44160-023-00399-z

Defining sustainable chemistry—an opportune exercise? | Science

13 October
Defining sustainable chemistry—an opportune exercise? | Science
DOI: 10.1126/science.adk7430

MU research explores potential delivery of drugs, nutrients into the body via nanocapsule

14 October
Using carbon ions increased volume of the microscopic container (columbiatribune.com)

Electric field–assisted anion-π catalysis on carbon nanotubes in electrochemical microfluidic devices | Science Advances

12 October
Electric field–assisted anion-π catalysis on carbon nanotubes in electrochemical microfluidic devices | Science Advances
DOI: 10.1126/sciadv.adj5502

Synthesis of piperidines and pyridine from furfural over a surface single-atom alloy Ru1CoNP catalyst | Nature Communications

10 October
Synthesis of piperidines and pyridine from furfural over a surface single-atom alloy Ru1CoNP catalyst | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42043-6

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

12 October
Some Items of Interest to Process R&D Chemists and Engineers | Organic Process Research & Development (acs.org)
DOI: https://doi.org/10.1021/acs.oprd.3c00335

The effect of quaternary ammonium polyethylenimine nanoparticles on bacterial adherence, cytotoxicity, and physical and mechanical properties of experimental dental composites | Scientific Reports

15 October
The effect of quaternary ammonium polyethylenimine nanoparticles on bacterial adherence, cytotoxicity, and physical and mechanical properties of experimental dental composites | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43851-y

Material cycle for amine chemistry: Important building blocks created from platform chemical in single step

11 October
Material cycle for amine chemistry: Important building blocks created from platform chemical in single step (phys.org)
DOI: 10.1038/s41467-023-42043-6

How Physicists Took an Electron's Picture - Physics Nobel Prize 2023 Explained

15 October

(172) How Physicists Took An Electron's Picture - Physics Nobel Prize 2023 Explained - YouTube
https://youtu.be/DIl3IKnOAfM?si=55Y0EnqBsXNQvh9f

Photoelectrochemical oxidative C(sp3)−H borylation of unactivated hydrocarbons | Nature Communications

16 October
Photoelectrochemical oxidative C(sp3)−H borylation of unactivated hydrocarbons | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42264-9

Electron Blockbusters: Nobel Prize-Winning Attosecond Movies and the Future of Technology

16 October
Electron Blockbusters: Nobel Prize-Winning Attosecond Movies and the Future of Technology (scitechdaily.com)

Reticular Synthesis of Highly Crystalline Three-Dimensional Mesoporous Covalent–Organic Frameworks for Lipase Inclusion | Journal of the American Chemical Society

16 October
Reticular Synthesis of Highly Crystalline Three-Dimensional Mesoporous Covalent–Organic Frameworks for Lipase Inclusion | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c07904

The L-proline modified Zr-based MOF (Basu-proline) catalyst for the one-pot synthesis of dihydropyrano[3,2-c]chromenes | Scientific Reports

17 October
The L-proline modified Zr-based MOF (Basu-proline) catalyst for the one-pot synthesis of dihydropyrano[3,2-c]chromenes | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44774-4

Art with DNA—digitally creating 16 million colors by chemistry

17 October
Art with DNA—digitally creating 16 million colors by chemistry (phys.org)
DOI: 10.1021/jacs.3c06500

Methods section too short? Use online protocols to make complex techniques understandable

16 October
Methods section too short? Use online protocols to make complex techniques understandable (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03249-2

A new type of convergent paired electrochemical synthesis of sulfonamides under green and catalyst-free conditions | Scientific Reports

16 October
A new type of convergent paired electrochemical synthesis of sulfonamides under green and catalyst-free conditions | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44912-y

Only 1% of chemical compounds have been discovered – here's how we search for others that could change the world

17 October
Only 1% of chemical compounds have been discovered – here's how we search for others that could change the world (theconversation.com)

Atomic high-spin cobalt(II) center for highly selective electrochemical CO reduction to CH3OH | Nature Communications

17 October
Atomic high-spin cobalt(II) center for highly selective electrochemical CO reduction to CH3OH | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42307-1

For the First Time, We've Filmed Sound Waves Inside Crystals

16 October
For the First Time, We've Filmed Sound Waves Inside Crystals (popularmechanics.com)

Intercalation-type catalyst for non-aqueous room temperature sodium-sulfur batteries | Nature Communications

17 October
Intercalation-type catalyst for non-aqueous room temperature sodium-sulfur batteries | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42383-3

Efficient bi-functional catalyst for methanol-assisted water splitting of hydrogen generation

16 October
Efficient bi-functional catalyst for methanol-assisted water splitting of hydrogen generation (phys.org)
DOI: 10.1016/S1872-2067(23)64469-9

Berkeley Lab to lead US hunt for element 120 after breakdown of collaboration with Russia

10 October
Berkeley Lab to lead US hunt for element 120 after breakdown of collaboration with Russia | News | Chemistry World

Exploring the Structural, Dynamic, and Functional Properties of Metal-Organic Frameworks through Molecular Modeling - Formalik - Advanced Functional Materials - Wiley Online Library

17 October
Exploring the Structural, Dynamic, and Functional Properties of Metal-Organic Frameworks through Molecular Modeling - Formalik - Advanced Functional Materials - Wiley Online Library
DOI: https://doi.org/10.1002/adfm.202308130

Synthesis, characterization and application of oligomeric proanthocyanidin-rich dual network hydrogels | Scientific Reports

18 October
Synthesis, characterization and application of oligomeric proanthocyanidin-rich dual network hydrogels | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-42921-5

Strange elements unknown to science may lurk in the hearts of asteroids, new study suggests

18 October
Strange elements unknown to science may lurk in the hearts of asteroids, new study suggests | Live Science

Electrons Are Quick-Change Artists in Molten Salts, Chemists Show

20 October
Electrons Are Quick-Change Artists in Molten Salts, Chemists Show | Technology Networks
DOI: 10.1021/acs.jpcb.3c04210

Unexpected oscillations clarify mechanism of 100 year-old Fischer–Tropsch reaction | Research | Chemistry World

20 October
https://www.chemistryworld.com/news/unexpected-oscillations-clarify-mechanism-of-100-year-old-fischer-tropsch-reaction/4018267.article

Multi-scale molecular dynamics simulations of enhanced energy transfer in organic molecules under strong coupling | Nature Communications

19 October
Multi-scale molecular dynamics simulations of enhanced energy transfer in organic molecules under strong coupling | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42067-y

Dinuclear ruthenium complex as a photocatalyst for selective CO2 reduction to CO

20 October
Dinuclear ruthenium complex as a photocatalyst for selective CO2 reduction to CO (phys.org)
DOI: 10.1021/jacs.3c07685

Effect of morpholine, and 4-methylmorpholine on urethane formation: a computational study | Scientific Reports

20 October
Effect of morpholine, and 4-methylmorpholine on urethane formation: a computational study | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44492-x

Enhanced photocatalytic performance of milkvetch-derived biochar via ZnO–Ce nanoparticle decoration for reactive blue 19 dye removal | Scientific Reports

19 October
Enhanced photocatalytic performance of milkvetch-derived biochar via ZnO–Ce nanoparticle decoration for reactive blue 19 dye removal | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-45145-9

Understanding the universality of heavy elements

20 October
Understanding the universality of heavy elements (nature.com)
DOI: https://doi.org/10.1038/d44148-023-00283-0

A single probe for solvent dependent optical recognition of iron(II/III) and arsenite: discrimination between iron redox states with single crystal X-ray structure evidence | Scientific Reports

21 October
A single probe for solvent dependent optical recognition of iron(II/III) and arsenite: discrimination between iron redox states with single crystal X-ray structure evidence | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43154-2

Mechanistic insights into excited-state palladium catalysis for C–S bond formations and dehydrogenative sulfonylation of amines | Nature Communications

19 October
Mechanistic insights into excited-state palladium catalysis for C–S bond formations and dehydrogenative sulfonylation of amines | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42392-2

Graphene oxide immobilized 2-morpholinoethanamine as a versatile acid–base catalyst for synthesis of some heterocyclic compounds and molecular docking study | Scientific Reports

20 October
Graphene oxide immobilized 2-morpholinoethanamine as a versatile acid–base catalyst for synthesis of some heterocyclic compounds and molecular docking study | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44521-9

An exact chiral amorphous spin liquid | Nature Communications

20 October
An exact chiral amorphous spin liquid | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42105-9

Simulation and optimization of the impacts of metal-organic frameworks on the hydrogen adsorption using computational fluid dynamics and artificial neural networks | Scientific Reports

21 October
Simulation and optimization of the impacts of metal-organic frameworks on the hydrogen adsorption using computational fluid dynamics and artificial neural networks | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-45391-x

Cosmic Alchemy: 3D Models Reveal Kilonova Secrets of Heavy Element Creation

21 October
https://scitechdaily.com/cosmic-alchemy-3d-models-reveal-kilonova-secrets-of-heavy-element-creation
DOI: 10.3847/2041-8213/acf29a

Sacrificial Mechanical Bond is as Effective as a Sacrificial Covalent Bond in Increasing Cross-Linked Polymer Toughness | Journal of the American Chemical Society

18 October
https://pubs.acs.org/doi/10.1021/jacs.3c08595
DOI: https://doi.org/10.1021/jacs.3c08595

Vision 2050: Reaction Engineering Roadmap | ACS Engineering Au

22 October
Vision 2050: Reaction Engineering Roadmap | ACS Engineering Au
DOI: https://doi.org/10.1021/acsengineeringau.3c00023

Ultra-high-throughput mapping of the chemical space of asymmetric catalysis enables accelerated reaction discovery | Nature Communications

21 October
Ultra-high-throughput mapping of the chemical space of asymmetric catalysis enables accelerated reaction discovery | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42446-5

How did the universe's elements form? | Space

22 October
https://www.space.com/how-did-universe-elements-form

"Missing Law of Nature" Proposes How Stars and Minerals “Evolve” Over Time

17 October
"Missing Law of Nature" Proposes How Stars and Minerals “Evolve” Over Time | Technology Networks
DOI: 10.1073/pnas.2310223120

What is an attosecond? Chemist explains tiny time scale behind Nobel Prize-winning research | Space
4 October
https://theconversation.com/what-is-an-attosecond-a-physical-chemist-explains-the-tiny-time-scale-behind-nobel-prize-winning-research-214907

Making 'movies' at the attosecond scale helps researchers better understand electrons − and could one day lead to super-fast electronics
4 October
Making 'movies' at the attosecond scale helps researchers better understand electrons − and could one day lead to super-fast electronics (theconversation.com)

Nobel prize in physics awarded for work unveiling the secrets of electrons
3 October
Nobel prize in physics awarded for work unveiling the secrets of electrons (theconversation.com)

Before he developed the atomic bomb, J. Robert Oppenheimer's early work revolutionized the field of quantum chemistry – and his theory is still used today
4 October
Before he developed the atomic bomb, J. Robert Oppenheimer's early work revolutionized the field of quantum chemistry – and his theory is still used today (theconversation.com)

Nearby asteroid may contain elements 'beyond the periodic table', new study suggests | Space
18 October
Nearby asteroid may contain elements 'beyond the periodic table', new study suggests | Live Science

Tekno Scienze celebrates 40 years of excellence with new logo and pay-off: "Science Based, Industry Driven"
24 October
Press Release - Tekno Scienze Celebrates 40 Years of Excellence with New Logo and Pay-off: "Science Based, Industry Driven" (emailsp.com)

Twistedly hydrophobic basis with suitable aromatic metrics in covalent organic networks govern micropollutant decontamination
24 October
Twistedly hydrophobic basis with suitable aromatic metrics in covalent organic networks govern micropollutant decontamination | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42513-x

Cu-catalyzed asymmetric regiodivergent electrosynthesis and its application in the enantioselective total synthesis of (-)-fumimycin | Nature Communications
24 October
Cu-catalyzed asymmetric regiodivergent electrosynthesis and its application in the enantioselective total synthesis of (-)-fumimycin | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42603-w

New ammonia reaction could offer a sustainable source of nitrogen
24 October
New ammonia reaction could offer a sustainable source of nitrogen (phys.org)
DOI: 10.1038/s41557-023-01340-9

Photoelectric responsive ionic channel for sustainable energy harvesting | Nature Communications

23 October
Photoelectric responsive ionic channel for sustainable energy harvesting | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42584-w

New robust and effective molecular hybrid material for electrocatalytic water oxidation at neutral pH

23 October
https://www.iciq.org/new-robust-and-effective-molecular-hybrid-material-for-electrocatalytic-water-oxidation-at-neutral-ph

Single-atom catalysis: In search of 'holy grails' in catalysis

24 October
Single-atom catalysis: In search of 'holy grails' in catalysis (phys.org)
DOI: 10.1016/S1872-2067(23)64505-X

Synergistic performance of a new bimetallic complex supported on magnetic nanoparticles for Sonogashira and C–N coupling reactions | Scientific Reports

24 October
Synergistic performance of a new bimetallic complex supported on magnetic nanoparticles for Sonogashira and C–N coupling reactions | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44168-6

Chemists Unveil the Slickest Surface Ever to Ward Off Water

23 October
Chemists Unveil the Slickest Surface Ever to Ward Off Water (gizmodo.com)

Unexpected structural complexity of d-block metallosupramolecular architectures within the benzimidazole-phenoxo ligand scaffold for crystal engineering aspects | Scientific Reports

23 October
Unexpected structural complexity of d-block metallosupramolecular architectures within the benzimidazole-phenoxo ligand scaffold for crystal engineering aspects | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-45109-z

Anaerobic photoinduced Cu(0/I)-mediated Glaser coupling in a radical pathway

24 October
Anaerobic photoinduced Cu(0/I)-mediated Glaser coupling in a radical pathway | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42602-x

Postsynthetic Modification of the Nonanuclear Node in a Zirconium Metal–Organic Framework for Photocatalytic Oxidation of Hydrocarbons | Journal of the American Chemical Society

25 October
Postsynthetic Modification of the Nonanuclear Node in a Zirconium Metal–Organic Framework for Photocatalytic Oxidation of Hydrocarbons | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c07237

Development of a Biocatalytic Aerobic Oxidation for the Manufacturing Route to Islatravir | Organic Chemistry | ChemRxiv | Cambridge Open Engage

26 October
Development of a Biocatalytic Aerobic Oxidation for the Manufacturing Route to Islatravir | Organic Chemistry | ChemRxiv | Cambridge Open Engage
DOI: 10.26434/chemrxiv-2023-fg10l

Diazines and Triazines as Building Blocks in Ligands for Metal-Mediated Catalytic Transformations | ACS Organic & Inorganic Au

23 October
Diazines and Triazines as Building Blocks in Ligands for Metal-Mediated Catalytic Transformations | ACS Organic & Inorganic Au
DOI: https://doi.org/10.1021/acsorginorgau.3c00048

Electrochemical halogen-atom transfer alkylation via α-aminoalkyl radical activation of alkyl iodides | Nature Communications

26 October
Electrochemical halogen-atom transfer alkylation via α-aminoalkyl radical activation of alkyl iodides | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42566-y

A designable sulfur-linked carbonyl compound anchored on reduced graphene oxide for high-rate organic lithium batteries - Wu - Carbon Neutralization - Wiley Online Library

24 October
A designable sulfur-linked carbonyl compound anchored on reduced graphene oxide for high-rate organic lithium batteries - Wu - Carbon Neutralization - Wiley Online Library
DOI: https://doi.org/10.1002/cnl2.95

Edge-rich molybdenum disulfide tailors carbon-chain growth for selective hydrogenation of carbon monoxide to higher alcohols | Nature Communications

26 October
Edge-rich molybdenum disulfide tailors carbon-chain growth for selective hydrogenation of carbon monoxide to higher alcohols | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42325-z

Energy-efficient CO2/CO interconversion by homogeneous copper-based molecular catalysts | Nature Communications

27 October
Energy-efficient CO2/CO interconversion by homogeneous copper-based molecular catalysts | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42638-z

Iridium-Catalyzed Enantioselective Alkene Hydroalkylation via a Heteroaryl-Directed Enolization–Decarboxylation Sequence | Journal of the American Chemical Society

25 October
Iridium-Catalyzed Enantioselective Alkene Hydroalkylation via a Heteroaryl-Directed Enolization–Decarboxylation Sequence | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c10163

Chemists synthesize doubly anti-aromatic C16 carbon allotrope

27 October
Chemists synthesize doubly anti-aromatic C16 carbon allotrope (phys.org)
DOI: 10.1038/s41586-023-06566-8

Scientists demonstrate electric control of atomic spin transitions

27 October
Scientists demonstrate electric control of atomic spin transitions (phys.org)
DOI: 10.1038/s41467-023-42287-2

Red-Light-Driven Atom Transfer Radical Polymerization for High-Throughput Polymer Synthesis in Open Air | Journal of the American Chemical Society

25 October

Red-Light-Driven Atom Transfer Radical Polymerization for High-Throughput Polymer Synthesis in Open Air | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c09181

UCC astronomer contributes to major discovery on how elements are created in space

28 October
UCC astronomer contributes to major discovery on how elements are created in space (echolive.ie)

Atomically precise ultrasmall copper cluster for room-temperature highly regioselective dehydrogenative coupling | Nature Communications

28 October
Atomically precise ultrasmall copper cluster for room-temperature highly regioselective dehydrogenative coupling | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42688-3

Efficient photocatalytic production of hydrogen peroxide using dispersible and photoactive porous polymers | Nature Communications

28 October
Efficient photocatalytic production of hydrogen peroxide using dispersible and photoactive porous polymers | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42720-6

Continuous electroproduction of formate via CO2 reduction on local symmetry-broken single-atom catalysts

27 October
Continuous electroproduction of formate via CO2 reduction on local symmetry-broken single-atom catalysts | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42539-1

Elucidating the polycyclic aromatic hydrocarbons involved in soot inception

16 October
Elucidating the polycyclic aromatic hydrocarbons involved in soot inception | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01017-x

Electrochemical carbonyl reduction on single-site M–N–C catalysts

29 September
Electrochemical carbonyl reduction on single-site M–N–C catalysts | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01008-y

A tautomerized ligand enabled meta selective C–H borylation of phenol | Nature Communications

30 October
A tautomerized ligand enabled meta selective C–H borylation of phenol | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42310-6

Carbon nanotube membrane unleashes the power of permanganate for superior micropollutant removal

26 October
Carbon nanotube membrane unleashes the power of permanganate for superior micropollutant removal (phys.org)
DOI: 10.1007/s11783-023-1706-0

Corrosion inhibition of mild steel in 1 M HCl by pyrazolone-sulfonamide hybrids: synthesis, characterization, and evaluation | Scientific Reports

29 October
Corrosion inhibition of mild steel in 1 M HCl by pyrazolone-sulfonamide hybrids: synthesis, characterization, and evaluation | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-45659-2

New method produces homogeneous polystyrene microparticles in a stable dispersion

25 October
https://phys.org/news/2023-10-method-homogeneous-polystyrene-microparticles-stable.html
DOI: 10.1002/anie.202309674

Scientists Develop Cheaper, Safer, and Simpler Method to Obtain Acetone

30 October
Scientists Develop Cheaper, Safer, and Simpler Method To Obtain Acetone (scitechdaily.com)
DOI: 10.1021/acscatal.3c02092

Successful development of Pauson–Khand reaction with atropisomeric substrates could result in new practical applications

30 October
Successful development of Pauson–Khand reaction with atropisomeric substrates could result in new practical applications (phys.org)
DOI: 10.1021/acs.orglett.3c02893

Synthesis and physicochemical characterization of carbon quantum dots produced from folic acid | Scientific Reports

30 October
Synthesis and physicochemical characterization of carbon quantum dots produced from folic acid | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46084-1

Engineers develop an efficient process to make fuel from carbon dioxide

30 October
Engineers develop an efficient process to make fuel from carbon dioxide (techxplore.com)
DOI: 10.1016/j.xcrp.2023.101662

Dicationic ionic liquids (DILs) as rapid esterification catalyst of butyric fatty acid

30 October
Dicationic ionic liquids (DILs) as rapid esterification catalyst of butyric fatty acid | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-45851-4

Organomediated electrochemical fluorosulfonylation of aryl triflates via selective C–O bond cleavage | Nature Communications

31 October
Organomediated electrochemical fluorosulfonylation of aryl triflates via selective C–O bond cleavage | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42699-0

Revealing the role of double-layer microenvironments in pH-dependent oxygen reduction activity over metal-nitrogen-carbon catalysts | Nature Communications

31 October
Revealing the role of double-layer microenvironments in pH-dependent oxygen reduction activity over metal-nitrogen-carbon catalysts | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-42749-7

Nickel-catalyzed acylzincation of allenes with organozincs and CO | Nature Communications

31 October
Nickel-catalyzed acylzincation of allenes with organozincs and CO | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42716-2

One-atom-thick hexagonal boron nitride co-catalyst for enhanced oxygen evolution reactions | Nature Communications

1 November
One-atom-thick hexagonal boron nitride co-catalyst for enhanced oxygen evolution reactions | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42696-3

Photocatalytic CO2 reduction to syngas using metallosalen covalent organic frameworks | Nature Communications

1 November
Photocatalytic CO2 reduction to syngas using metallosalen covalent organic frameworks | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42757-7

Pre-oxidized ultramicroporous carbon cloth with ultrahigh volumetric capacity and ultralong lifespan for capacitive desalination | npj Clean Water

31 October
Pre-oxidized ultramicroporous carbon cloth with ultrahigh volumetric capacity and ultralong lifespan for capacitive desalination | npj Clean Water (nature.com)
DOI: https://doi.org/10.1038/s41545-023-00289-z

Research team develops fast-charging hybrid microbial fuel cell and CO2 electrolyzer based on formic acid

31 October
Research team develops fast-charging hybrid microbial fuel cell and CO2 electrolyzer based on formic acid (techxplore.com)
DOI: DOI: 10.1002/anie.202312147

Carbon-to-nitrogen single-atom transmutation of azaarenes | Nature

1 November
Carbon-to-nitrogen single-atom transmutation of azaarenes | Nature
DOI: https://doi.org/10.1038/s41586-023-06613-4

How is decaf coffee made? And is it really caffeine-free?

31 October
How is decaf coffee made? And is it really caffeine-free? (theconversation.com)

A mini-review of polymeric porous membranes with vertically penetrative pores - Yang - Journal of Polymer Science - Wiley Online Library

1 November
A mini-review of polymeric porous membranes with vertically penetrative pores - Yang - Journal of Polymer Science - Wiley Online Library
DOI: https://doi.org/10.1002/pol.20230501

Physicists get a first glimpse of the elusive isotope nitrogen-9

27 October
Physicists get a first glimpse of the elusive isotope nitrogen-9 (sciencenews.org)

Bridging Chemistry and Biology: The Art of Designing Novel Therapeutics
2 November
Bridging Chemistry and Biology: The Art of Designing Novel Therapeutics (news-medical.net)

Solid electrolytes redefine ion conduction | Science
2 November
Solid electrolytes redefine ion conduction | Science
DOI: 10.1126/science.adk86

Controlling chemical reactions with quantum physics
16 June
Controlling chemical reactions with quantum physics (innovationnewsnetwork.com)

Enabling solid-state reactions with tailored catalysts
10 March
Enabling solid-state reactions with tailored catalysts (innovationnewsnetwork.com)

Chemical simplification and tracking in plastics | Science
2 November
Chemical simplification and tracking in plastics | Science
DOI: 10.1126/science.adk9846

Asymmetric formal C–C bond insertion into aldehydes via copper-catalyzed diyne cyclization | Nature Communications
3 November
Asymmetric formal C–C bond insertion into aldehydes via copper-catalyzed diyne cyclization | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42805-2

Searching for the Rules of Electrochemical Nitrogen Fixation | ACS Catalysis
2 November
Searching for the Rules of Electrochemical Nitrogen Fixation | ACS Catalysis
DOI: https://doi.org/10.1021/acscatal.3c03951

Double boron–oxygen-fused polycyclic aromatic hydrocarbons: skeletal editing and applications as organic optoelectronic materials | Nature Communications
4 November
Double boron–oxygen-fused polycyclic aromatic hydrocarbons: skeletal editing and applications as organic optoelectronic materials | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42973-1

Accelerated Photolysis of H2O2 at the Air–Water Interface of a Microdroplet | Journal of the American Chemical Society
1 November
Accelerated Photolysis of H2O2 at the Air–Water Interface of a Microdroplet | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c08101

Scientists get rare glimpse of 'nesting doll' isotope nitrogen-9 | Live Science
3 November
Scientists get rare glimpse of 'nesting doll' isotope nitrogen-9 | Live Science

Recent Advances in First-Row Transition Metal-Catalyzed Reductive Coupling Reactions for π-Bond Functionalization and C-Glycosylation | Accounts of Chemical Research

2 November
Recent Advances in First-Row Transition Metal-Catalyzed Reductive Coupling Reactions for π-Bond Functionalization and C-Glycosylation | Accounts of Chemical Research (acs.org)
DOI: https://doi.org/10.1021/acs.accounts.3c00531

Guest Encapsulation Alters the Thermodynamic Landscape of a Coordination Host | Journal of the American Chemical Society

2 November
Guest Encapsulation Alters the Thermodynamic Landscape of a Coordination Host | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c08666

Ligand-Controlled Regioinduction in a PHOX-Ni Aryne Complex | ACS Organic & Inorganic Au

2 November
Ligand-Controlled Regioinduction in a PHOX-Ni Aryne Complex | ACS Organic & Inorganic Au
DOI: Ligand-Controlled Regioinduction in a PHOX-Ni Aryne Complex | ACS Organic & Inorganic Au

Cumulative Green Chemistry Principle Score for Objective Assessment of Drug Synthesis | ACS Sustainable Chemistry & Engineering

1 November
Cumulative Green Chemistry Principle Score for Objective Assessment of Drug Synthesis | ACS Sustainable Chemistry & Engineering
DOI: https://doi.org/10.1021/acssuschemeng.3c03961

Cobalt nanoparticles could become a significant player in the pursuit of clean energy

5 November
Cobalt nanoparticles could become a significant player in the pursuit of clean energy (theconversation.com)

Five ways in which rookie lab leaders can get up to speed

6 November
Five ways in which rookie lab leaders can get up to speed (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03437-0

Iterative Dual-Metal and Energy Transfer Catalysis Enables Stereodivergence in Alkyne Difunctionalization: Carboboration as Case Study | ACS Catalysis

3 November
Iterative Dual-Metal and Energy Transfer Catalysis Enables Stereodivergence in Alkyne Difunctionalization: Carboboration as Case Study | ACS Catalysis
DOI: https://doi.org/10.1021/acscatal.3c03570

MIT Physicists Transform Pencil Lead into Electronic “Gold”

5 November
MIT Physicists Transform Pencil Lead Into Electronic “Gold” (scitechdaily.com)
DOI: 10.1038/s41565-023-01520-1

Advances in the greener synthesis of chromopyrimidine derivatives by a multicomponent tandem oxidation process | Scientific Reports

4 November
Advances in the greener synthesis of chromopyrimidine derivatives by a multicomponent tandem oxidation process | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46004-3

Direct time-resolved observation of surface-bound carbon dioxide radical anions on metallic nanocatalysts | Nature Communications

6 November
Direct time-resolved observation of surface-bound carbon dioxide radical anions on metallic nanocatalysts | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42936-6

Preparation and properties of novel binary and ternary highly amorphous poly(vinyl alcohol)-based composites with hybrid nanofillers | Scientific Reports

5 November
Preparation and properties of novel binary and ternary highly amorphous poly(vinyl alcohol)-based composites with hybrid nanofillers | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46083-2

Ni/Mn metal–organic framework decorated bacterial cellulose (Ni/Mn-MOF@BC) and nickel foam (Ni/Mn-MOF@NF) as a visible-light photocatalyst and supercapacitive electrode | Scientific Reports

7 November
Ni/Mn metal–organic framework decorated bacterial cellulose (Ni/Mn-MOF@BC) and nickel foam (Ni/Mn-MOF@NF) as a visible-light photocatalyst and supercapacitive electrode | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46188-8

Developing Ni single-atom sites in carbon nitride for efficient photocatalytic H2O2 production | Nature Communications

6 November
Developing Ni single-atom sites in carbon nitride for efficient photocatalytic H2O2 production | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42887-y

Microwave-assisted one-step synthesis of water-soluble manganese-carbon nanodot clusters

23 August
Microwave-assisted one-step synthesis of water-soluble manganese-carbon nanodot clusters | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00983-6

Photoinduced edge-specific nanoparticle decoration of two-dimensional tungsten diselenide nanoribbons

14 August
Photoinduced edge-specific nanoparticle decoration of two-dimensional tungsten diselenide nanoribbons | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00975-6

Evolution of nanopores in hexagonal boron nitride

5 June
Evolution of nanopores in hexagonal boron nitride | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00899-1

Predicting crystal form stability under real-world conditions | Nature

8 November
Predicting crystal form stability under real-world conditions | Nature
DOI: https://doi.org/10.1038/s41586-023-06587-3

Green synthesis, biological and molecular docking of some novel sulfonamide thiadiazole derivatives as potential insecticidal against Spodoptera littoralis | Scientific Reports

11 November
Green synthesis, biological and molecular docking of some novel sulfonamide thiadiazole derivatives as potential insecticidal against Spodoptera littoralis | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46602-1

Physicists trap electrons in a 3D crystal for the first time

8 November
Physicists trap electrons in a 3D crystal for the first time
DOI: 10.1038/s41586-023-06640-1

Synthesis of an efficient MOF catalyst for the degradation of OPDs using TPA derived from PET waste bottles | Scientific Reports

6 November
Synthesis of an efficient MOF catalyst for the degradation of OPDs using TPA derived from PET waste bottles | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46635-6

The Intrinsic Barrier Width and Its Role in Chemical Reactivity | ACS Central Science

6 November
The Intrinsic Barrier Width and Its Role in Chemical Reactivity | ACS Central Science
DOI: https://doi.org/10.1021/acscentsci.3c00926

Helium droplets help to visualize the start of ion solvation (Subscription)

8 November
Helium droplets help to visualize the start of ion solvation (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02950-6

Be Super Critical of Supercritical CO2 Hype – CleanTechnica

8 November
Be Super Critical Of Supercritical CO2 Hype - CleanTechnica

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

8 November
Some Items of Interest to Process R&D Chemists and Engineers | Organic Process Research & Development (acs.org)
DOI: https://doi.org/10.1021/acs.oprd.3c00389

Sonochemical synthesis of heterostructured ZnO/Bi2O3 for photocatalytic desulfurization | Scientific Reports

8 November
Sonochemical synthesis of heterostructured ZnO/Bi2O3 for photocatalytic desulfurization | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46344-0

'Inert' co-formulants of a fungicide mediate acute effects on honey bee learning performance | Scientific Reports

9 November
'Inert' co-formulants of a fungicide mediate acute effects on honey bee learning performance | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46948-6

Cube-shaped Cobalt-doped zinc oxide nanoparticles with increased visible-light-driven photocatalytic activity achieved by green co-precipitation synthesis | Scientific Reports

7 November
Cube-shaped Cobalt-doped zinc oxide nanoparticles with increased visible-light-driven photocatalytic activity achieved by green co-precipitation synthesis | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46464-7

Crystallizing covalent organic frameworks from metal organic framework through chemical induced-phase engineering | Scientific Reports

9 November
Crystallizing covalent organic frameworks from metal organic framework through chemical induced-phase engineering | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46573-3

Chemists image basic blocks of synthetic polymers

9 November
Chemists image basic blocks of synthetic polymers (phys.org)
DOI: 10.1038/s41557-023-01363-2

Developing a class of dual atom materials for multifunctional catalytic reactions | Nature Communications

8 November
Developing a class of dual atom materials for multifunctional catalytic reactions | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42756-8

Covalent organic frameworks bearing Ni active sites for free radical-mediated photoelectrochemical organic transformations | Science Advances

8 November
Covalent organic frameworks bearing Ni active sites for free radical-mediated photoelectrochemical organic transformations | Science Advances
DOI: 10.1126/sciadv.adi9442

Atom-by-atom solvation recorded for the first time

9 November
Atom-by-atom solvation recorded for the first time (phys.org)
DOI: 10.1038/s41586-023-06593-5

Dynamic configurations of metallic atoms in the liquid state for selective propylene synthesis | Nature Nanotechnology (Subscription)

9 November
Dynamic configurations of metallic atoms in the liquid state for selective propylene synthesis | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01540-x

Heaps of pharmaceuticals, toxic chemicals found in recycled plastics

10 November
Heaps of pharmaceuticals, toxic chemicals found in recycled plastics (newatlas.com)
DOI: https://doi.org/10.1016/j.dib.2023.109740

Adventures In Failed Technology: Small Modular Reactors & Hydrogen Buses Entry – CleanTechnica

9 November
Adventures In Failed Technology: Small Modular Reactors & Hydrogen Buses Entry - CleanTechnica

Albert Eschenmoser (1925–2023): A Giant of Organic Chemistry - Hilvert - Angewandte Chemie International Edition - Wiley Online Library

7 November
Albert Eschenmoser (1925–2023): A Giant of Organic Chemistry - Hilvert - Angewandte Chemie International Edition - Wiley Online Library
DOI: https://doi.org/10.1002/anie.202315565

Researchers develop cheap and efficient ethanol catalyst from laser-melted nanoparticles

9 November
Researchers develop cheap and efficient ethanol catalyst from laser-melted nanoparticles (phys.org)
DOI: 10.1002/adfm.202304359

VPR: A stronger, stretchier, self-healing plastic

2 November
VPR: A stronger, stretchier, self-healing plastic (phys.org)
DOI: 10.1021/acsmaterialslett.3c00895

Lanthanum modulated reaction pacemakers on a single catalytic nanoparticle | Nature Communications

8 November
Lanthanum modulated reaction pacemakers on a single catalytic nanoparticle | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43026-3

Bifunctionality of dirhodium tetracarboxylates in metallaphotocatalysis | Nature Communications

10 November
Bifunctionality of dirhodium tetracarboxylates in metallaphotocatalysis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43050-3

Nickel-Catalyzed Enantioselective Decarboxylative Acylation: Rapid, Modular Access to α-Amino Ketones - Gao - Angewandte Chemie International Edition - Wiley Online Library

8 November
Nickel-Catalyzed Enantioselective Decarboxylative Acylation: Rapid, Modular Access to α-Amino Ketones - Gao - Angewandte Chemie International Edition - Wiley Online Library
DOI: https://doi.org/10.1002/anie.202315203

Electrocatalytic valorization of lignocellulose-derived aromatics at industrial-scale current densities | Nature Communications

9 November
Electrocatalytic valorization of lignocellulose-derived aromatics at industrial-scale current densities | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43136-y

Groundbreaking Research Promises Greener Rare Earth Element Purification | OilPrice.com

9 November
Groundbreaking Research Promises Greener Rare Earth Element Purification | OilPrice.com

Synthesis of dienes from pyrrolidines using skeletal modification | Nature Communications

11 November
Synthesis of dienes from pyrrolidines using skeletal modification | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-43238-7

A Pyridine Dearomatization Approach for the Gram Scale Synthesis of (±)-Sparteine | Organic Letters

10 November
A Pyridine Dearomatization Approach for the Gram Scale Synthesis of (±)-Sparteine | Organic Letters (acs.org)
DOI: https://doi.org/10.1021/acs.orglett.3c03242

Quantum Wonders: Atomic Dance Transforms Crystal into a Magnet

11 November
Quantum Wonders: Atomic Dance Transforms Crystal Into a Magnet (scitechdaily.com)
DOI: 10.1126/science.adi9601

Thermo-responsive chiral micelles as recyclable organocatalyst for asymmetric Rauhut-Currier reaction in water | Nature Communications

10 November
Thermo-responsive chiral micelles as recyclable organocatalyst for asymmetric Rauhut-Currier reaction in water | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43092-7

Atomistic-geometry inspired structure-composition-property relations of hydrogen sII hydrates | Scientific Reports

11 November
Atomistic-geometry inspired structure-composition-property relations of hydrogen sII hydrates | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-46716-6

Development and Demonstration of a High-Volume Manufacturing Process for a Key Intermediate of Dalcetrapib: Investigations on the Alkylation of Carboxylic Acids, Esters, and Nitriles (Subscription)

13 November
Development and Demonstration of a High-Volume Manufacturing Process for a Key Intermediate of Dalcetrapib: Investigations on the Alkylation of Carboxylic Acids, Esters, and Nitriles | Organic Process Research & Development (acs.org)
DOI: https://doi.org/10.1021/acs.oprd.3c00304

Automated synthesis of oxygen-producing catalysts from Martian meteorites by a robotic AI chemist | Nature Synthesis

13 November
Automated synthesis of oxygen-producing catalysts from Martian meteorites by a robotic AI chemist | Nature Synthesis
DOI: https://doi.org/10.1038/s44160-023-00424-1 and

This AI robot chemist could make oxygen on Mars

13 November
This AI robot chemist could make oxygen on Mars (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03522-4

Scientists Just Recreated the Chemical Reaction That May Have Led to Life on Earth

15 November
Scientists Just Recreated The Chemical Reaction That May Have Led to Life on Earth : ScienceAlert

Charged “Molecular Beasts” as the Basis for New Compounds

6 November
Charged “Molecular Beasts” as the Basis for New Compounds | Technology Networks

doi: 10.1002/anie.202308600

One-step Formation of Urea from Carbon Dioxide and Nitrogen Using Water Microdroplets | Journal of the American Chemical Society

15 November
One-step Formation of Urea from Carbon Dioxide and Nitrogen Using Water Microdroplets | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c10784

Fluorine catch-and-attach process could boost drug efficiency

13 November
Fluorine catch-and-attach process could boost drug efficiency (phys.org)
DOI: 10.1038/s41557-023-01365-0

Pulsed electroreduction of low-concentration nitrate to ammonia | Nature Communications

14 November
Pulsed electroreduction of low-concentration nitrate to ammonia | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43179-1

Synthesis of 2-Azanorbornanes via Strain-Release Formal Cycloadditions Initiated by Energy Transfer - Chang - Angewandte Chemie International Edition - Wiley Online Library

14 November
Synthesis of 2-Azanorbornanes via Strain-Release Formal Cycloadditions Initiated by Energy Transfer - Chang - Angewandte Chemie International Edition - Wiley Online Library
DOI: https://doi.org/10.1002/anie.202314700

XPK: Toward Accurate and Efficient Microkinetic Modeling in Heterogeneous Catalysis | ACS Catalysis

14 November
DOI: XPK: Toward Accurate and Efficient Microkinetic Modeling in Heterogeneous Catalysis | ACS Catalysis https://doi.org/10.1021/acscatal.3c04298

Research team develops antiaromatic molecules that exhibit absorption and fluorescence bands in near-infrared region

15 November
Research team develops antiaromatic molecules that exhibit absorption and fluorescence bands in near-infrared region (phys.org)
DOI: 10.1002/anie.202311445

The robot chemist helping to pave the way to settlements on Mars

13 November
The robot chemist helping to pave the way to settlements on Mars (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03566-6

New water treatment method can generate green energy

14 November
New water treatment method can generate green energy (phys.org)
DOI: 10.1039/D3NR03804A

Total Synthesis of Aleutianamine | Journal of the American Chemical Society

15 November
Total Synthesis of Aleutianamine | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c10212

Stereoselectivity control in Rh-catalyzed β-OH elimination for chiral allene formation | Nature Communications

16 November
Stereoselectivity control in Rh-catalyzed β-OH elimination for chiral allene formation | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42660-1

EC to renew authorisation for herbicide glyphosate

16 November
EC to renew authorisation for herbicide glyphosate (rte.ie)

EU allows use of controversial weedkiller glyphosate for 10 more years

17 November
EU allows use of controversial weedkiller glyphosate for 10 more years (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03589-z

Simple New Technique Transforms "Forever Chemicals" Into Valuable Compounds

16 November
Simple New Technique Transforms "Forever Chemicals" Into Valuable Compounds (scitechdaily.com)
DOI: 10.1021/jacs.3c06331

Total Synthesis of Taxol Enabled by Intermolecular Radical Coupling and Pd-Catalyzed Cyclization | Journal of the American Chemical Society

16 November
Total Synthesis of Taxol Enabled by Intermolecular Radical Coupling and Pd-Catalyzed Cyclization | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c10658

Reductive stereo- and regiocontrolled boryllithiation and borylsodiation of arylacetylenes using flow microreactors | Nature Synthesis

16 November
Reductive stereo- and regiocontrolled boryllithiation and borylsodiation of arylacetylenes using flow microreactors | Nature Synthesis
DOI: https://doi.org/10.1038/s44160-023-00439-8

Pushing the boundaries of eco-friendly chemical production with azaarenes

16 November
Pushing the boundaries of eco-friendly chemical production with azaarenes (phys.org)
DOI: 10.1038/s41557-023-01368-x. www.nature.com/articles/s41557-023-01368-x

Chemists tackle formation of natural aerosols

16 November
Chemists tackle formation of natural aerosols (phys.org)
DOI: 10.1126/science.adi0857

Cobalt-catalyzed aminoalkylative carbonylation of alkenes toward direct synthesis of γ-amino acid derivatives and peptides | Nature Communications

17 November
Cobalt-catalyzed aminoalkylative carbonylation of alkenes toward direct synthesis of γ-amino acid derivatives and peptides | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43306-y

A Genetic Optimization Strategy with Generality in Asymmetric Organocatalysis as Primary Target | Catalysis | ChemRxiv | Cambridge Open Engage

17 November

A Genetic Optimization Strategy with Generality in Asymmetric Organocatalysis as Primary Target | Catalysis | ChemRxiv | Cambridge Open Engage
DOI: https://doi.org/10.26434/chemrxiv-2023-4nxt8

Variational autoencoder-based chemical latent space for large molecular structures with 3D complexity | Communications Chemistry

16 November
Variational autoencoder-based chemical latent space for large molecular structures with 3D complexity | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01054-6

A novel machine learning model for molecular simulation under an external field

16 November
A novel machine learning model for molecular simulation under an external field (phys.org)
DOI: 10.1038/s41467-023-42148-y

A silylene-stabilized ditin(0) complex and its conversion to methylditin cation and distannavinylidene | Nature Communications

17 November
A silylene-stabilized ditin(0) complex and its conversion to methylditin cation and distannavinylidene | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42953-5

Cleaning Up the Basements and Attics of Organic Chemistry | Science | AAAS

7 February 2023
Cleaning Up the Basements and Attics of Organic Chemistry | Science | AAAS

Machine Learning C–N Couplings: Obstacles for a General-Purpose Reaction Yield Prediction | ACS Omega

11 January
DOI: https://doi.org/10.1021/acsomega.2c05546

Weird Little Sulfur Groups | Science | AAAS

6 February 2023
Weird Little Sulfur Groups | Science | AAAS

Tighten Up That Synthesis | Science | AAAS

1 February 2023
Tighten Up That Synthesis | Science | AAAS

The War for Iron

2 February
The War for Iron | Science | AAAS

A Celebration of the Publication of the 100th Volume of Organic Syntheses | Journal of the American Chemical Society

17 November
A Celebration of the Publication of the 100th Volume of Organic Syntheses | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c12163

Stalking Polymorphs | Science | AAAS

14 March
Stalking Polymorphs | Science | AAAS

Revolutionary One-Atom-Thick Ribbons Set to Transform Batteries and Solar Cells
20 November
Revolutionary One-Atom-Thick Ribbons Set To Transform Batteries and Solar Cells (scitechdaily.com)
DOI: 10.1021/jacs.3c03230

Physics - Nuclear Ground State Has Molecule-Like Structure
21 November
Physics - Nuclear Ground State Has Molecule-Like Structure (aps.org)

Eco-Friendly Breakthrough: Single Atom Catalyst Transforms CO2 Into Ethanol
21 November
Eco-Friendly Breakthrough: Single Atom Catalyst Transforms CO2 Into Ethanol (scitechdaily.com)
DOI: 10.1038/s41560-023-01389-3

Activating Mn Sites by Ni Replacement in α-MnO2 | ACS Materials Au
20 November
Activating Mn Sites by Ni Replacement in α-MnO2 | ACS Materials Au
DOI: https://doi.org/10.1021/acsmaterialsau.3c00051

The science is clear — the EU should not reauthorise glyphosate | Euronews
20 November
The science is clear — the EU should not reauthorise glyphosate | Euronews

EU farming group welcomes vote against pesticides cut - Agriland.ie
22 November
EU farming group welcomes vote against pesticides cut - Agriland.ie

A knowledge-guided pre-training framework for improving molecular representation learning | Nature Communications
21 November
A knowledge-guided pre-training framework for improving molecular representation learning | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43214-1

Dynamicity of atoms in a liquid metal catalyst enables selective propylene synthesis | Nature Nanotechnology
20 November
Dynamicity of atoms in a liquid metal catalyst enables selective propylene synthesis | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01552-7

Grind away: How mechanochemistry could revolutionize materials - Big Think
22 November
Grind away: How mechanochemistry could revolutionize materials - Big Think

Woven organic crystals | Nature Communications
21 November
Woven organic crystals | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43084-7

Researchers observe the operating principle of 'promoters' in a catalytic reaction in real-time
20 November
Researchers observe the operating principle of 'promoters' in a catalytic reaction in real-time (phys.org)
DOI: 10.1038/s41467-023-43026-3

Nickel-catalyzed direct stereoselective α-allylation of ketones with non-conjugated dienes | Nature Communications

22 November
Nickel-catalyzed direct stereoselective α-allylation of ketones with non-conjugated dienes | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43197-z

Ligand-modulated nickel-catalyzed regioselective silylalkylation of alkenes | Nature Communications

23 November
Ligand-modulated nickel-catalyzed regioselective silylalkylation of alkenes | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43642-z

Cu-mediated enantioselective C–H alkynylation of ferrocenes with chiral BINOL ligands | Nature Communications

24 November
Cu-mediated enantioselective C–H alkynylation of ferrocenes with chiral BINOL ligands | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43278-z

Self-activated superhydrophilic green ZnIn2S4 realizing solar-driven overall water splitting: close-to-unity stability for a full daytime

24 November
Self-activated superhydrophilic green ZnIn2S4 realizing solar-driven overall water splitting: close-to-unity stability for a full daytime | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43331-x

Unlocking the reactivity of diazo compounds in red light with the use of photochemical tools - Chemical Communications (RSC Publishing)

22 November
Unlocking the reactivity of diazo compounds in red light with the use of photochemical tools - Chemical Communications (RSC Publishing)
DOI: https://doi.org/10.1039/D3CC05174A

Efficient multicarbon formation in acidic CO2 reduction via tandem electrocatalysis | Nature Nanotechnology (Subccription)

23 November
Efficient multicarbon formation in acidic CO2 reduction via tandem electrocatalysis | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01543-8

Enabling late-stage drug diversification by high-throughput experimentation with geometric deep learning | Nature Chemistry

23 November
Enabling late-stage drug diversification by high-throughput experimentation with geometric deep learning | Nature Chemistry
DOI: https://doi.org/10.1038/s41557-023-01360-5

Catalyst switch strategy enabled a single polymer with five different crystalline phases | Nature Communications

20 November
Catalyst switch strategy enabled a single polymer with five different crystalline phases | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42955-3

Electrofuel developed from green hydrogen and carbon dioxide tested in practice for first time in Finland

24 November
Electrofuel developed from green hydrogen and carbon dioxide tested in practice for first time in Finland (techxplore.com)

Plastic out of thin air? Scientists make alternative plastic from atmospheric nitrogen (There are other unrelated articles in this link)

22 November
Plastic out of thin air? Scientists make alternative plastic from atmospheric nitrogen (zmescience.com)
DOI: https://doi.org/10.1021/jacs.3c00882

Researchers develop biodegradable polymers that are traceable without toxic contrast agents

24 November
Researchers develop biodegradable polymers that are traceable without toxic contrast agents (phys.org)
DOI: 10.1038/s42004-023-00954-x

Crown-hydroxylamines are pH-dependent chelating N,O-ligands with a potential for aerobic oxidation catalysis | Nature Communications

23 November
Crown-hydroxylamines are pH-dependent chelating N,O-ligands with a potential for aerobic oxidation catalysis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43530-6

A fullerene-like molecule made entirely of metal atoms

26 November
A fullerene-like molecule made entirely of metal atoms (phys.org)
DOI: 10.1126/science.adj6491

Europe's Unitary Patent: Boosting innovation and simplifying patent protection | Euronews

6 June 2023
Europe's Unitary Patent: Boosting innovation and simplifying patent protection | Euronews

Synthesis of highly substituted alkenes by sulfur-mediated olefination of N-tosylhydrazones | Communications Chemistry

18 November
Synthesis of highly substituted alkenes by sulfur-mediated olefination of N-tosylhydrazones | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01058-2

Diselenide-bond replacement of the external disulfide bond of insulin increases its oligomerization leading to sustained activity | Communications Chemistry

21 November
Diselenide-bond replacement of the external disulfide bond of insulin increases its oligomerization leading to sustained activity | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01056-4

Identifying opportunities for late-stage C-H alkylation with high-throughput experimentation and in silico reaction screening | Communications Chemistry

20 November
Identifying opportunities for late-stage C-H alkylation with high-throughput experimentation and in silico reaction screening | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01047-5

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

Medicinal Chemistry, Chemical Biology & Life Sciences

Hydrogen-free hydrogenation offers simple solution for medicinal chemists | Research | Chemistry World

1 September
Hydrogen-free hydrogenation offers simple solution for medicinal chemists | Research | Chemistry World

Patrolling honey bees expose spread of antimicrobial resistance

2 September
Patrolling honey bees expose spread of antimicrobial resistance (phys.org)
DOI: 10.1021/acs.est.3c03775

The complete sequence of a human Y chromosome

23 August
The complete sequence of a human Y chromosome | Nature
DOI: https://doi.org/10.1038/s41586-023-06457-y and
DOI: https://doi.org/10.1038/s41586-023-06425-6

Y Chromosome's Complete Sequence Published

23 August
Y Chromosome's Complete Sequence Published | Technology Networks
DOI: 10.1038/s41586-023-06425-6

The Entire Y Chromosome Has Been Finally Sequenced

1 September
The Entire Y Chromosome Has Been Finally Sequenced (sciencefriday.com)

New Drug Can Help Treat Aggressive, Deep-Rooted Brain Tumors: ScienceAlert

2 September
New Drug Can Help Treat Aggressive, Deep-Rooted Brain Tumors : ScienceAlert

What Structures Do Complex Proteins Adopt in Solution?

24 August
What Structures Do Complex Proteins Adopt in Solution? | Technology Networks
DOI: 10.1016/j.str.2023.07.008

Scientists Unearth Primordial Photoredox Catalyst

4 September
Scientists Unearth Primordial Photoredox Catalyst (scitechdaily.com)
DOI: 10.1002/anie.202307236

Everything you need to know about the new Covid variant – podcast | Science | The Guardian

5 September
Everything you need to know about the new Covid variant – podcast | Science | The Guardian

What Initiates Chemical Intolerance?
4 September
What Initiates Chemical Intolerance? | Technology Networks
DOI: 10.1186/s12302-023-00772-x

Lexology: EU to reform rules for drug-device combinations, product information and pharmacovigilance.
5 September
EU to reform rules for drug-device combinations, product information and pharmacovigilance - Lexology

Wegovy was inspired by Gila monster venom – here are some other drugs with surprising origins — The Conversation
5 September
Wegovy was inspired by Gila monster venom – here are some other drugs with surprising origins (theconversation.com)

Scientists synthesize new organometallic 'sandwich' compound capable of holding more electrons
5 September
Scientists synthesize new organometallic 'sandwich' compound capable of holding more electrons (phys.org)
DOI: 10.1038/s41467-023-40557-7

The 10 highest value R&D projects in biopharma
5 Sept
The 10 highest value R&D projects in biopharma (fiercebiotech.com)

Wegovy has arrived in the UK: the story of the weight-loss jab so far
6 September
Wegovy has arrived in the UK: the story of the weight-loss jab so far (theconversation.com)

Molecular architecture and electron transfer pathway of the Stn family transhydrogenase | Nature Communications
7 September
Molecular architecture and electron transfer pathway of the Stn family transhydrogenase | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41212-x

The Future of Sweet: Scientists Crack the Code for Near-Perfect Sugar Substitutes
5 September
The Future of Sweet: Scientists Crack the Code for Near-Perfect Sugar Substitutes (scitechdaily.com)
DOI: 10.1021/acs.jafc.3c01144

Cryo-EM structures of human organic anion transporting polypeptide OATP1B1 | Cell Research
6 September
Cryo-EM structures of human organic anion transporting polypeptide OATP1B1 | Cell Research (nature.com)
DOI: https://doi.org/10.1038/s41422-023-00870-8

Researchers develop novel DNA biosensor for early diagnosis of cervical cancer
7 September
Researchers develop novel DNA biosensor for early diagnosis of cervical cancer (phys.org)
DOI: 10.1186/s12951-023-01948-6

1,3a,6a-Triazapentalene derivatives as photo-induced cytotoxic small fluorescent dyes
22 February 2023

1,3a,6a-Triazapentalene derivatives as photo-induced cytotoxic small fluorescent dyes | Communications Chemistry (nature.com)
DOI; https://doi.org/10.1038/s42004-023-00838-0

Structure-based design of a dual-warhead covalent inhibitor of FGFR4

17 March 2022
Structure-based design of a dual-warhead covalent inhibitor of FGFR4 | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-022-00657-9

90% Reduction: Scientists Discover Natural Molecule That Eradicates Plaques and Cavities

8 September
90% Reduction: Scientists Discover Natural Molecule That Eradicates Plaques and Cavities (scitechdaily.com)
DOI: 10.3390/antibiotics12061017

Structural conservation of antibiotic interaction with ribosomes | Nature Structural & Molecular Biology

7 August
Structural conservation of antibiotic interaction with ribosomes | Nature Structural & Molecular Biology
DOI: https://doi.org/10.1038/s41594-023-01047-y

Drugs catch a ride through the blood–brain barrier | Nature Biotechnology

12 September
Drugs catch a ride through the blood–brain barrier | Nature Biotechnology
DOI: https://www.nature.com/articles/s41587-023-01936-z

Hair loss treatments take aim at the immune system

12 September
Hair loss treatments take aim at the immune system | Nature Biotechnology
DOI: https://www.nature.com/articles/s41587-023-01939-w

Chem-map profiles drug binding to chromatin in cells | Nature Biotechnology

23 January 2023
Chem-map profiles drug binding to chromatin in cells | Nature Biotechnology
DOI: https://www.nature.com/articles/s41587-022-01636-0

Genetically encoded discovery of perfluoroaryl macrocycles that bind to albumin and exhibit extended circulation in vivo | Nature Communications

13 September
Genetically encoded discovery of perfluoroaryl macrocycles that bind to albumin and exhibit extended circulation in vivo | Nature Communications
DOI: https://www.nature.com/articles/s41467-023-41427-y

Researchers enhance the function of natural proteins using 'protein Legos'

14 September
Researchers enhance the function of natural proteins using 'protein Legos' (phys.org)
DOI: 10.1038/s41589-023-01313-6

All Those Phosphates

18 September
All Those Phosphates | Science | AAAS

Greasing Your Way into Cells

24 October 2022
Greasing Your Way Into Cells | Science | AAAS

Protein–lipid charge interactions control the folding of outer membrane proteins into asymmetric membranes | Nature Chemistry

14 September
Protein–lipid charge interactions control the folding of outer membrane proteins into asymmetric membranes | Nature Chemistry
DOI: https://doi.org/10.1038/s41557-023-01319-6

A probabilistic view of protein stability, conformational specificity, and design | Scientific Reports

19 September
A probabilistic view of protein stability, conformational specificity, and design | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-42032-1

Alzheimer's disease blood tests: here's what they look for, and what they can tell you about your risk

20 September
https://theconversation.com/alzheimers-disease-blood-tests-heres-what-they-look-for-and-what-they-can-tell-you-about-your-risk-212739

Have researchers found the missing link to make easy protein sequencing possible?

18 September
Have researchers found the missing link to make easy protein sequencing possible? (phys.org)
DOI: 10.1038/s41587-023-01954-x

Matchmaking (with AI) to help proteins pair up

14 September
Matchmaking (with AI) to help proteins pair up (phys.org)
DOI: 10.1038/s42256-023-00715-4

Hormone-Disrupting Chemical Detected in 90% of Europeans, Research Shows: ScienceAlert

16 September
Hormone-Disrupting Chemical Detected in 90% of Europeans, Research Shows : ScienceAlert

Stanford Researchers Introduce Protpardelle: A Breakthrough All-Atom Diffusion Model for Co-Designing Protein Structure and Sequence – MarkTechPost

17 September
Stanford Researchers Introduce Protpardelle: A Breakthrough All-Atom Diffusion Model for Co-Designing Protein Structure and Sequence - MarkTechPost

Acne Treatment May Be Improved with Nanoparticle Delivery

19 September
Acne Treatment May Be Improved With Nanoparticle Delivery | Technology Networks
DOI: 10.1039/D3NR01789C

Protein Successfully Transported Through a Nanopore

19 September
Protein Successfully Transported Through a Nanopore | Technology Networks
DOI: 10.1038/s41587-023-01954-x

FedEx for your cells: this biological delivery service could treat disease

19 September
FedEx for your cells: this biological delivery service could treat disease (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02906-w

Biological Ballet: Scientists Reveal the Dance of Molecular “Coherence” in Unprecedented Clarity

18 September
Biological Ballet: Scientists Reveal the Dance of Molecular “Coherence” in Unprecedented Clarity (scitechdaily.com)
DOI: https://doi.org/10.1038/s41557-023-01275-1

A biocatalytic platform for asymmetric alkylation of α-keto acids by mining and engineering of methyltransferases | Nature Communications

14 September
A biocatalytic platform for asymmetric alkylation of α-keto acids by mining and engineering of methyltransferases | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-40980-w

Research estimates that a mere 2% of all chemical exposure has been identified

22 September
Research estimates that a mere 2% of all chemical exposure has been identified (phys.org)
DOI: 10.1021/acs.est.3c03606

Unlocking biomolecular intelligence | Nature Machine Intelligence

20 September
Unlocking biomolecular intelligence | Nature Machine Intelligence
DOI: https://doi.org/10.1038/s42256-023-00730-5

Responsive Nucleic Acid-Based Organosilica Nanoparticles | Journal of the American Chemical Society

21 September
Responsive Nucleic Acid-Based Organosilica Nanoparticles | Journal of the American Chemical Society (acs.org)
https://doi.org/10.1021/jacs.3c00393

Simplifying glycan monitoring of complex antigens such as the SARS-CoV-2 spike to accelerate vaccine development | Communications Chemistry

8 September
Simplifying glycan monitoring of complex antigens such as the SARS-CoV-2 spike to accelerate vaccine development | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00988-1

Chemo-enzymatic total synthesis of the spirosorbicillinols | Communications Chemistry

6 September
Chemo-enzymatic total synthesis of the spirosorbicillinols | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-00996-1

Significant Chemical Exposures Linked to Certain Cancers in Women

18 September
Significant Chemical Exposures Linked to Certain Cancers in Women | Technology Networks
DOI: 10.1038/s41370-023-00601-6

COVID drug molnupiravir may be driving the virus to mutate — should we worry?

25 September
COVID drug molnupiravir may be driving the virus to mutate — should we worry? | Live Science

Generation of potent antibacterial compounds through enzymatic and chemical modifications of the trans-δ-viniferin scaffold | Scientific Reports
25 September
Generation of potent antibacterial compounds through enzymatic and chemical modifications of the trans-δ-viniferin scaffold | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43000-5

Nanopore sequencing and DNA barcoding method gives hope of personalized medicine
25 September
Nanopore sequencing and DNA barcoding method gives hope of personalized medicine (phys.org)
DOI: 10.1038/s41565-023-01479-z

A computational framework for the inference of protein complex remodeling from whole-proteome measurements | Nature Methods
25 September
A computational framework for the inference of protein complex remodeling from whole-proteome measurements | Nature Methods
DOI: https://doi.org/10.1038/s41592-023-02011-w

A robust, agnostic molecular biosignature based on machine learning | PNAS
25 September
A robust, agnostic molecular biosignature based on machine learning | PNAS
DOI: https://doi.org/10.1073/pnas.2307149120

Many-legged medicines: A new strategy for pain relief
27 September
Breakthroughs in computer aided drug design (drugdiscoverynews.com)

Discovery of a cystathionine γ-lyase (CSE) selective inhibitor targeting active-site pyridoxal 5′-phosphate (PLP) via Schiff base formation | Scientific Reports
30 September
Discovery of a cystathionine γ-lyase (CSE) selective inhibitor targeting active-site pyridoxal 5′-phosphate (PLP) via Schiff base formation | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43536-6

Expanding the Role of Boron in New Drug Chemotypes: Properties, Chemistry, Pharmaceutical Potential of Hemiboronic Naphthoids | Journal of Medicinal Chemistry (Subscription)
26 September
Expanding the Role of Boron in New Drug Chemotypes: Properties, Chemistry, Pharmaceutical Potential of Hemiboronic Naphthoids | Journal of Medicinal Chemistry (acs.org)
DOI: https://doi.org/10.1021/acs.jmedchem.3c01194

How Men and Women Can Respond to Drugs Differently Revealed with New Tool | Technology Networks
3 October
How Men and Women Can Respond to Drugs Differently Revealed With New Tool | Technology Networks
DOI: 10.1371/journal.pcbi.1010927

Research reveals overlooked parts of proteins as critical to fundamental functions of life
2 October
https://phys.org/news/2023-10-reveals-overlooked-proteins-critical-fundamental.html
DOI: 10.1016/j.cell.2023.08.032

mRNA COVID vaccines saved lives and won a Nobel — what's next for the technology?

3 October
mRNA COVID vaccines saved lives and won a Nobel — what's next for the technology? (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03119-x

Mustafa Prize winner: Iran pioneer in nanotechnology, its medical advances amazing

4 October
Mustafa Prize winner: Iran pioneer in nanotechnology, its medical advances amazing (presstv.ir)

TS Digest Issue | October 2023 | Designer Peptoids Pop Viral Membranes | The Scientist

2 October
TS Digest Issue | October 2023 | Designer Peptoids Pop Viral Membranes | The Scientist (the-scientist.com)

Most people who think they are allergic to penicillin aren't

4 October
Most people who think they are allergic to penicillin aren't (theconversation.com)

Why rings of RNA could be the next blockbuster drug

4 October
Why rings of RNA could be the next blockbuster drug (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03058-7

Elucidation of lipid nanoparticle surface structure in mRNA vaccines | Scientific Reports

5 October
Elucidation of lipid nanoparticle surface structure in mRNA vaccines | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43898-x

A New Flavor Frontier: Is Ammonium Our Sixth Basic Taste? - Neuroscience News

5 October
https://neurosciencenews.com/ammonium-sixth-taste-25922 and

The proton channel OTOP1 is a sensor for the taste of ammonium chloride

5 October
The proton channel OTOP1 is a sensor for the taste of ammonium chloride | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41637-4

How a small chemical change boosts bioavailability of drug molecules

10 October
How a small chemical change boosts bioavailability of drug molecules (phys.org)
DOI: 10.1038/s41467-023-41748-y

Designer Peptoids Pop Viral Membranes (Plus additional articles)

2 October
TS Digest Issue | October 2023 | Designer Peptoids Pop Viral Membranes | The Scientist (the-scientist.com)

Scientists hone tools to measure aging and rejuvenation interventions

22 August
Scientists hone tools to measure aging and rejuvenation interventions (nature.com)
DOI: https://doi.org/10.1038/d41587-023-00008-6

Natural product P57 induces hypothermia through targeting pyridoxal kinase | Nature Communications

26 September
Natural product P57 induces hypothermia through targeting pyridoxal kinase | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41435-y

Structural biology—plastic degradation by using wax worm saliva

27 September
Structural biology—plastic degradation by using wax worm saliva (phys.org)
DOI: 10.1126/sciadv.adi6813

Health and bioscience brilliance: from imaging brain tumour networks to building cells from scratch

?
Health and bioscience brilliance: from imaging brain tumour networks to building cells from scratch (nature.com)

Synthesis of a glycan hairpin | Nature Chemistry

3 July
Synthesis of a glycan hairpin | Nature Chemistry
DOI: https://doi.org/10.1038/s41557-023-01255-5

Data show record exodus of life scientists from academia – STAT

28 Sept
Data show record exodus of life scientists from academia - STAT (statnews.com)

'A Pandora's box': map of protein-structure families delights scientists

13 September
'A Pandora's box': map of protein-structure families delights scientists (nature.com)
DOI: https://www.nature.com/articles/d41586-023-02892-z

Genetically encoded discovery of perfluoroaryl macrocycles that bind to albumin and exhibit extended circulation in vivo | Nature Communications

14 September
https://www.sciencealert.com/jwst-just-measured-the-expansion-rate-of-the-universe-astronomers-are-stumped

Adjuvant lipidoid-substituted lipid nanoparticles augment the immunogenicity of SARS-CoV-2 mRNA vaccines | Nature Nanotechnology

26 June
Adjuvant lipidoid-substituted lipid nanoparticles augment the immunogenicity of SARS-CoV-2 mRNA vaccines | Nature Nanotechnology
DOI: https://www.nature.com/articles/s41565-023-01404-4

Correcting Misperceptions About the Placebo Effect

11 October
Correcting Misperceptions About the Placebo Effect | RealClearScience
Placebo Effect Revisited | Science-Based Medicine (sciencebasedmedicine.org)

DNA-origami-directed virus capsid polymorphism | Nature Nanotechnology

17 October
DNA-origami-directed virus capsid polymorphism | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01443-x

Popular Herbicide Ingredient Linked to Chronic Kidney Disease Epidemic in Sri Lanka

12 October
Popular Herbicide Ingredient Linked to Chronic Kidney Disease Epidemic in Sri Lanka | Technology Networks
DOI:10.1021/acs.estlett.3c00504

Dual enzyme-powered chemotactic cross β amyloid based functional nanomotors

22 September
Dual enzyme-powered chemotactic cross β amyloid based functional nanomotors | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41301-x

Watch "Why is All Life Carbon Based, Not Silicon? Three Startling Reasons!" on YouTube

March 2023
(145) Why is All Life Carbon Based, Not Silicon? Three Startling Reasons! - YouTube
https://youtu.be/kAFC4RY1cKQ?si=6q8HaQvX_-9fb9SF

Researchers Who Made COVID Vaccine Possible Awarded Nobel Prize: ScienceAlert

3 October
https://www.sciencealert.com/researchers-who-made-covid-vaccine-possible-awarded-nobel-prize

The long road to a new malaria vaccine, told by the scientists behind the breakthrough – podcast — The Conversation

3 October
The long road to a new malaria vaccine, told by the scientists behind the breakthrough – podcast (theconversation.com)

The long road to a new malaria vaccine, told by the scientists behind the breakthrough – podcast — The Conversation

3 October
The long road to a new malaria vaccine, told by the scientists behind the breakthrough – podcast (theconversation.com)

Triepoxide DOI: https://doi.org/10.1038/s41467-023-41883-6

A universal reagent for detection of emerging diseases using bioengineered multifunctional yeast nanofragments | Nature Nanotechnology

8 June
A universal reagent for detection of emerging diseases using bioengineered multifunctional yeast nanofragments | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01415-1

The Transformative Power of Insights in Biopharma Development: Why a Digital Backbone Matters

11 October
The Transformative Power of Insights in Biopharma Development: Why a Digital Backbone Matters | Technology Networks

Will we still have antibiotics in 50 years? We asked 7 global experts

15 October
Will we still have antibiotics in 50 years? We asked 7 global experts (theconversation.com)

Small chemical change to boost bioavailability of drug molecules

10 October
Indian Institute of Science (iisc.ac.in)

The Scientist Speaks - Preventing the Next Pandemic With Organ Chips | The Scientist Magazine(R) Podcast

30 March 2022
The Scientist Speaks - Preventing the Next Pandemic With Organ Chips | The Scientist Magazine® (the-scientist.com)

Fight Over Covid Lab Leak Stalls Virology Research - The New York Times

17 October
https://www.nytimes.com/2023/10/16/science/covid-lab-leak-research.html
formation by a flavin-dependent monooxygenase in monensin biosynthesis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41889-0

Nobel prize for mRNA vaccines

3 October
Nobel prize for mRNA vaccines | Drug Discovery News

Dual enzyme-powered chemotactic cross β amyloid based functional nanomotors

22 September
Dual enzyme-powered chemotactic cross β amyloid based functional nanomotors | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41301-x

Watch "Why is All Life Carbon Based, Not Silicon? Three Startling Reasons!" on YouTube

March 2023
(145) Why is All Life Carbon Based, Not Silicon? Three Startling Reasons! - YouTube
https://youtu.be/kAFC4RY1cKQ?si=6q8HaQvX_-9fb9SF

An automated single-molecule FRET platform for high-content, multiwell plate screening of biomolecular conformations and dynamics | Nature Communications

16 October
An automated single-molecule FRET platform for high-content, multiwell plate screening of biomolecular conformations and dynamics | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42232-3

Soft-landing methods aim to simplify structural biology

16 October
Soft-landing methods aim to simplify structural biology (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03236-7

Scientists develop deep learning-based biosensing platform to better count viral particles

17 October
Scientists develop deep learning-based biosensing platform to better count viral particles (phys.org)
DOI: 10.1016/j.nantod.2023.101968

Forgotten Antibiotic from Decades Past May Be a Superbug Killer: ScienceAlert

17 October
Forgotten Antibiotic From Decades Past May Be a Superbug Killer : ScienceAlert

Impact of caffeine consumption on oxidation of fats: common themes and future research

12 October
Impact of caffeine consumption on oxidation of fats: common themes and future research (news-medical.net)
doi: https://doi.org/10.3390/nu15204320

Fructose Is a Core Driver of Obesity
18 October
Fructose Is a Core Driver of Obesity | Technology Networks
DOi: 10.1002/oby.23920

A Quest to Drug RNA
8 September
A Quest to Drug RNA | The Scientist Magazine® (the-scientist.com)

Role of regulatory CMC in pharmaceutical site technical transfers
31 August
Role of regulatory CMC in pharmaceutical site technical transfers | RAPS

Robotic pills deliver gastrointestinal injections
19 October
Robotic pills deliver gastrointestinal injections | Drug Discovery News

Insulin ditches needles and hitches a ride in cage-like carriers
13 September
Insulin ditches needles and hitches a ride in cage-like carriers | Drug Discovery News

A silk cocoon gives a protective shell to oral drugs in the gut
30 October 2022
A silk cocoon gives a protective shell to oral drugs in the gut | Drug Discovery News

Physical theory improves protein folding prediction
19 October
https://phys.org/news/2023-10-physical-theory-protein.html
DOI: 10.1038/s41467-023-41664-1

Direct imaging of sequences and locations of glycans bound to biomolecules at a single-molecule level
17 October
Direct imaging of sequences and locations of glycans bound to biomolecules at a single-molecule level (phys.org)
DOI: 10.1126/science.adh3856

Antimicrobial potential and rhodamine B dye degradation using graphitic carbon nitride and polyvinylpyrrolidone doped bismuth tungstate supported with in silico molecular docking studies | Scientific Reports
19 October
Antimicrobial potential and rhodamine B dye degradation using graphitic carbon nitride and polyvinylpyrrolidone doped bismuth tungstate supported with in silico molecular docking studies | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44799-9

Expansion at Cork company will 'further position Ireland as hub for pharmaceutical excellence'
23 October
Expansion at Cork company will 'further position Ireland as hub for pharmaceutical excellence' (echolive.ie)

New lab-made substance mimics human tissue and could reduce/replace the use of animal-derived materials in research
23 October

New lab-made substance mimics human tissue and could reduce/replace the use of animal-derived materials in research (phys.org)
DOI: 10.1038/s41467-023-41907-1

Inflammation in severe COVID linked to bad fungal microbiome

23 October
Inflammation in severe COVID linked to bad fungal microbiome (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03295-w

Physics has long failed to explain life – but we're testing a groundbreaking new theory in the lab

24 October
Physics has long failed to explain life – but we're testing a groundbreaking new theory in the lab (theconversation.com)

mRNA vaccines for infectious diseases: principles, delivery and clinical translation

25 August
mRNA vaccines for infectious diseases: principles, delivery and clinical translation | Nature Reviews Drug Discovery
DOI: https://doi.org/10.1038/s41573-021-00283-5

Researchers discover scalable production technique for low-calorie sugar substitute

24 October
Researchers discover scalable production technique for low-calorie sugar substitute (phys.org)
DOI: 10.1038/s41538-023-00231-0

Unlocking pathways to break down problem proteins presents new treatment opportunities

25 October
Unlocking pathways to break down problem proteins presents new treatment opportunities (phys.org)
DOI: 10.1126/science.adf6249

De novo design of knotted tandem repeat proteins | Nature Communications

24 October
De novo design of knotted tandem repeat proteins | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42388-y

To find future antibiotics, a scientist looks to the fossilized past

25 October
To find future antibiotics, a scientist looks to the fossilized past (statnews.com)

UCD professor wins ERC Synergy grant to unlock the secrets to healthy aging

26 October
UCD professor wins ERC Synergy grant to unlock the secrets to healthy aging (news-medical.net)

Apples Lay the Foundation for Regenerating Bone | The Scientist Magazine(R)

9 May 2022
Apples Lay the Foundation for Regenerating Bone | The Scientist Magazine® (the-scientist.com)
DOI: https://doi.org/10.1016/j.jbiomech.2022.111030

The Expansion of Volume Electron Microscopy

8 September
The Expansion of Volume Electron Microscopy | The Scientist Magazine® (the-scientist.com)

Scientists discover new molecule that combats viral infection in bacteria

19 October

Scientists discover new molecule that combats viral infection in bacteria (phys.org)
DOI: 10.1038/s41586-023-06620-5

Scanning single molecule localization microscopy (scanSMLM) for super-resolution volume imaging | Communications Biology

17 October
Scanning single molecule localization microscopy (scanSMLM) for super-resolution volume imaging | Communications Biology (nature.com)
DOI: https://doi.org/10.1038/s42003-023-05364-2

Spectacular Vision: Physicists Boost Microscopes Beyond Diffraction Limits

18 October
Spectacular Vision: Physicists Boost Microscopes Beyond Diffraction Limits (scitechdaily.com)
DOI: 10.1038/s41467-023-41949-5

An mRNA drug reengineers stem cells

18 October
An mRNA drug reengineers stem cells | Drug Discovery News

New weapons in the fight against sickle cell disease

17 October
New weapons in the fight against sickle cell disease | Drug Discovery News

Robotic pills deliver gastrointestinal injections

19 October
Robotic pills deliver gastrointestinal injections | Drug Discovery News

Practical N-to-C peptide synthesis with minimal protecting groups

26 October
Practical N-to-C peptide synthesis with minimal protecting groups | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01030-0

Peptide binder design with inverse folding and protein structure prediction

25 October
Peptide binder design with inverse folding and protein structure prediction | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01029-7

The contribution of human conflict to the development of antimicrobial resistance

30 October
The contribution of human conflict to the development of antimicrobial resistance | Communications Medicine (nature.com)
DOI: https://doi.org/10.1038/s43856-023-00386-7

Investigation of nano- and microdomains formed by ceramide 1 phosphate in lipid bilayers

30 October
Investigation of nano- and microdomains formed by ceramide 1 phosphate in lipid bilayers | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-45575-5

The molecular basis of drug selectivity for α5 subunit-containing GABAA receptors | Nature Structural & Molecular Biology

30 October
The molecular basis of drug selectivity for α5 subunit-containing GABAA receptors | Nature Structural & Molecular Biology

How to teach an enzyme ‘to whistle’
31 October
How to teach an enzyme ‘to whistle’ (nature.com)

A powerful tool for rapid natural product gem-dimethylation modification in drug design
31 October
A powerful tool for rapid natural product gem-dimethylation modification in drug design (phys.org)
DOI: 10.15212/AMM-2023-0032

Study offers new method for predicting drug-protein binding affinity
1 November
Study offers new method for predicting drug-protein binding affinity (phys.org)
DOI: 10.1007/s11704-022-2163-9

Chemists make breakthrough in drug discovery chemistry: Two methods to replace carbon with a nitrogen atom in a molecule
1 November
Chemists make breakthrough in drug discovery chemistry: Two methods to replace carbon with a nitrogen atom in a molecule (phys.org)
DOI: 10.1126/science.adj5331

Atom-swap chemistry could aid drug discovery (Subscription)
1 November
Atom-swap chemistry could aid drug discovery (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03297-8

Simulating how electrons move through biological nanowires
1 November
Simulating how electrons move through biological nanowires (phys.org)
DOI: 10.1002/smll.202304013

Bridging Chemistry and Biology: The Art of Designing Novel Therapeutics
2 November
Bridging Chemistry and Biology: The Art of Designing Novel Therapeutics (news-medical.net)

New antimicrobial molecule shuts down bacterial growth without harming human cells
1 November
New antimicrobial molecule shuts down bacterial growth without harming human cells (phys.org)
DOI: 10.1128/mbio.01461-23

Developing materials to overcome AMR in orthopaedic implants
23 May 2022
Developing materials to overcome AMR in orthopaedic implants (innovationnewsnetwork.com)

Discovery of isoflavone phytoalexins in wheat reveals an alternative route to isoflavonoid biosynthesis | Nature Communications
1 November
Discovery of isoflavone phytoalexins in wheat reveals an alternative route to isoflavonoid biosynthesis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42464-3

Covalent Complications | Science | AAAS
3 November
Covalent Complications | Science | AAAS

Affinity for both sides | Nature Chemical Biology

2 November
Affinity for both sides | Nature Chemical Biology
DOI: https://doi.org/10.1038/s41589-023-01473-5

Starch Breakthrough: Discovery Could Revolutionize Human Health and Industry

1 November
Starch Breakthrough: Discovery Could Revolutionize Human Health and Industry (scitechdaily.com)
DOI: 10.1093/plcell/koad217

Scientists find traditional Chinese medicine is based on a complex network of proteins – 3,000 years before modern science | South China Morning Post

3 November
Scientists find traditional Chinese medicine is based on a complex network of proteins – 3,000 years before modern science | South China Morning Post (scmp.com)

Nanoparticles deliver treatment directly to tumors of deadly brain cancer

2 November
Nanoparticles deliver treatment directly to tumors of deadly brain cancer (phys.org)
DOI: 10.1126/scitranslmed.adi1617

FDA to Finally Outlaw Soda Ingredient Banned Around The World : ScienceAlert

6 November
FDA to Finally Outlaw Soda Ingredient Banned Around The World : ScienceAlert

Charged “Molecular Beasts” as the Basis for New Compounds

6 November
Charged “Molecular Beasts” as the Basis for New Compounds | Technology Networks
DOI: 10.1002/anie.202308600

Scientists develop new hydrogels for wound management

6 November
Scientists develop new hydrogels for wound management (phys.org)
DOI: 10.1016/j.compositesb.2023.110951

Could the Next Successful Antiviral Come from Willow Tree Bark?

8 November
Could the Next Successful Antiviral Come From Willow Tree Bark? | Technology Networks
DOI: 10.3389/fmicb.2023.1249794

A Multiplex MoClo Toolkit for Extensive and Flexible Engineering of Saccharomyces cerevisiae | ACS Synthetic Biology

6 November
A Multiplex MoClo Toolkit for Extensive and Flexible Engineering of Saccharomyces cerevisiae | ACS Synthetic Biology
DOI: https://doi.org/10.1021/acssynbio.3c00423

Fungal hybrids study finds climate crisis could trigger outbreak of new and lethal infectious diseases

7 November
Fungal hybrids study finds climate crisis could trigger outbreak of new and lethal infectious diseases (phys.org)
DOI: 10.1038/s41467-023-42679-4

Breast cancer prevention drug approved for post-menopausal women in the UK – here's how it works

8 November

Breast cancer prevention drug approved for post-menopausal women in the UK – here's how it works (theconversation.com)

The rise and fall of antibiotics. What would a post-antibiotic world look like?

7 November

The rise and fall of antibiotics. What would a post-antibiotic world look like? (theconversation.com)

New antifungal molecule kills fungi without toxicity in human cells, mice

8 November

New antifungal molecule kills fungi without toxicity in human cells, mice (phys.org)

DOI: 10.1038/s41586-023-06710-4

Study explores limits of DNA structure and function, may expand use of modified DNA in medicine

9 November

Study explores limits of DNA structure and function, may expand use of modified DNA in medicine (phys.org)

DOI: 10.1093/nar/gkad893

Temperature increase triggers viral infection: Research maps what happens on an atomic level

8 November

Temperature increase triggers viral infection: Research maps what happens on an atomic level (phys.org)

DOI: 10.1073/pnas.2220518120

Short, Scalable Access to Pyrrovobasine | JACS Au

9 November

Short, Scalable Access to Pyrrovobasine | JACS Au

DOI: https://doi.org/10.1021/jacsau.3c00595

Cannabis use alters DNA methylation, with implications beyond smoking effects

8 November

Cannabis use alters DNA methylation, with implications beyond smoking effects (news-medical.net)

DOI: https://doi.org/10.1038/s4138002302310w

A reliable experimental benchmark in crystal structure prediction of pharmaceutical drugs

10 November

A reliable experimental benchmark in crystal structure prediction of pharmaceutical drugs (phys.org)

DOI: 10.1038/s41586-023-06587-3

Accessible hotspots for single-protein SERS in DNA-origami assembled gold nanorod dimers with tip-to-tip alignment | Nature Communications

8 November

Accessible hotspots for single-protein SERS in DNA-origami assembled gold nanorod dimers with tip-to-tip alignment | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-42943-7

Heavy Metals Found in Dark Chocolate at Concerning Levels: Study

9 November

Heavy Metals Found in Dark Chocolate at Concerning Levels: Study (insider.com)

50 Years of Data Links Insecticides to Global Decline of Human Sperm Counts

15 November

50 Years of Data Links Insecticides to Global Decline of Human Sperm Counts : ScienceAlert

Pharmaceutical compound sounds the alarm on cancer cells and unleashes T cells

14 November
Pharmaceutical compound sounds the alarm on cancer cells and unleashes T cells (medicalxpress.com)
DOI: 10.1039/D3SC04541B

Shedding new light on sugars, the 'dark matter' of cellular biology
14 November
https://phys.org/news/2023-11-sugars-dark-cellular-biology.html
DOI: 10.1002/anie.202314248

Researchers highlight advancements in biomedical research with enzyme-activated fluorescent probes
14 November
https://phys.org/news/2023-11-highlight-advancements-biomedical-enzyme-activated-fluorescent.html
DOI: 10.1016/j.trac.2023.117335

Antibiotic resistance: microbiologists turn to new technologies in the hunt for solutions – podcast — The Conversation
16 November
Antibiotic resistance: microbiologists turn to new technologies in the hunt for solutions – podcast (theconversation.com)

A Virus that Generates Electricity | The Scientist Magazine(R)
17 November
A Virus that Generates Electricity | The Scientist Magazine® (the-scientist.com)

Scientists craft a protein-based bandpass filter for synthetic biology
17 November
Scientists craft a protein-based bandpass filter for synthetic biology (phys.org)

What is fentanyl and why is it behind the deadly surge in US drug overdoses? A medical toxicologist explains
16 November
What is fentanyl and why is it behind the deadly surge in US drug overdoses? A medical toxicologist explains (theconversation.com)

Two Galway academics among most influential in the world
16 November
Two Galway academics among most influential in the world - Galway Daily

How pocket-sized particle accelerators could treat cancer - Big Think
17 November
How pocket-sized particle accelerators could treat cancer - Big Think

Watch "Making Medicine with Electricity" on YouTube
15 November
https://youtu.be/kKPNBUHoETE
(271) Using Electricity to Build Molecules - YouTube

Proximity-inducing pharmacology | Nature Chemical Biology (Subscription)
17 November
Proximity-inducing pharmacology | Nature Chemical Biology
DOI: https://doi.org/10.1038/s41589-023-01492-2

Machine learning uncovers potent immunomodulators for vaccines and immunotherapy

17 November
Machine learning uncovers potent immunomodulators for vaccines and immunotherapy (news-medical.net)
DOI: doi.org/10.1039/d3sc03613h

The Wild World of RNA-Binding Proteins | Science | AAAS

15 March
The Wild World of RNA-Binding Proteins | Science | AAAS

A nanobody-based strategy for rapid and scalable purification of human protein complexes | Nature Protocols

16 November
A nanobody-based strategy for rapid and scalable purification of human protein complexes | Nature Protocols
DOI: https://doi.org/10.1038/s41596-023-00904-w

ProRefiner: an entropy-based refining strategy for inverse protein folding with global graph attention | Nature Communications

16 November
ProRefiner: an entropy-based refining strategy for inverse protein folding with global graph attention | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43166-6

New method for capturing proteins in nano-sized traps could revolutionize disease research

20 November
New method for capturing proteins in nano-sized traps could revolutionize disease research (news-medical.net)
DOI: doi.org/10.1038/s41467-023-40889-4

A Brazilian vaccine may be the ideal choice for annual vaccination campaigns against COVID-19

22 November
A Brazilian vaccine may be the ideal choice for annual vaccination campaigns against COVID-19 (fapesp.br)

EPA considers approving fruit pesticide despite risks to children, records show | Environment | The Guardian

21 November
EPA considers approving fruit pesticide despite risks to children, records show | Environment | The Guardian

Humans are biocultural, science should be too | Science

17 November
Humans are biocultural, science should be too | Science
DOI: 10.1126/science.adl1517

Despite decades of promises, health research still overlooks women | Medical research | The Guardian

20 November
https://www.theguardian.com/science/2023/nov/20/women-health-research-jill-biden-white-house

Women Are Still Poorly Recognized for Their Scientific Contributions

22 November
Women Are Still Poorly Recognized for Their Scientific Contributions | Technology Networks
DOI: 10.1038/s41562-023-01773-9

Researchers identify 'unicorn' defense mechanism that protects bacteria from antibiotics

22 November

Researchers identify 'unicorn' defense mechanism that protects bacteria from antibiotics (phys.org)
DOI: 10.1038/s41589-023-01483-3

Bleach no better than water in killing off hospital superbug C. difficile, new research reveals | Independent.ie

22 November
Bleach no better than water in killing off hospital superbug C. difficile, new research reveals | Independent.ie

Thank gluten's complex chemistry for your light, fluffy baked goods

21 November
Thank gluten's complex chemistry for your light, fluffy baked goods (phys.org)

Discovery of Molecular Glue Degraders via Isogenic Morphological Profiling | ACS Chemical Biology

21 November
Discovery of Molecular Glue Degraders via Isogenic Morphological Profiling | ACS Chemical Biology
DOI: https://doi.org/10.1021/acschembio.3c00598

Dendritic Cell Discovery Holds Key for Developing Novel Vaccines

3 November
Dendritic Cell Discovery Holds Key for Developing Novel Vaccines | Technology Networks
DOI: 10.1038/s41467-023-42480-3

Studying the Evolutionary History of Flu Viruses Shapes Vaccine Development

7 November
Studying the Evolutionary History of Flu Viruses Shapes Vaccine Development | Technology Networks
DOI: 10.1126/sciadv.abp9185

Researchers create molecule to tackle antimicrobial resistance

21 November
Researchers create molecule to tackle antimicrobial resistance (phys.org)
DOI: 10.1016/j.chempr.2023.07.014

In a First, Bacteria Seen Storing Memories And Passing Them on For Generations : ScienceAlert

23 November
In a First, Bacteria Seen Storing Memories And Passing Them on For Generations : ScienceAlert
DOI: https://doi.org/10.1073/pnas.2309082120

‘Most Delicious Poison’ explores how toxins rule our world (Book)

20 November
‘Most Delicious Poison’ explores how toxins rule our world (sciencenews.org)

Scientists Find 'Kill Switch' That Activates Cancer Cell Death in The Lab : ScienceAlert

23 November
Scientists Find 'Kill Switch' That Activates Cancer Cell Death in The Lab : ScienceAlert

From nature to industry: Harnessing enzymes for biocatalysis | Science

24 November
From nature to industry: Harnessing enzymes for biocatalysis | Science
DOI: 10.1126/science.adh861

Material Chemistry & Science

How would room-temperature superconductors change science?

1 September

How would room-temperature superconductors change science? (nature.com)

DOI: https://doi.org/10.1038/d41586-023-02681-8

Self-Assembled Nanofibrous Hydrogels with Tunable Porous Network for Highly Efficient Solar Desalination in Strong Brine - Li - Advanced Functional Materials - Wiley Online Library

1 September

Self-Assembled Nanofibrous Hydrogels with Tunable Porous Network for Highly Efficient Solar Desalination in Strong Brine - Li - Advanced Functional Materials - Wiley Online Library

DOI: https://doi.org/10.1002/adfm.202308492

Preparation of ZnGa2O4 nanoflowers and their full-color luminescence properties | Scientific Reports

2 September

Preparation of ZnGa2O4 nanoflowers and their full-color luminescence properties | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-023-41658-5

There's no room-temperature superconductor yet, but the quest continues | Physics | The Guardian

2 September

https://www.theguardian.com/science/2023/sep/02/room-temperature-superconductor-south-korea-lk-99-nuclear-fusion-maglev

Cell-inspired design of cascade catalysis system by 3D spatially separated active sites

2 September

Cell-inspired design of cascade catalysis system by 3D spatially separated active sites | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-41002-5

The once wonder material reinforced aerated autoclaved concrete will cause chaotic start to academic year | Science & Tech News | Sky News

3 September

The once wonder material reinforced aerated autoclaved concrete will cause chaotic start to academic year | Science & Tech News | Sky News and

RAAC: Reinforced autoclaved aerated concrete

Reinforced autoclaved aerated concrete - Wikipedia and

Expert explainer: What is Reinforced Autoclaved Aerated Concrete (RAAC) and why are people concerned about it?

17 March 2023

Expert explainer: What is Reinforced Autoclaved Aerated Concrete (RAAC) and why are people concerned | News and events | Loughborough University (lboro.ac.uk)

Stimuli-responsive rotaxane-branched dendronized polymers with tunable thermal and rheological properties | Nature Communications

31 August

Stimuli-responsive rotaxane-branched dendronized polymers with tunable thermal and rheological properties | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-41134-8

American Superconductor Biggest Business Will Be Demagnetizing Navy Ships to Protect Against Mines | NextBigFuture.com

3 September

American Superconductor Biggest Business Will Be Demagnetizing Navy Ships to Protect Against Mines | NextBigFuture.com

Search for ambient superconductivity in the Lu-N-H system | Nature Communications

4 September

Search for ambient superconductivity in the Lu-N-H system | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-41005-2

Chemical/photochemical functionalization of polyethylene terephthalate fabric: effects on mechanical properties and bonding to nitrile rubber | Scientific Reports

4 September

Chemical/photochemical functionalization of polyethylene terephthalate fabric: effects on mechanical properties and bonding to nitrile rubber | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-023-41432-7

Two distinct charge density wave orders and their intricate interplay with superconductivity in pressurized CuTe

4 September

Two distinct charge density wave orders and their intricate interplay with superconductivity in pressurized CuTe (phys.org)

DOI: 10.1016/j.matt.2023.07.018

The Next-Generation of Memory Technology – New Material Shows Promise

4 September

The Next-Generation of Memory Technology – New Material Shows Promise (scitechdaily.com)

DOI: 10.1002/adma.202303646

How would room-temperature superconductors change science?

1 September

How would room-temperature superconductors change science? (nature.com)

DOI: doi: https://doi.org/10.1038/d41586-023-02681-8

Infrared avalanche photodiodes from bulk to 2D materials

4 September

Infrared avalanche photodiodes from bulk to 2D materials (phys.org)

DOI: 10.1038/s41377-023-01259-3

Precisely patterned nanofibres made from extendable protein multiplexes | Nature Chemistry

4 September

Precisely patterned nanofibres made from extendable protein multiplexes | Nature Chemistry

DOI: https://doi.org/10.1038/s41557-023-01314-x

Hyperelastic, Robust, Fire-Safe Multifunctional MXene Aerogels with Unprecedented Electromagnetic Interference Shielding Efficiency - Wang - Advanced Functional Materials - Wiley Online Library

5 September

Hyperelastic, Robust, Fire-Safe Multifunctional MXene Aerogels with Unprecedented Electromagnetic Interference Shielding Efficiency - Wang - Advanced Functional Materials - Wiley Online Library

DOI: https://doi.org/10.1002/adfm.202306884

Why a blockbuster superconductivity claim met a wall of scepticism

6 September
Why a blockbuster superconductivity claim met a wall of scepticism (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02733-z

Evidence of near-ambient superconductivity in a N-doped lutetium hydride | Nature (Subscription)

8 March
Evidence of near-ambient superconductivity in a N-doped lutetium hydride | Nature
DOI: https://doi.org/10.1038/s41586-023-05742-0

Superconductor research surges forward despite controversy over stunning claims

5 September
Superconductor research surges forward despite mounting controversy (sciencenews.org)

Khosla Ventures backs effort to make orchards of lung-like material to absorb CO2 from air

6 September
Khosla Ventures backs carbon removal company with lung-like material (cnbc.com)

Low loss Mie scatterer shown to enhance Q and chirality control in silicon microring

6 September
Low loss Mie scatterer shown to enhance Q and chirality control in silicon microring (phys.org)
DOI: 10.1186/s43593-023-00043-5

Original Korean LK99 Superconducting Researcher Kwon Will Publish New Papers Showing Conclusive Room Temperature Superconducting Evidence | NextBigFuture.com

6 September
Original Korean LK99 Superconducting Researcher Kwon Will Publish New Papers Showing Conclusive Room Temperature Superconducting Evidence | NextBigFuture.com

Converting polyurethane foams to 3D printing resins

6 September
Converting polyurethane foams to 3D printing resins (phys.org)
DOI: 10.1038/s41557-023-01308-9

Nanoparticles will change the world, but whether it's for the better depends on decisions made now

7 September
Nanoparticles will change the world, but whether it's for the better depends on decisions made now (theconversation.com)

Novel membrane could reduce energy expenditure in separating molecules for desalination, drug development

10 September
Novel membrane could reduce energy expenditure in separating molecules for desalination, drug development (phys.org)
DOI: 10.1126/science.adh2404

A promising marriage between polymorphism and topochemistry: Synthesis of a polymer in two different secondary structures | Polymer Science | ChemRxiv | Cambridge Open Engage

8 September

A promising marriage between polymorphism and topochemistry: Synthesis of a polymer in two different secondary structures | Polymer Science | ChemRxiv | Cambridge Open Engage
DOI: https://doi.org/10.26434/chemrxiv-2023-1bmbp

Why Roman concrete is still stronger than RAAC (and other modern concretes) | Opinion | Chemistry World

11 September
https://www.chemistryworld.com/opinion/why-roman-concrete-is-still-stronger-than-raac-and-other-modern-concretes/4018052.article

Pumping liquids in pulses like the heart reduces friction and energy consumption, shows study

6 September
Pumping liquids in pulses like the heart reduces friction and energy consumption, shows study (techxplore.com)
DOI: 10.1038/s41586-023-06399-5

Engineers utilize ancient materials to develop new 'supercapacitor' cement: It's a 'fascinating' combination

8 September
Engineers utilize ancient materials to develop new 'supercapacitor' cement: It's a 'fascinating' combination (thecooldown.com)

Scalable Production of 2D Material Heterostructure Textiles for High-Performance Wearable Supercapacitors | ACS Nano

11 September
Scalable Production of 2D Material Heterostructure Textiles for High-Performance Wearable Supercapacitors | ACS Nano
DOI: https://pubs.acs.org/doi/10.1021/acsnano.3c06181

Bioinspired Nanocomposites of Sodium Carboxymethylcellulose and Polydopamine-Modified Cellulose Nanocrystals for UV-Protective Packaging | ACS Applied Nano Materials

7 September
Bioinspired Nanocomposites of Sodium Carboxymethylcellulose and Polydopamine-Modified Cellulose Nanocrystals for UV-Protective Packaging | ACS Applied Nano Materials
DOI: https://pubs.acs.org/doi/abs/10.1021/acsanm.3c02764

China Nano is back

13 September
China Nano is back | Nature Nanotechnology
DOI: https://www.nature.com/articles/s41565-023-01512-1

Hyperelastic, Robust, Fire-Safe Multifunctional MXene Aerogels with Unprecedented Electromagnetic Interference Shielding Efficiency - Wang - Advanced Functional Materials - Wiley Online Library

5 September
Hyperelastic, Robust, Fire-Safe Multifunctional MXene Aerogels with Unprecedented Electromagnetic Interference Shielding Efficiency - Wang - Advanced Functional Materials - Wiley Online Library
DOI: https://doi.org/10.1002/adfm.202306884

Copper-infused nanocrystals boost infrared light conversion

13 September
Copper-infused nanocrystals boost infrared light conversion (phys.org)
DOI: 10.1002/adma.202305494

Next-generation protein-based materials capture and preserve projectiles from supersonic impacts | Nature Nanotechnology
3 July
Next-generation protein-based materials capture and preserve projectiles from supersonic impacts | Nature Nanotechnology
DOI: https://www.nature.com/articles/s41565-023-01431-1

Twist & Stack: The Magic Within 2D Materials' Embedded Interfaces
13 September
Twist & Stack: The Magic Within 2D Materials' Embedded Interfaces (scitechdaily.com)
DOI: 10.1093/nsr/nwad175

5 Big Ideas for High-Temperature Superconductors - IEEE Spectrum
18 September
https://spectrum.ieee.org/high-temperature-superconductors

Nickelates join the club of high-temperature superconductors (Subscription)
18 Sept
Nickelates join the club of high-temperature superconductors (nature.com)

A thermal processable, self-healing, and fully bio-based starch plastic
18 September
A thermal processable, self-healing, and fully bio-based starch plastic (phys.org)
DOI: 10.1016/j.gee.2023.08.002

Chemists solve long-standing polymer science puzzle
18 September
Chemists solve long-standing polymer science puzzle (phys.org)
DOI: 10.1038/s41557-023-01266-2

Dandelion flower-fabricated Ag nanoparticles versus synthetic ones with characterization and determination of photocatalytic, antioxidant, antibacterial, and α-glucosidase inhibitory activities | Scientific Reports
8 September
Dandelion flower-fabricated Ag nanoparticles versus synthetic ones with characterization and determination of photocatalytic, antioxidant, antibacterial, and α-glucosidase inhibitory activities | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-42756-0

Study explores mechanical properties of molybdenum disulfide nanoribbons with armchair edges
19 September
Study explores mechanical properties of molybdenum disulfide nanoribbons with armchair edges (phys.org)
DOI: 10.1002/advs.202303477

A simple and efficient process for the synthesis of 2D carbon nitrides and related materials | Scientific Reports
18 September
A simple and efficient process for the synthesis of 2D carbon nitrides and related materials | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-39899-5

Zero-waste synthesis of new supramolecular materials with remarkable mechanical properties
19 September

Zero-waste synthesis of new supramolecular materials with remarkable mechanical properties (phys.org)
DOI: 10.1016/j.rinma.2023.100425

Researchers make sand that flows uphill
20 September
Researchers make sand that flows uphill (phys.org)
DOI: 10.1038/s41467-023-41327-1

Study: MXene versatile material successfully mass-produced
18 September
Study: MXene versatile material successfully mass-produced (interestingengineering.com)

Are Room Temperature Superconductors Impossible? | RealClearScience (Video)
21 September
Are Room Temperature Superconductors Impossible? | RealClearScience

New self-cleaning membranes developed by researchers dramatically improve efficiency of desalination technologies
20 September
New self-cleaning membranes developed by researchers dramatically improve efficiency of desalination technologies (phys.org)
DOI: 10.1038/s41467-023-41446-9

In a first, scientists light up blue LED with an AA battery
20 September
In a first, scientists light up blue LED with an AA battery (interestingengineering.com)

Zentropy – A New Theory That Could Transform Material Science
22 September
Zentropy – A New Theory That Could Transform Material Science (scitechdaily.com)
DOI: 10.1016/j.scriptamat.2023.115480

Synthesizing a 2D copper-based complex and expanding it into a 3D structure to explore its applications
18 September
Synthesizing a 2D copper-based complex and expanding it into a 3D structure to explore its applications (phys.org)
DOI: 10.26599/POM.2023.9140032

Unit-cell-thick zeolitic imidazolate framework films for membrane application | Nature Materials
21 September
Unit-cell-thick zeolitic imidazolate framework films for membrane application | Nature Materials
DOI: https://doi.org/10.1038/s41563-023-01669-z

Diamond materials as solar-powered electrodes: Spectroscopy shows what's important
21 September
Diamond materials as solar-powered electrodes: Spectroscopy shows what's important (phys.org)
DOI: 10.1002/smtd.202300423

Biomass-based materials for advanced supercapacitor: principles, progress, and perspectives - Wang - Aggregate - Wiley Online Library
21 September

Biomass-based materials for advanced supercapacitor: principles, progress, and perspectives - Wang - Aggregate - Wiley Online Library
DOI: https://doi.org/10.1002/agt2.428

Tyndall researcher secures €5.3m for biophotonics research
26 September
Tyndall researcher secures €5.3m for biophotonics research - TechCentral.ie

Observation of non-superconducting phase changes in nitrogen doped lutetium hydrides | Nature Communications
26 September
Observation of non-superconducting phase changes in nitrogen doped lutetium hydrides | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41777-7

Carbon Bond Catalysis: Dialkyl Sulfates, Alkyl Sulfonates and Alkyl Hal-ides as Catalysts in Acetal Forming and Related Reactions | Organic Chemistry | ChemRxiv | Cambridge Open Engage
19 September
Carbon Bond Catalysis: Dialkyl Sulfates, Alkyl Sulfonates and Alkyl Hal-ides as Catalysts in Acetal Forming and Related Reactions | Organic Chemistry | ChemRxiv | Cambridge Open Engage

Direct electroconversion of air to nitric acid under mild conditions | Nature Synthesis (Subscription)
25 September
Direct electroconversion of air to nitric acid under mild conditions | Nature Synthesis
DOI: https://doi.org/10.1038/s44160-023-00399-z

Effect of copper oxide (CuO) and vanadium oxide (V2O5) addition on the structural, optical and electrical properties of corundum (α-Al2O3) | Scientific Reports
26 September
Effect of copper oxide (CuO) and vanadium oxide (V2O5) addition on the structural, optical and electrical properties of corundum (α-Al2O3) | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43309-1

Enantioselective Aziridination of Unactivated Terminal Alkenes Using a Planar Chiral Rh(III) Indenyl Catalyst | Catalysis | ChemRxiv | Cambridge Open Engage
26 September
Enantioselective Aziridination of Unactivated Terminal Alkenes Using a Planar Chiral Rh(III) Indenyl Catalyst | Catalysis | ChemRxiv | Cambridge Open Engage

Device-scale atomistic modelling of phase-change memory materials | Nature Electronics
25 September
Device-scale atomistic modelling of phase-change memory materials | Nature Electronics
DOI: https://doi.org/10.1038/s41928-023-01030-x

Tungsten oxide hydrate: the future of smart windows
25 September
Tungsten oxide hydrate: the future of smart windows (interestingengineering.com)

Physicists coax superconductivity and more from quasicrystals
29 September
Physicists coax superconductivity and more from quasicrystals

DOI: 10.1038/s41586-023-06294-z

Striking rare gold: Researchers unveil new material infused with gold in an exotic chemical state

30 September
https://phys.org/news/2023-09-rare-gold-unveil-material-infused.html
DOI: 10.1038/s41557-023-01305-y

Researchers construct a highly efficient photocatalytic system based on titanium dioxide nanomaterials

28 September
Researchers construct a highly efficient photocatalytic system based on titanium dioxide nanomaterials (phys.org)
DOI: 10.1039/D3IM00053B

Separating molecules requires a lot of energy. This nanoporous, heat-resistant membrane could change that

30 September
Separating molecules requires a lot of energy. This nanoporous, heat-resistant membrane could change that (phys.org)
DOI: 10.1126/science.adh2404

Watch "The Incredible Potential of Superconductors" on YouTube

30 September
https://youtu.be/tuEYQvEYR-M

Scientists observe interaction of components in tire rubber at the atomic scale

29 September
Scientists observe interaction of components in tire rubber at the atomic scale (phys.org)
DOI: 10.1063/5.0157359

Preparation, characterization, and life cycle assessment of banana rachis-recycled high-density polyethylene composites | Scientific Reports

2 October
Preparation, characterization, and life cycle assessment of banana rachis-recycled high-density polyethylene composites | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-42613-0

Deforming brittle materials | Nature Materials

27 September
Deforming brittle materials | Nature Materials
DOI: https://doi.org/10.1038/s41563-023-01686-y

Programmable nanocomposites of cellulose nanocrystals and zwitterionic hydrogels for soft robotics | Nature Communications

30 September
Programmable nanocomposites of cellulose nanocrystals and zwitterionic hydrogels for soft robotics | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41874-7

Superconductivity at room temperature remains elusive a century after a Nobel went to the scientist who demonstrated it below -450 degrees Fahrenheit

3 October
Superconductivity at room temperature remains elusive a century after a Nobel went to the scientist who demonstrated it below -450 degrees Fahrenheit (theconversation.com)

A graphene addition for enhancing the critical current density of Bi-2223 superconductors

3 October
A graphene addition for enhancing the critical current density of Bi-2223 superconductors (phys.org)
DOI: 10.3390/nano13152197

What is a Superconductor? | Tom's Hardware

4 October
What is a Superconductor? | Tom's Hardware (tomshardware.com)

Rigid PN Cages as 3-Dimensional Building Blocks for Crystalline or Amorphous Networked Materials | Inorganic Chemistry | ChemRxiv | Cambridge Open Engage

5 October
Rigid PN Cages as 3-Dimensional Building Blocks for Crystalline or Amorphous Networked Materials | Inorganic Chemistry | ChemRxiv | Cambridge Open Engage
DOI:
10.26434/chemrxiv-2023-1vnnr

Resonant enhancement of photo-induced superconductivity in K3C60 | Nature Physics

5 October
Resonant enhancement of photo-induced superconductivity in K3C60 | Nature Physics
DOI: https://doi.org/10.1038/s41567-023-02235-9

Nanoscale rust: The future of magnets?

5 October
Nanoscale rust: The future of magnets? (phys.org)
DOI: 10.1021/acs.nanolett.3c01512

Amazing New Material Contains an Extremely Rare Kind of Gold: ScienceAlert

7 October
Amazing New Material Contains an Extremely Rare Kind of Gold : ScienceAlert
DOI: https://doi.org/10.1038/s41557-023-01305-y

Viscoelastic inorganic glass: Pioneering a new era in solid-state battery revolution

9 October
Viscoelastic inorganic glass: Pioneering a new era in solid-state battery revolution (techxplore.com)
DOI: 10.1038/s41560-023-01356-y

Researchers realize orientation control of cMOF nanofilms

9 October
Researchers realize orientation control of cMOF nanofilms (phys.org)
DOI: 10.1073/pnas.2305125120

Not Science Fiction: Scientists Around the World Shocked by Self-Healing in Metal

10 October
Not Science Fiction: Scientists Around the World Shocked by Self-Healing in Metal (scitechdaily.com)
DOI: 10.1038/s41586-023-06223-0

Porphene and porphite as porphyrin analogs of graphene and graphite | Nature Communications

9 October
Porphene and porphite as porphyrin analogs of graphene and graphite | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41461-w

Scientists discover 'flipping' layers in heterostructures cause changes in their properties

11 October
Scientists discover 'flipping' layers in heterostructures cause changes in their properties (phys.org)
DOI: 10.1038/s41467-023-41047-6

Physicists coax superconductivity and more from quasicrystals | MIT News | Massachusetts Institute of Technology

11 October
Physicists coax superconductivity and more from quasicrystals | MIT News | Massachusetts Institute of Technology

Focus on perovskite emitters in blue light–emitting diodes

11 October
Focus on perovskite emitters in blue light–emitting diodes (phys.org)
DOI: 10.1038/s41377-023-01206-2

Facile synthesis of FeCeOx nanoparticles encapsulated carbon nitride catalyst for highly efficient and recyclable synthesis of substituted imidazoles | Scientific Reports

14 October
Facile synthesis of FeCeOx nanoparticles encapsulated carbon nitride catalyst for highly efficient and recyclable synthesis of substituted imidazoles | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44747-7

New biobased recyclable polyesters exhibit excellent tensile properties beyond polyethylene and polypropylene

13 October
New biobased recyclable polyesters exhibit excellent tensile properties beyond polyethylene and polypropylene (phys.org)
DOI: 10.1021/acsmacrolett.3c00481

Upcycling fish scales through heating for steganography and Rhodamine B adsorption application

16 October
Upcycling fish scales through heating for steganography and Rhodamine B adsorption application | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42080-1

Quantitative three-dimensional local order analysis of nanomaterials through electron diffraction | Nature Communications

16 October
Quantitative three-dimensional local order analysis of nanomaterials through electron diffraction | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41934-y

Harnessing molecular power: Electricity generation on the nanoscale

17 October
Harnessing molecular power: Electricity generation on the nanoscale (phys.org)
DOI: 10.1063/5.0169055

Stretchable piezoelectric biocrystal thin films | Nature Communications

17 October
Stretchable piezoelectric biocrystal thin films | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-42184-8

Autonomous self-healing organic crystals for nonlinear optics | Nature Communications

18 October
Autonomous self-healing organic crystals for nonlinear optics | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42131-7

Electron-rich metals make ceramics tough to crack

19 October
Electron-rich metals make ceramics tough to crack (phys.org)
DOI: 10.1126/sciadv.adi2960

China finds superconducting rare metal ore niobobaotite

16 October
China finds superconducting rare metal ore niobobaotite (interestingengineering.com)

Higher-dimensional processing using a photonic tensor core with continuous-time data | Nature Photonics

19 October
Higher-dimensional processing using a photonic tensor core with continuous-time data | Nature Photonics
DOI: https://doi.org/10.1038/s41566-023-01313-x

Sub-micro- and nano-sized polyethylene terephthalate deconstruction with engineered protein nanopores | Nature Catalysis

19 October
Sub-micro- and nano-sized polyethylene terephthalate deconstruction with engineered protein nanopores | Nature Catalysis
DOI: https://doi.org/10.1038/s41929-023-01048-6

Twisting Physics: MIT's Quasicrystal Superconductivity Breakthrough

18 October
Twisting Physics: MIT's Quasicrystal Superconductivity Breakthrough (scitechdaily.com)
DOI: 10.1038/s41586-023-06294-z

Iron Man-inspired material made from DNA and glass is 5x stronger than steel -- and 4x lighter

20 October
Iron Man-inspired material made from DNA and glass is 5x stronger than steel -- and 4x lighter (zmescience.com)
DOI: https://doi.org/10.1016/j.xcrp.2023.101475

Preparation and characterization of a novel nanocomposite based on MnCr-layered double oxide and CoFe2O4 spinel ferrite for methyl orange adsorption | Scientific Reports

21 October
Preparation and characterization of a novel nanocomposite based on MnCr-layered double oxide and CoFe2O4 spinel ferrite for methyl orange adsorption | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-45136-w

A Shapeshifting Molecule Leads to a Tiny Piezoresistor - IEEE Spectrum

23 October
https://spectrum.ieee.org/piezoresistor

New “Wonder Material” Could Boost Battery and Solar Cell Efficiency | OilPrice.com

22 October
New “Wonder Material” Could Boost Battery And Solar Cell Efficiency | OilPrice.com

Investigating the atomic behavior of carbon nanotubes as nanopumps

23 October
Investigating the atomic behavior of carbon nanotubes as nanopumps | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-45298-7

Nature’s Nanotechnology: The Wonders of Ancient Roman Glass

23 October
Nature’s Nanotechnology: The Wonders of Ancient Roman Glass (scitechdaily.com)
DOI: 10.1073/pnas.2311583120

Compostable polyester ends up as water and CO2 | Materials & Production News | News

25 October
Compostable polyester ends up as water and CO2 | Materials & Production News | News (ecotextile.com)

Revolutionizing Ceramics – Scientists Unlock Secret to Incredible Toughness

25 October
Revolutionizing Ceramics – Scientists Unlock Secret to Incredible Toughness (scitechdaily.com)
DOI: 10.1126/sciadv.adi2960

Researchers advance high-temperature superconductivity in carbon materials

26 October
Researchers advance high-temperature superconductivity in carbon materials (phys.org)
DOI: 10.1002/advs.202303639

Revolution in Nanotech: A Motor That’s 1/10,000th of a Millimeter

27 October
Revolution in Nanotech: A Motor That’s 1/10,000th of a Millimeter (scitechdaily.com)
DOI: 10.1038/s41565-023-01516-x

Novel filter uses carbon nanotubes to create new paradigm for dialysis membranes

21 September
Novel filter uses carbon nanotubes to create new paradigm for dialysis membranes (phys.org)
DOI: 10.1002/adfm.202304672

Strained few-layer MoS2 with atomic copper and selectively exposed in-plane sulfur vacancies for CO2 hydrogenation to methanol | Nature Communications

21 September
Strained few-layer MoS2 with atomic copper and selectively exposed in-plane sulfur vacancies for CO2 hydrogenation to methanol | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41362-y

Topological materials open a new pathway for exploring spin hall materials

21 September
Topological materials open a new pathway for exploring spin hall materials (phys.org)
DOI: 10.1103/PhysRevB.108.064429

Researchers realize orientation control of cMOF nanofilms

9 October
Researchers realize orientation control of cMOF nanofilms (phys.org)
DOI: 10.1073/pnas.2305125120

Sub-micro- and nano-sized polyethylene terephthalate deconstruction with engineered protein nanopores | Nature Catalysis

19 October
Sub-micro- and nano-sized polyethylene terephthalate deconstruction with engineered protein nanopores | Nature Catalysis
DOI: https://doi.org/10.1038/s41929-023-01048-6

The Effect of Heat Treatment on Chitosan Nanocomposites

25 October
The Effect of Heat Treatment on Chitosan Nanocomposites (azonano.com)

Solving Molecular Mysteries: How Quantum Light "Hears" Quantum Sound

28 October
Solving Molecular Mysteries: How Quantum Light "Hears" Quantum Sound (scitechdaily.com)
DOI: 10.1103/PhysRevLett.131.143601

Simulating the structural phase transitions of metal-organic frameworks with control over the volume of nanocrystallites

28 October
Simulating the structural phase transitions of metal-organic frameworks with control over the volume of nanocrystallites | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01025-x

Making chemistry accessible for learners with vision impairment

27 October
Making chemistry accessible for learners with vision impairment | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01033-x

A Tiny Supercritical Carbon Dioxide Turbine For 10,000 Homes

30 October
A Tiny Supercritical Carbon Dioxide Turbine For 10,000 Homes (cleantechnica.com)

Additive manufacturing of alloys with programmable microstructure and properties | Nature Communications

30 October
Additive manufacturing of alloys with programmable microstructure and properties | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42326-y

Tiny carbon 'flowers' turn light to heat at unrivalled efficiency, IIT team finds - The Hindu (Subscription)

30 October
Tiny carbon 'flowers' turn light to heat at unrivalled efficiency, IIT team finds - The Hindu

Autonomous and dynamic precursor selection for solid-state materials synthesis | Nature Communications

31 October
Autonomous and dynamic precursor selection for solid-state materials synthesis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42329-9

Reconfigurable self-assembly of photocatalytic magnetic microrobots for water purification | Nature Communications

1 November
Reconfigurable self-assembly of photocatalytic magnetic microrobots for water purification | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-42674-9

0D van der Waals interfacial ferroelectricity

31 October
0D van der Waals interfacial ferroelectricity | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41045-8

Working Towards Molecular Nanotechnology | NextBigFuture.com with video links. Note some of the video is interrupted by advertising.

2 November
Working Towards Molecular Nanotechnology | NextBigFuture.com

Surprise Discovery Reveals a Whole New Source of Evaporation: ScienceAlert

3 November
Surprise Discovery Reveals a Whole New Source of Evaporation : ScienceAlert
DOI: https://doi.org/10.1073/pnas.2312751120

Researchers engineer colloidal quasicrystals using DNA-modified building blocks

2 November
Researchers engineer colloidal quasicrystals using DNA-modified building blocks (phys.org)
DOI: 10.1038/s41563-023-01706-x

Luminescence enhancement by symmetry-breaking in the excited state in radical organic light-emitting diodes | Communications Chemistry

2 November
Luminescence enhancement by symmetry-breaking in the excited state in radical organic light-emitting diodes | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01039-5

Enhanced interfacial water dissociation on a hydrated iron porphyrin single-atom catalyst in graphene | Communications Chemistry

2 November
Enhanced interfacial water dissociation on a hydrated iron porphyrin single-atom catalyst in graphene | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01027-9

In Strange Metals, Electricity May Flow Without Electrons

2 November
Meet Strange Metals: Where Electricity May Flow Without Electrons | Quanta Magazine

Researchers engineer colloidal quasicrystals using DNA-modified building blocks

2 November
Researchers engineer colloidal quasicrystals using DNA-modified building blocks (phys.org)
DOI: 10.1038/s41563-023-01706-x

Threefold coordinated germanium in a GeO2 melt | Nature Communications

2 November
Threefold coordinated germanium in a GeO2 melt | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42890-3

A general large-scale synthesis approach for crystalline porous materials | Nature Communications

2 November
A general large-scale synthesis approach for crystalline porous materials | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42833-y

Highly Conductive Robust Carbon Nanotube Networks for Strong Buckypapers and Transparent Electrodes - Snarski - Advanced Functional Materials - Wiley Online Library

3 November

Highly Conductive Robust Carbon Nanotube Networks for Strong Buckypapers and Transparent Electrodes - Snarski - Advanced Functional Materials - Wiley Online Library

DOI: https://doi.org/10.1002/adfm.202309742

Material Made Under High Pressure BaCoO3 Impersonates a Superconductor | NextBigFuture.com

7 November

Material Made Under High Pressure BaCoO3 Impersonates a Superconductor | NextBigFuture.com

Atomic Layer Deposition—A Versatile Toolbox for Designing/Engineering Electrodes for Advanced Supercapacitors - Ansari - Advanced Science - Wiley Online Library

8 November

Atomic Layer Deposition—A Versatile Toolbox for Designing/Engineering Electrodes for Advanced Supercapacitors - Ansari - Advanced Science - Wiley Online Library

DOI: https://doi.org/10.1002/advs.202303055

Electrochemical and DFT studies of Terminalia bellerica fruit extract as an eco-friendly inhibitor for the corrosion of steel | Scientific Reports

8 November

Electrochemical and DFT studies of Terminalia bellerica fruit extract as an eco-friendly inhibitor for the corrosion of steel | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-023-45283-0

Researchers devise cleaner, more efficient production of key input for detergents

31 October

Researchers devise cleaner, more efficient production of key input for detergents (phys.org)

DOI: 10.1021/acscatal.3c02309

Microfluidic investigation of pore-size dependency of barite nucleation | Communications Chemistry

16 November

Microfluidic investigation of pore-size dependency of barite nucleation | Communications Chemistry (nature.com)

DOI: https://doi.org/10.1038/s42004-023-01049-3

Interdisciplinary development of an overall process concept from glucose to 4,5-dimethyl-1,3-dioxolane via 2,3-butanediol | Communications Chemistry

16 November

Interdisciplinary development of an overall process concept from glucose to 4,5-dimethyl-1,3-dioxolane via 2,3-butanediol | Communications Chemistry (nature.com)

DOI: https://doi.org/10.1038/s42004-023-01052-8

Cu(I)-thioether coordination complexes based on a chiral cyclic β-amino acid ligand | Communications Chemistry

16 November

Cu(I)-thioether coordination complexes based on a chiral cyclic β-amino acid ligand | Communications Chemistry (nature.com)

DOI: https://doi.org/10.1038/s42004-023-01055-5

Synthesis and luminescence properties of substituted benzils | Communications Chemistry

9 November

Synthesis and luminescence properties of substituted benzils | Communications Chemistry (nature.com)

DOI: https://doi.org/10.1038/s42004-023-01038-6

A twist on atomic sheets to create new materials

10 November

A twist on atomic sheets to create new materials (phys.org)

DOI: 10.1038/s41566-023-01318-6

How blue-rich LEDs harm people and the environment | Pollution | The Guardian

10 November

How blue-rich LEDs harm people and the environment | Pollution | The Guardian

New Synthetic Superatomic Material is "World's Best Semiconductor" | Tom's Hardware

11 November

New Synthetic Superatomic Material is "World's Best Semiconductor" | Tom's Hardware (tomshardware.com)

Local control of superconductivity in a NbSe2/CrSBr van der Waals heterostructure | Nature Communications

9 November

Local control of superconductivity in a NbSe2/CrSBr van der Waals heterostructure | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-43111-7

Encapsulating commercial accelerometers with epoxy and fluoroelastomer for harsh hydrocarbon fluid environment | Scientific Reports

13 November

Encapsulating commercial accelerometers with epoxy and fluoroelastomer for harsh hydrocarbon fluid environment | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-023-46781-x

Flexible and sewable electrode based on Ni-Co@PANI-salphen composite-coated on textiles for wearable supercapacitor | Scientific Reports

13 November

Flexible and sewable electrode based on Ni-Co@PANI-salphen composite-coated on textiles for wearable supercapacitor | Scientific Reports (nature.com)

DOI: https://doi.org/10.1038/s41598-023-47067-y

New Plastic Biodegrades in Seawater, Self-Heals Under Heat

3 November

New Plastic Biodegrades in Seawater, Self-Heals Under Heat | Technology Networks

DOI: 10.1021/acsmaterialslett.3c00895

Why superconductor research is in a ‘golden age’ — despite controversy

16 November

Why superconductor research is in a ‘golden age’ — despite controversy (nature.com)

DOI: https://doi.org/10.1038/d41586-023-03551-z

A Golden Future for Thermoelectrics – Scientists Discover Record-Breaking Material

16 November

A Golden Future for Thermoelectrics – Scientists Discover Record-Breaking Material (scitechdaily.com)

DOI: 10.1126/sciadv.adj1611

High-Sensitivity Self-Powered Photodetector Fibers Using Hierarchical Heterojunction Photoelectrodes Enable Wearable Amphibious Optoelectronic Textiles | Nano Letters (Subscription)

14 November
High-Sensitivity Self-Powered Photodetector Fibers Using Hierarchical Heterojunction Photoelectrodes Enable Wearable Amphibious Optoelectronic Textiles | Nano Letters (acs.org)
DOI: https://doi.org/10.1021/acs.nanolett.3c03851

Atomic-scale probing of short-range order and its impact on electrochemical properties in cation-disordered oxide cathodes

17 November
Atomic-scale probing of short-range order and its impact on electrochemical properties in cation-disordered oxide cathodes | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43356-2

Polyurethane-Based T-ZIF-8 Nanofibers as Photocatalytic Antibacterial Materials | ACS Applied Nano Materials

17 November
Polyurethane-Based T-ZIF-8 Nanofibers as Photocatalytic Antibacterial Materials | ACS Applied Nano Materials
https://doi.org/10.1021/acsanm.3c04400

A soft implantable energy supply system that integrates wireless charging and biodegradable Zn-ion hybrid supercapacitors

15 November
A soft implantable energy supply system that integrates wireless charging and biodegradable Zn-ion hybrid supercapacitors | Science Advances
DOI: 10.1126/sciadv.adh8083

Korean researchers develop nanomaterial to enable eco-friendly removal of fine dust precursors

20 November
Korean researchers develop nanomaterial to enable eco-friendly removal of fine dust precursors (phys.org)
DOI: 10.1038/s41598-023-29274-9

Novel filter uses carbon nanotubes to create new paradigm for dialysis membranes

21 September
Novel filter uses carbon nanotubes to create new paradigm for dialysis membranes (phys.org)
DOI: 10.1002/adfm.202304672

Strained few-layer MoS2 with atomic copper and selectively exposed in-plane sulfur vacancies for CO2 hydrogenation to methanol | Nature Communications

21 September
Strained few-layer MoS2 with atomic copper and selectively exposed in-plane sulfur vacancies for CO2 hydrogenation to methanol | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41362-y

Topological materials open a new pathway for exploring spin hall materials

21 September
Topological materials open a new pathway for exploring spin hall materials (phys.org)
DOI: 10.1103/PhysRevB.108.064429

Hierarchical Metal-Organic Network-Forming Glasses toward Applications - Wei - Advanced Functional Materials - Wiley Online Library

November
Hierarchical Metal-Organic Network-Forming Glasses toward Applications - Wei - Advanced Functional Materials - Wiley Online Library
DOI: https://doi.org/10.1002/adfm.202307226

Graphene's Moment Has Arrived | Mind Matters
21 November
Graphene's Moment Has Arrived | Mind Matters

Toward sustainable energy applications with breakthrough in proton conductors
21 November
Toward sustainable energy applications with breakthrough in proton conductors (techxplore.com)
DOI: 10.1038/s41467-023-43122-4

New carbon material sets energy-storage record, likely to advance supercapacitors
22 November
New carbon material sets energy-storage record, likely to advance supercapacitors (phys.org)
DOI: 10.1038/s41467-023-40282-1

Spontaneous broken-symmetry insulator and metals in tetralayer rhombohedral graphene | Nature Nanotechnology (Subscription)
23 November
Spontaneous broken-symmetry insulator and metals in tetralayer rhombohedral graphene | Nature Nanotechnology
DOI: https://doi.org/10.1038/s41565-023-01558-1

##########

Addendum: Purported Superconductivity

Another Computational Analysis Paper Says LK99 Can Be a Superconductor and Modification Will Make It Better | NextBigFuture.com
11 September
Another Computational Analysis Paper Says LK99 Can Be a Superconductor and Modification Will Make It Better | NextBigFuture.com

LK-99 paper will allegedly prove its validity | Inquirer Technology
11 September
LK-99 paper will allegedly prove its validity | Inquirer Technology

Superionic Phase Transition of Copper(I) Sulfide and Its Implication for Purported Superconductivity of LK-99 | The Journal of Physical Chemistry C
8 September
Superionic Phase Transition of Copper(I) Sulfide and Its Implication for Purported Superconductivity of LK-99 | The Journal of Physical Chemistry C (acs.org)
DOI: https://doi.org/10.1021/acs.jpcc.3c05684

Party like it's LK-99 | Nature Physics
11 September
Party like it's LK-99 | Nature Physics
DOI: https://doi.org/10.1038/s41567-023-02225-x

LK-99 Research Continues, Paper Says Superconductivity Could be Possible | Tom's Hardware

29 September

LK-99 Research Continues, Paper Says Superconductivity Could be Possible | Tom's Hardware (tomshardware.com)

Myth of room temperature superconductivity in LK-99 is shattered

28 November

Myth of room temperature superconductivity in LK-99 is shattered (phys.org)

DOI: 10.1016/j.matt.2023.11.001

Biotechnology with a Chemistry Emphasis

Optimizing mRNA therapeutics and more articles (June-August)

31 August
Optimizing mRNA therapeutics | Pharma Manufacturing

Fermentation processes for the production of biohydrogen as an alternative energy carrier

5 September
Fermentation processes for the production of biohydrogen as an alternative energy carrier (phys.org)
DOI: 10.1016/j.biortech.2022.127309

New bio-based glues form adhesive bonds that grow stronger in water

7 September
New bio-based glues form adhesive bonds that grow stronger in water (phys.org)
DOI: 10.1021/acsami.3c04009

Scientists harness natural enzymes to bring down farming footprint | Stuff.co.nz

13 September
Scientists harness natural enzymes to bring down farming footprint | Stuff.co.nz

Reducing the carbon footprint of methane by converting it into methanol with a new enzyme

14 September
Reducing the carbon footprint of methane by converting it into methanol with a new enzyme (phys.org)
DOI: 10.1021/acscatal.3c01158

Newly discovered deep-sea enzyme breaks down PET plastic

25 September
https://phys.org/news/2023-09-newly-deep-sea-enzyme-pet-plastic.html
DOI: 10.1038/s42004-023-00998-z

Capturing carbon dioxide with electricity: A microbial enzyme inspires electrochemistry

28 September
Capturing carbon dioxide with electricity: A microbial enzyme inspires electrochemistry (phys.org)
DOI: 10.1002/anie.202311981

Immobilized enzyme microreactors for analysis of tryptic peptides in β-casein and β-lactoglobulin | Scientific Reports

2 October
Immobilized enzyme microreactors for analysis of tryptic peptides in β-casein and β-lactoglobulin | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43521-z

New pipeline makes valuable organic acid from plants—saving money and emissions

3 October
New pipeline makes valuable organic acid from plants—saving money and emissions (phys.org)
DOI: 10.1038/s41467-023-41616-9

Triepoxide formation by a flavin-dependent monooxygenase in monensin biosynthesis | Nature Communications
7 October

Dynamic metastable polymersomes enable continuous flow manufacturing | Nature Communications
6 October
Dynamic metastable polymersomes enable continuous flow manufacturing | Nature Communications

Researchers develop organic nanozymes suitable for agricultural use
16 October
Researchers develop organic nanozymes suitable for agricultural use (phys.org)
DOI: 10.1039/D3NR02025H

Plastic-eating enzymes could help solve pollution problem
16 October
Plastic-eating enzymes could help solve pollution problem (phys.org)
DOI: 10.1038/s41522-023-00440-1

Yeast speeds discovery of medicinal compounds in plants
18 October
Yeast speeds discovery of medicinal compounds in plants (phys.org)
DOI: 10.1002/anie.202307995

Biocatalytic characterization of an alcohol dehydrogenase variant deduced from Lactobacillus kefir in asymmetric hydrogen transfer
12 October
Biocatalytic characterization of an alcohol dehydrogenase variant deduced from Lactobacillus kefir in asymmetric hydrogen transfer | Communications Chemistry (nature.com)
DOI: https://doi.org/10.1038/s42004-023-01013-1

Accelerating Biocatalysis Discovery with Machine Learning: A Paradigm Shift in Enzyme Engineering, Discovery, and Design | ACS Catalysis
26 October
Accelerating Biocatalysis Discovery with Machine Learning: A Paradigm Shift in Enzyme Engineering, Discovery, and Design | ACS Catalysis
DOI: https://doi.org/10.1021/acscatal.3c03417

New project promoting the use of bio-based products in Ireland is awarded funding | Independent.ie
6 November
https://www.independent.ie/business/irish/new-project-promoting-the-use-of-bio-based-products-in-ireland-is-awarded-funding/a1889141279.html

Biosynthesis of natural and halogenated plant monoterpene indole alkaloids in yeast | Nature Chemical Biology
6 November
Biosynthesis of natural and halogenated plant monoterpene indole alkaloids in yeast | Nature Chemical Biology
DOI: https://doi.org/10.1038/s41589-023-01430-2

Research team develops biotechnological process to degrade plastics
6 November
https://phys.org/news/2023-11-team-biotechnological-degrade-plastics.html
DOI: 10.1038/s41467-023-39201-1

Cell-free biosynthesis combined with deep learning accelerates de novo-development of antimicrobial peptides | Nature Communications

8 November

Cell-free biosynthesis combined with deep learning accelerates de novo-development of antimicrobial peptides | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-42434-9

Denmark puts its money where its life-sciences strategy is

8 November

Denmark puts its money where its life-sciences strategy is (nature.com)

DOI: https://doi.org/10.1038/d41586-023-03446-z

Coordinated regulation of the entry and exit steps of aromatic amino acid biosynthesis supports the dual lignin pathway in grasses

9 November

Coordinated regulation of the entry and exit steps of aromatic amino acid biosynthesis supports the dual lignin pathway in grasses | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-42587-7

Engineering sulfonate group donor regeneration systems to boost biosynthesis of sulfated compounds | Nature Communications

10 November

Engineering sulfonate group donor regeneration systems to boost biosynthesis of sulfated compounds | Nature Communications

DOI: https://doi.org/10.1038/s41467-023-43195-1

Next-Gen mRNA Technology: A Crucial Pandemic Preparedness Tool

30 October

Next-Gen mRNA Technology: A Crucial Pandemic Preparedness Tool | Technology Networks

Discovery of two new enzymes offers easier ways to study and manufacture complex natural chemicals

13 November

Discovery of two new enzymes offers easier ways to study and manufacture complex natural chemicals (news-medical.net)

DOI: doi.org/10.1038/s41589-023-01476-2

Adapting to the Changing Landscape of Biotech-Driven Drug Discovery | Journal of Medicinal Chemistry

21 November

Adapting to the Changing Landscape of Biotech-Driven Drug Discovery | Journal of Medicinal Chemistry (acs.org)

DOI: https://doi.org/10.1021/acs.jmedchem.3c02035

Connecting Biological and Synthetic Approaches for Electrocatalytic CO2 Reduction - Cobb - Angewandte Chemie International Edition - Wiley Online Library

20 November

Connecting Biological and Synthetic Approaches for Electrocatalytic CO2 Reduction - Cobb - Angewandte Chemie International Edition - Wiley Online Library

DOI: https://doi.org/10.1002/anie.202310547

Machine Learning-Supported Enzyme Engineering toward Improved CO2-Fixation of Glycolyl-CoA Carboxylase | ACS Synthetic Biology

20 November

Machine Learning-Supported Enzyme Engineering toward Improved CO2-Fixation of Glycolyl-CoA Carboxylase | ACS Synthetic Biology
DOI: https://doi.org/10.1021/acssynbio.3c00403

From nature to industry: Harnessing enzymes for biocatalysis | Science

24 November
From nature to industry: Harnessing enzymes for biocatalysis | Science
DOI: 10.1126/science.adh861

##

Third issue of EuChemS Magazine Plus is released

Nov 16, 2023

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

EuChemS Magazine Plus features a selection of articles and in-depth essays written by guest contributors from the European Chemistry Community. In our November issue, the Editorial by Floris Rutjes, discusses his years as the President of EuChemS, while his President's Column describes EuChemS' stance regarding PFAS Policy. In addition, you can learn about trust in science and countering misinformation in our two policy essays.

You can also read summaries of our professional networks' conferences over the summer as well as of our Annual Meetings in Cyprus, and perspectives the German Bunsen Society as well as from the Hungarian Chemical Society, and gather information about the 9th EuChemS Chemistry Congress, in Dublin.

Furthermore, in our research segment, you can get to know an innovative chemistry e-learning tool and GDCh's new global collaborations – as well as an interview with the 2023 EuChemS Lecture Award Recipient. Last but not least, you can also hear from our correspondents from C2W and ChemistryViews.

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

Strengthening EuChemS

Floris Rutjes,
European Chemical Society
November 15, 2023

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

While returning from Cyprus, chairing my last General Assembly as EuChemS President, it doesn't feel like my EuChemS activities are coming to an end. Looking back at the past four years in the Executive Board, one as President-Elect and three years as President, the first 30 months were largely dominated by COVID, resulting in few personal interactions and many online meetings and webinars.

Yet, we adapted and got accustomed to new ways of interacting within EuChemS. It resulted in fewer in-person Executive Board meetings, adaptation of the constitution such that we can have virtual General Assemblies also under normal circumstances, and hybrid science and policy workshops from the European Parliament, thereby reaching a much bigger audience than before, to mention a few examples.

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

Being three years EuChemS President may sound like a long time, but in my perception, it passed very quickly. It takes time to, for instance, learn how the EuChemS organization really works, how exactly the divisions and working parties are organized, which policy activities we should be involved in, and which internal processes could be improved. A continuous goal of many of the changes that were implemented was to increase EuChemS' visibility and branding the name EuChemS.

The acronym EuChemS is now always visible in the name of awards, there is a new monthly magazine that contains the name EuChemS, we have video clips explaining what EuChemS stands for and so on. We teamed up with the larger member societies in science-policy activities, such as the High-Level Roundtable on the Implementation of Sustainable Chemicals Strategy set up by the European Commission, Stick-to-Science and Coalition for Advancing Research Assessment (CoARA). And we changed our focus to sustainability, as with, for example, the EuChemS Periodic Table, which as of recently, no longer focuses solely on scarcity but also on sustainability as well.

The first three years I worked closely with the experienced board members Pilar Goya and Eckart Rühl, and continuing without them feels like a transition. Their successors, Angela Agostiano and Hans-Peter Lühti, however, have started full ~~with~~ of enthusiasm and new ideas and that gives new elan to the board.

Industrial participation has started, and there are new plans to invest in creating a stronger European chemistry community. Therefore, I am convinced that with this new team, as always supported by the dedicated EuChemS Office, we will continue with the Member Societies and the Professional Networks to further develop EuChemS into a stronger and more powerful player in the European chemistry arena.

Read the full content of EuChemS Magasine here:

https://www.magazine.euchems.eu

ChemistryViews - The Magazine of Chemistry Europe

Chemistry Views

Sugar, Sweeteners, and Their Chemistry
30 October
https://www.chemistryviews.org/sugar-sweeteners-and-their-chemistry

Raw Material Change in the Chemical Industry
27 June
https://www.chemistryviews.org/raw-material-change-in-the-chemical-industry

N-Heterocyclic Imine Gold Complex with Anticancer Activity
23 November
https://www.chemistryviews.org/n-heterocyclic-imine-gold-complex-with-anticancer-activity

Chika Kuroda – The Pioneering Female Chemist in Japan
16 November
https://www.chemistryviews.org/chika-kuroda-the-pioneering-female-chemist-in-japan

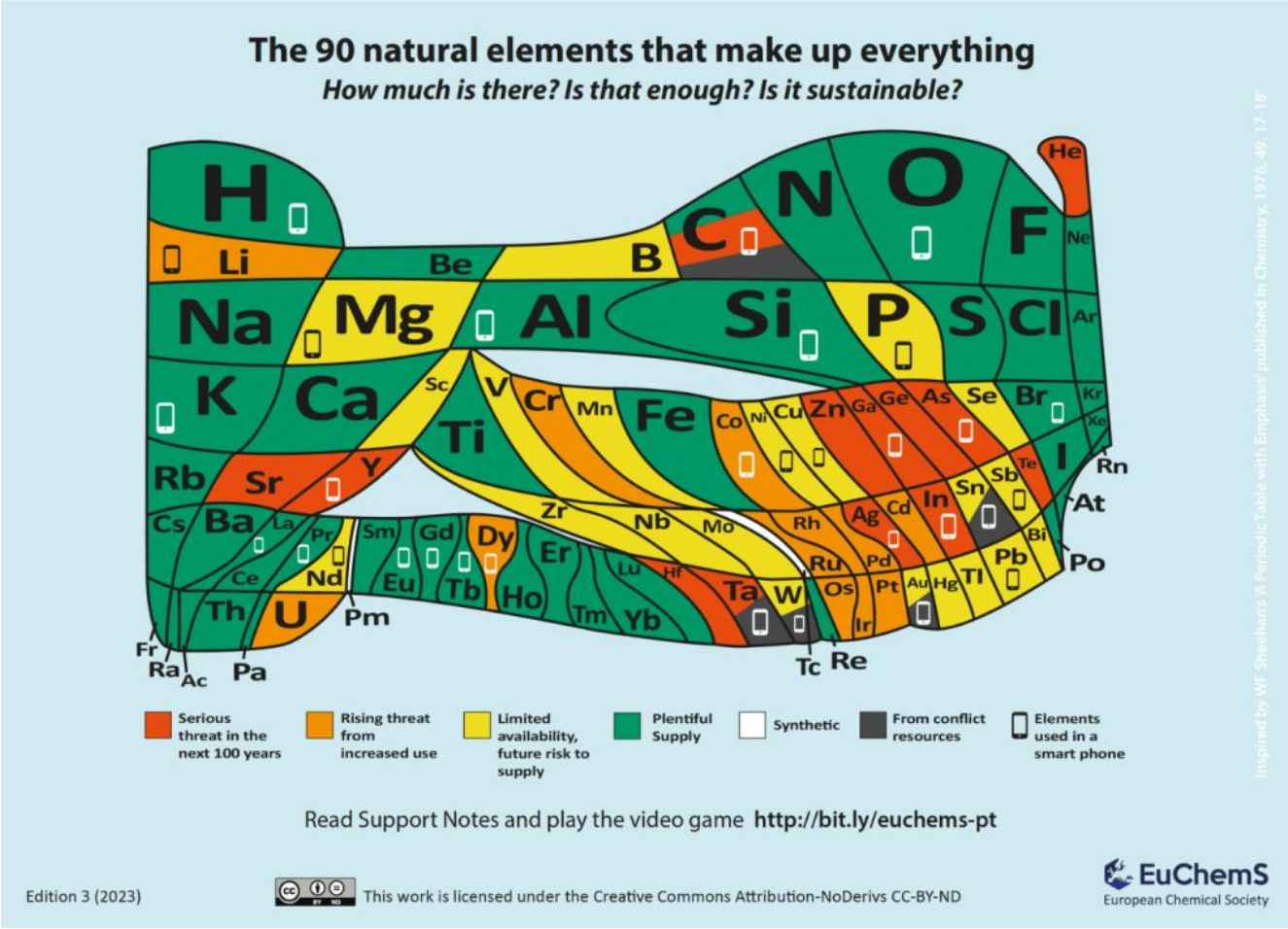
What Makes Metal–Organic Frameworks Beautiful?
5 November 2019
https://www.chemistryviews.org/details/video/11154523/What_Makes_MetalOrganic_Frameworks_Beautiful

Merck's New Digital Reference Materials Platform for Analytical Testing
15 November
https://www.chemistryviews.org/mercks-new-digital-reference-materials-platform-for-analytical-testing

Many more interesting articles available at:

https://www.chemistryviews.org

New EuChemS Periodic Table 2023
Focus on Sustainability and Scarcity



https://www.euchems.eu/euchems-periodic-table

Following up on the EuChemS scientific workshop on Lithium In 2021, the colour of this element in the Table has been changed from yellow to orange, because its extraction and use is projected to increase dramatically in the years to come due to the production of lithium-ion batteries, to be primarily used in the automotive sector. At present, 75% of lithium production is used for batteries (see here) and this share is projected to increase.

According to the International Energy Agency the lithium demand should increase about 40 times by 2040, in order to sustain the expansion of green technologies and keep the global average temperature increase within 1.5 degrees (see here).

However, making accurate predictions is difficult, because technological advances can change the overall scenario. The projected demand of lithium might substantially decrease if relevant technological progress were to occur, such as the consolidation of sodium-ion batteries or the implementation of recycling practices in the battery sector.

EuChemS
European Chemical Society

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

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

15 November

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

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

The role of scientific communities in disarming misinformation

15 November 2023

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

By Marton Kottmayer,
European Chemical Society

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

You can read more EuChemS news Items here:
https://www.euchems.eu/communication/news

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

https://www.euchems.eu/divisions

https://erc.europa.eu/homepage

ERC

Boosting drug delivery to beat cancer
7 July
Boosting drug delivery to beat cancer | ERC (europa.eu)

ERC Starting Grants: 400 bright minds awarded over €628 million
5 September
ERC Starting Grants: 400 bright minds awarded over €628 million | ERC (europa.eu)

ERC Starting Grants: 400 bright minds awarded over €628 million | ERC
5 September
ERC Starting Grants: 400 bright minds awarded over €628 million | ERC (europa.eu)

Synergy Grants winners | Science stories | ERC annual conference
26 October
ERC Synergy Grants back 37 teams to tackle complex scientific questions | ERC (europa.eu)

ERC Synergy Grants back 37 teams to tackle complex scientific questions | ERC
26 October
ERC Synergy Grants back 37 teams to tackle complex scientific questions | ERC (europa.eu)

Starting Grants 2024 applications: Facts and figures | ERC
9 November
Starting Grants 2024 applications: Facts and figures | ERC (europa.eu)

A critical and prospective stance on excellence and open science
13 November
https://erc.europa.eu/news-events/news/critical-and-prospective-stance-excellence-and-open-science

Trinity pair win European Research Council (ERC) Consolidator Grants - News & Events | Trinity College Dublin
23 November
Trinity pair win European Research Council (ERC) Consolidator Grants - News & Events | Trinity College Dublin (tcd.ie)

Consolidator Grants: ERC unleashes €627m in grants to fuel excellent research across Europe
23 November
https://erc.europa.eu/news-events/news/erc-2023-consolidator-grants-results

Analytical Chemistry Papers & Articles

Multivariate methods for analysis of environmental reference materials using laser-induced breakdown spectroscopy

June 2017
https://www.sciencedirect.com/science/article/pii/S2214181216300830
DOI: https://doi.org/10.1016/j.ancr.2017.01.001

Colorimetric Detection Based on Localised Surface Plasmon Resonance Optical Characteristics for the Detection of Hydrogen Peroxide Using Acacia Gum–Stabilised Silver Nanoparticles

26 February 2017
https://journals.sagepub.com/doi/full/10.1177/1177390116684686
DOI: https://doi.org/10.1177/11773901166846

A simple, cost-effective colorimetric assay for aluminum ions via complexation with the flavonoid rutin

27 October 2022
https://peerj.com/articles/achem-19
DOI: https://doi.org/10.7717/peerj-achem.19

A brief review of the application of microextraction by packed sorbent for antibiotics analysis from biological, food, and environmental samples

19 April 2023
https://www.degruyter.com/document/doi/10.1515/revac-2023-0057/html
DOI: https://doi.org/10.1515/revac-2023-0057

of sensitive materials in chemiresistive sensors for detecting chemical warfare agent simulants: A review

16 February 2022
https://www.degruyter.com/document/doi/10.1515/revac-2022-0052/html
DOI: https://doi.org/10.1515/revac-2022-0052

A green HPLC method for the determination of apixaban in pharmaceutical products: Development and validation

18 August 2023
https://www.degruyter.com/document/doi/10.1515/revac-2023-0058/html
DOI: https://doi.org/10.1515/revac-2023-0058

The Future of HPLC/GC Solvents: Glass vs Aluminum Packaging

26 September
The Future of HPLC/GC Solvents: Glass vs Aluminum Packaging Poster | Technology Networks

What makes those pandemic-era sourdoughs so deliciously, uniquely, sour?

16 August
What makes those pandemic-era sourdoughs so deliciously, uniquely, sour? - American Chemical Society (acs.org)
DOI: 10.3390/foods11152325

"Eat Your Broccoli Sprouts", They Contain Seven Times More Polysulfides Than Mature Vegetables

24 October

"Eat Your Broccoli Sprouts", They Contain Seven Times More Polysulfides Than Mature Vegetables | Technology Networks
DOI: 10.1016/j.redox.2023.102875

Mössbauer and Nuclear Resonance Vibrational Spectroscopy Studies of Iron Species Involved in N–N Bond Cleavage | Inorganic Chemistry

30 October
Mössbauer and Nuclear Resonance Vibrational Spectroscopy Studies of Iron Species Involved in N–N Bond Cleavage | Inorganic Chemistry (acs.org)
DOI: https://doi.org/10.1021/acs.inorgchem.3c02594

New analytical approach to detecting and characterizing unknown types of PFAS in the environment

31 October
New analytical approach to detecting and characterizing unknown types of PFAS in the environment (phys.org)
DOI: 10.1126/sciadv.adj7048

A New Cannabis Compound Discovery Explains Its Distinctive Aromas : ScienceAlert

2 November
A New Cannabis Compound Discovery Explains Its Distinctive Aromas : ScienceAlert
DOI: https://doi.org/10.1021/acsomega.3c04496

Charged 'molecular beasts' as the foundation for new chemical compounds

3 November
Charged 'molecular beasts' as the foundation for new chemical compounds (phys.org)
DOI: 10.1002/anie.202308600

Realizing in situ electron paramagnetic resonance spectroscopy using single nanodiamond sensors

3 November
Realizing in situ electron paramagnetic resonance spectroscopy using single nanodiamond sensors (phys.org)
DOI: 10.1038/s41467-023-41903-5

Compact angle-resolved metasurface spectrometer | Nature Materials

2 November
Compact angle-resolved metasurface spectrometer | Nature Materials
DOI: https://doi.org/10.1038/s41563-023-01710-1

Lab-on-a-Chip Accurately Identifies Viruses Within Three Minutes | Technology Networks

2 November
Lab-on-a-Chip Accurately Identifies Viruses Within Three Minutes | Technology Networks
DOI: 10.1039/D3LC00441D

Reducing Mass Confusion over the Microbiome

7 November
Reducing Mass Confusion over the Microbiome | Analytical Chemistry (acs.org)
DOI: https://doi.org/10.1021/acs.analchem.3c02408

New sensors measure uric acid levels better than other non-invasive methods

8 November
https://phys.org/news/2023-11-sensors-uric-acid-noninvasive-methods.html
DOI: 10.1016/j.nanoen.2023.108978

Detecting hidden defects in materials using a single-pixel terahertz sensor
6 November
Detecting hidden defects in materials using a single-pixel terahertz sensor (phys.org)
DOI: 10.1038/s41467-023-42554-2

Research overcomes major obstacle for quantum sensor development
8 November
Research overcomes major obstacle for quantum sensor development (phys.org)
DOI: 10.1038/s41467-023-42059-y

Adaptable, turn-on maturation (ATOM) fluorescent biosensors for multiplexed detection in cells | Nature Methods
9 November
Adaptable, turn-on maturation (ATOM) fluorescent biosensors for multiplexed detection in cells | Nature Methods
DOI: https://doi.org/10.1038/s41592-023-02065-w

Pushing the limits of gas sensing technology
9 November
Pushing the limits of gas sensing technology (phys.org)
DOI: 10.1016/j.cej.2023.145482

A monolithically integrated in-textile wristband for wireless epidermal biosensing | Science Advances
10 November
A monolithically integrated in-textile wristband for wireless epidermal biosensing | Science Advances
DOI: 10.1126/sciadv.adj2763

Ultra-Fast Ion Mobility Spectrometer for High-Throughput Chromatography | Analytical Chemistry
12 November
Ultra-Fast Ion Mobility Spectrometer for High-Throughput Chromatography | Analytical Chemistry (acs.org)

Some papers from Spectroscopy Magazine (2nd half 2023)
SAS and Applied Spectroscopy William F. Meggers Award Presentation, Plenary Lecture, and Symposium (spectroscopyonline.com)

Tracking SARS-CoV-2 Omicron lineages using real-time reverse transcriptase PCR assays and prospective comparison with genome sequencing
14 October
Tracking SARS-CoV-2 Omicron lineages using real-time reverse transcriptase PCR assays and prospective comparison with genome sequencing | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44796-y

Time, momentum, and energy resolved pump-probe tunneling spectroscopy of two-dimensional electron systems | Nature Communications
17 November
Time, momentum, and energy resolved pump-probe tunneling spectroscopy of two-dimensional electron systems | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-43268-1

Introducing Luminescence 96: A Groundbreaking Advancement in Luminescence-Based Assays
14 November

Introducing Luminescence 96: A Groundbreaking Advancement in Luminescence-Based Assays (news-medical.net)

Accessible Lateral Flow Assays: Test to Treat, Test to Protect

18 October
Accessible Lateral Flow Assays: Test to Treat, Test to Protect | The Scientist Magazine® (the-scientist.com)

Networking nano-biosensors for wireless communication in the blood

22 November
Networking nano-biosensors for wireless communication in the blood (phys.org)
DOI: 10.1145/3603269.3604881

Single, Rapid Test Detects HIV and TB

14 November
Single, Rapid Test Detects HIV and TB | Technology Networks
DOI: 10.1093/clinchem/hvad173

Blood Test Identifies Multiple Sclerosis Biomarkers With 90% Accuracy

10 November
Blood Test Identifies Multiple Sclerosis Biomarkers With 90% Accuracy | Technology Networks
DOI: 10.1016/j.clim.2023.109801

Handheld, Non-Invasive Device Developed to Detect Alzheimer's and Parkinson's Biomarkers

14 November
Handheld, Non-Invasive Device Developed To Detect Alzheimer's and Parkinson's Biomarkers | Technology Networks
DOI: 10.1073/pnas.2311565120

Time-resolving state-specific molecular dissociation with XUV broadband absorption spectroscopy | Science Advances

22 November
Time-resolving state-specific molecular dissociation with XUV broadband absorption spectroscopy | Science Advances
DOI: 10.1126/sciadv.adk148

Development of isotope dilution-liquid chromatography tandem mass spectrometry for the accurate determination of vitamin K1 in spinach and kimchi cabbage

8 September
https://jast-journal.springeropen.com/articles/10.1186/s40543-023-00399-w
DOI: https://doi.org/10.1186/s40543-023-00399-w

4-Mercaptobenzoic acid-modified Au@Ag nanoparticle-based colorimetric Cr3+ ions detection in aqueous solution

21 September
https://jast-journal.springeropen.com/articles/10.1186/s40543-023-00386-1
DOI: https://doi.org/10.1186/s40543-023-00386-1

Functional rolling circle amplification-based sensitive determination and low-speed centrifugation-based isolation of Staphylococcus aureus

26 October
https://jast-journal.springeropen.com/articles/10.1186/s40543-023-00409-x
DOI: https://doi.org/10.1186/s40543-023-00409-x

Simple, sensitive, and label-free miRNA analysis through strand displacement reaction integrating with G-quadruplex-based signal generation

13 November
https://jast-journal.springeropen.com/articles/10.1186/s40543-023-00410-4
DOI: https://doi.org/10.1186/s40543-023-00410-4

Stability and Pharmaceutical Testing Analysis in the Efficacy and Safety of Medications

6 October
https://www.longdom.org/open-access/stability-and-pharmaceutical-testing-analysis-in-the-efficacy-and-safety-of-medications-104014.html
DOI: 10.35248/2471-2698.23.8.216

The Role of Analytical Research and Development in Advancing Scientific Discovery

6 October
https://www.longdom.org/open-access/the-role-of-analytical-research-and-development-in-advancing-scientific-discovery-104011.html
DOI: 10.35248/2471-2698.23.8.213

A green HPLC method for the determination of apixaban in pharmaceutical products: Development and validation

18 August
https://www.degruyter.com/document/doi/10.1515/revac-2023-0058/html
DOI: https://doi.org/10.1515/revac-2023-0058

A brief review of the application of microextraction by packed sorbent for antibiotics analysis from biological, food, and environmental samples

19 April 2023
https://www.degruyter.com/document/doi/10.1515/revac-2023-0057/html
DOI: https://doi.org/10.1515/revac-2023-0057

Eco-friendly HPLC method by using response surface design to measure a combination of three antidiabetic drugs

8 November
https://www.degruyter.com/document/doi/10.1515/revac-2023-0063/html
DOI: https://doi.org/10.1515/revac-2023-0063

IRC

Minister Simon Harris announces €24.6 million in Irish Research Council funding to support rising researchers and pioneering projects | News | Irish Research Council

11 September
Minister Simon Harris announces €24.6 million in Irish Research Council funding to support rising researchers and pioneering projects | News | Irish Research Council

COALESCE (Collaborative Alliances for Societal Challenges)

October
https://research.ie/funding/coalesce

Public Engagement with Research Award

14 November
Public Engagement with Research Award | ERC (europa.eu)

New ERC Scientific Council member and new ERC Vice President

6 November
New ERC Scientific Council member and new ERC Vice President | ERC (europa.eu)

Science Communication (links to short video on science communication0

(263) SCIENCE COMMUNICATION - YouTube

Frontiers of Research podcast

Podcast | ERC (europa.eu)

First awardees of the DOROTHY MSCA COFUND programme showcase innovative research to tackle public health crises

16 November
https://research.ie/2023/11/16/first-awardees-of-the-dorothy-msca-cofund-programme-showcase-innovative-research-to-tackle-public-health-crises

Gut-brain connection expert Professor Carel le Roux named Irish Research Council Researcher of the Year

21 November
https://research.ie/2023/11/21/gut-brain-connection-expert-professor-carel-le-roux-named-irish-research-council-researcher-of-the-year

Minister Harris announces Taighde Éireann- Research Ireland as the official name of the new Research and Innovation funding agency

16 November
https://research.ie/2023/11/16/minister-harris-announces-taighde-eireann-research-ireland-as-the-official-name-of-the-new-research-and-innovation-funding-agency

Science, Truth, Trust & Science Communication

Stanford president retracts two Science papers following investigation – Retraction Watch

31 August
https://retractionwatch.com/2023/08/31/stanford-president-retracts-two-science-papers-following-investigation

Academic publishing system is extorting emerging researchers

4 September
Academic publishing system is extorting emerging researchers (dailymaverick.co.za)

A funding adviser's guide to writing a great grant application

1 September
A funding adviser's guide to writing a great grant application (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02756-6

Medical-evidence giant Cochrane battles funding cuts and closures

1 September
Medical-evidence giant Cochrane battles funding cuts and closures (nature.com)
DOI: doi: https://doi.org/10.1038/d41586-023-02741-z

German science organizations strike open-access deal with Elsevier | Science | AAAS

6 September
https://www.science.org/content/article/german-science-organizations-strike-open-access-deal-elsevier

Weekend reads: ChatGPT in papers; a Russia-based paper mill; getting scooped becomes an opportunity – Retraction Watch

9 September
Weekend reads: ChatGPT in papers; a Russia-based paper mill; getting scooped becomes an opportunity – Retraction Watch

Scientific sleuths spot dishonest ChatGPT use in papers

8 September
Scientific sleuths spot dishonest ChatGPT use in papers (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02477-w

Paper Retracted When Authors Caught Using ChatGPT to Write It

9 September
Paper Retracted When Authors Caught Using ChatGPT to Write It (futurism.com)

How early-career researchers can learn to trust negative data: five simple steps

11 September
How early-career researchers can learn to trust negative data: five simple steps (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02876-z

The AI Detection Arms Race Is On | WIRED

14 September
The AI Detection Arms Race Is On | WIRED

Turmoil at Sage journal as retractions mount – Retraction Watch

14 September
Turmoil at Sage journal as retractions mount – Retraction Watch
https://retractionwatch.com/2023/09/14/turmoil-at-sage-journal-as-retractions-mount

Top science editor defends peer-review system in climate row
15 September
Top science editor defends peer-review system in climate row (phys.org)
https://phys.org/news/2023-09-science-editor-defends-peer-review-climate.html

Intermediate levels of scientific knowledge are associated with overconfidence and negative attitudes towards science | Nature Human Behaviour
14 September
Intermediate levels of scientific knowledge are associated with overconfidence and negative attitudes towards science | Nature Human Behaviour
DOI: https://www.nature.com/articles/s41562-023-01677-8

What's a Journal For?
20 October 2022
What's a Journal For? | Science | AAAS

Retraction Watch database bought by Crossref | News | Chemistry World
18 September
Retraction Watch database bought by Crossref | News | Chemistry World

Rising number of 'predatory' academic journals undermines research and public trust in scholarship
19 September
Rising number of 'predatory' academic journals undermines research and public trust in scholarship (theconversation.com)

Retraction of “Reductive Arylation of Arylidene Malonates Using Photoredox Catalysis” | ACS Catalysis
21 September
Retraction of “Reductive Arylation of Arylidene Malonates Using Photoredox Catalysis” | ACS Catalysis
DOI: https://doi.org/10.1021/acscatal.3c03942

Explaining away truth *An interview with Paul Horwich*
25 September
Explaining away truth | Paul Horwich (iai.tv)

Another retraction looms for embattled physicist behind blockbuster superconductivity claims | Science | AAAS
27 September
Another retraction looms for embattled physicist behind blockbuster superconductivity claims | Science | AAAS
DOI: 10.1126/science.adl0899

Stop deepfakes from sinking society and Science
27 September
How to stop AI deepfakes from sinking society — and science (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02990-y

The Retraction Watch Mass Resignations List – Retraction Watch
29 September?
The Retraction Watch Mass Resignations List – Retraction Watch

Retraction of: Ruthenium-Catalyzed Brook Rearrangement Involved Domino Sequence Enabled by Acylsilane–Aldehyde Corporation | Organic Letters
22 September

Retraction of: Ruthenium-Catalyzed Brook Rearrangement Involved Domino Sequence Enabled by Acylsilane–Aldehyde Corporation | Organic Letters (acs.org)
DOI: https://doi.org/10.1021/acs.orglett.3c02943

An antidote to academic arrogance
2 October
Engaged in collaborative research? Try a touch of intellectual humility (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03063-w

Proofing | Scientific image plagiarism AI checker (Commercial product)
?
Proofig | Scientific image plagiarism AI checker

ScienceAdviser: Measuring impact by a paper's journal undervalues influential science | Science | AAAS (1 of 4 articles within)
5 October
ScienceAdviser: Measuring impact by a paper's journal undervalues influential science | Science | AAAS

How ChatGPT and other AI tools could disrupt scientific publishing
10 October
https://www.nature.com/articles/d41586-023-03144-w
DOI: https://doi.org/10.1038/d41586-023-03144-w

How thousands of invisible citations sneak into papers and make for fake metrics – Retraction Watch
9 October
How thousands of invisible citations sneak into papers and make for fake metrics – Retraction Watch

Dear journals: stop hoarding our papers
10 October
Dear journals: stop hoarding our papers (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03196-y

Reproducibility trial: 246 biologists get different results from same data sets
12 October
Reproducibility trial: 246 biologists get different results from same data sets (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03177-1

ChatGPT use shows that the grant-application system is broken
13 October
ChatGPT use shows that the grant-application system is broken (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03238-5

Is Substack the brave new world of academic publishing?
13 October
Is Substack the brave new world of academic publishing? (insidehighered.com)

Hundreds of analysts get different results
12 October
Reproducibility trial: 246 biologists get different results from same data sets (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03177-1

ChatGPT use shows that the grant-application system is broken
13 October
ChatGPT use shows that the grant-application system is broken (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03238-5

Methods section too short? Use online protocols to make complex techniques understandable

16 October
Methods section too short? Use online protocols to make complex techniques understandable (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03249-2

'The potential to undermine democracy': European publishing trade bodies call for action on generative AI | Books | The Guardian

19 October
'The potential to undermine democracy': European publishing trade bodies call for action on generative AI | Books | The Guardian

Campus surveillance: students and professors decry sensors in buildings

20 October
Campus surveillance: students and professors decry sensors in buildings (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03287-w

Toxic workplaces are the main reason women leave academic jobs

20 October
Toxic workplaces are the main reason women leave academic jobs (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03251-8

Assembly theory explains and quantifies selection and evolution

4 October
Assembly theory explains and quantifies selection and evolution | Nature
DOI: https://doi.org/10.1038/s41586-023-06600-9

Falling behind: postdocs in their thirties tire of putting life on hold

24 October
Falling behind: postdocs in their thirties tire of putting life on hold (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03296-9

Postdocs are pushing back against low pay and conditions — more institutions must take heed

24 October
Postdocs are pushing back against low pay and conditions — more institutions must take heed (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03298-7

Open-access reformers launch next bold publishing plan

31 October
Open-access reformers launch next bold publishing plan (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03342-6

Open-access reformers launch next bold publishing plan

31 October
Open-access reformers launch next bold publishing plan (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03342-6

Retraction of Activating Imides with Triflic Acid: A General Intramolecular Aldol Condensation Strategy Toward Indolizidine, Quinolizidine, and Valmerin Alkaloids | Organic Letters

25 October
Retraction of Activating Imides with Triflic Acid: A General Intramolecular Aldol Condensation Strategy Toward Indolizidine, Quinolizidine, and Valmerin Alkaloids | Organic Letters (acs.org)
DOI: https://doi.org/10.1021/acs.orglett.3c03360

Open-access reformers launch next bold publishing plan
31 October
Open-access reformers launch next bold publishing plan (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03342-6

Guest post: A look behind the scenes of bulk retractions from Sage – Retraction Watch
31 October
Guest post: A look behind the scenes of bulk retractions from Sage – Retraction Watch

Public funds being swallowed up by scientific journals with dubious articles | Science | EL PAÍS English
31 October
Public funds being swallowed up by scientific journals with dubious articles | Science | EL PAÍS English (elpais.com)

How to switch research fields successfully
30 October
How to switch research fields successfully (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03337-3

Nature retracts controversial superconductivity paper by embattled physicist
7 November
Nature retracts controversial superconductivity paper by embattled physicist
DOI: https://doi.org/10.1038/d41586-023-03398-4

How big is science's fake-paper problem?
6 November
How big is science's fake-paper problem? (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03464-x

'ChatGPT detector' catches AI-generated papers with unprecedented accuracy
6 November
'ChatGPT detector' catches AI-generated papers with unprecedented accuracy (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03479-4

Avalanche of published academic articles could erode trust in science
6 November
Avalanche of published academic articles could erode trust in science (phys.org)
DOI: 10.48550/arxiv.2309.15884

Tool detects AI-generated text in science journals
7 November
Tool detects AI-generated text in science journals (techxplore.com)
DOI: 10.1016/j.xcrp.2023.101672

Weekend reads: 'What's wrong with peer review?'; 'how to catch a scientific fraud'; superconductor research falls apart – Retraction Watch
11 November
Weekend reads: 'What's wrong with peer review?'; 'how to catch a scientific fraud'; superconductor research falls apart – Retraction Watch

Research misconduct: Unis, scientists unite for first time on need for research misconduct body

11 November
Research misconduct: Universities, scientists unite for first time on need for integrity body (smh.com.au)

Who should pay for open-access publishing? APC alternatives emerge
14 November
Who should pay for open-access publishing? APC alternatives emerge (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03506-4

New ways to pay for research could boost scientific progress
15 November
New ways to pay for research could boost scientific progress (economist.com)

Time to rethink academic publishing: the peer reviewer crisis | mBio
17 November
Time to rethink academic publishing: the peer reviewer crisis | mBio (asm.org)
DOI: https://doi.org/10.1128/mbio.01091-23

Bees, seaweed and finding a cure for cancer – 'national brainstorm' reveals Irish public's top science goals | Independent.ie
18 November
https://m.independent.ie/irish-news/bees-seaweed-and-finding-a-cure-for-cancer-national-brainstorm-reveals-irish-publics-top-science-goals/a1285370681.html

UCC lab is like 'MasterChef' for science to attract TikTok generation
17 November
https://www.irishexaminer.com/news/munster/arid-41271778.html

Clarivate Reveals World's Influential Researchers in Highly Cited Researchers 2023 List
15 November
Clarivate Reveals World's Influential Researchers in Highly Cited Researchers 2023 List (prnewswire.com)

Update on UKRI open access policy and fund for books – UKRI
15 November
Update on UKRI open access policy and fund for books – UKRI

Time to rethink academic publishing: the peer reviewer crisis | mBio
17 November
Time to rethink academic publishing: the peer reviewer crisis | mBio (asm.org)
DOI: https://doi.org/10.1128/mbio.01091

Scientists paid large publishers over $1 billion in four years to have their studies published with open access | Science | EL PAÍS English
21 November
Scientists paid large publishers over $1 billion in four years to have their studies published with open access | Science | EL PAÍS English (elpais.com)

News | Highly Cited: TU Dublin lecturer is amongst the most influential global researchers of 2023 | TU Dublin
21 November
News | Highly Cited: TU Dublin lecturer is amongst the most influential global researchers of 2023 | TU Dublin

Leading 200 science cities. • Discover the institutions behind the world's leading cities for output of high-quality research.
24 November

Leading 200 science cities | Nature Index 2023 Science Cities | Supplements | Nature Index

Weekend reads: ‘A scientific fraud epidemic’; censorship by retraction; buying and selling articles – Retraction Watch

25 November
Weekend reads: ‘A scientific fraud epidemic’; censorship by retraction; buying and selling articles – Retraction Watch

Women Are Still Poorly Recognized for Their Scientific Contributions

22 November
Women Are Still Poorly Recognized for Their Scientific Contributions | Technology Networks
DOI: 10.1038/s41562-023-01773-9

Why Research Fraud Is Getting Worse

22 November
Why Research Fraud Is Getting Worse — The James G. Martin Center for Academic Renewal (jamesgmartin.center)

CAS Insights

Understanding the power of catalysis
1 September
Understanding the power of catalysis | CAS
DOI: 10.26434/chemrxiv-2023-v30kj

Pharma data management: Revealing breakthroughs that lie in darkness
Data-rich, information-poor: The reversible curse of the pharmaceutical industry
12 September
Pharma data management: Revealing breakthroughs that lie in darkness | CAS

Digital transformation in pharma: Improving R&D through digital solutions
5 September
Digital transformation in pharma: Improving R&D through digital solutions | CAS

The rise of AI drug development technology
26 September 2022
The rise of AI drug development technology | CAS

R&D insights: Sustainable catalysts for the future
18 August
R&D insights: Sustainable catalysts for the future | CAS

Are large language models right for scientific research
11 August
Are large language models right for scientific research | CAS

Top emerging trends in mRNA therapeutics: Executive Summary
30 June
Top emerging trends in mRNA therapeutics: Executive Summary | CAS

Quantum dots win the 2023 Nobel Prize for Chemistry
26 September
Quantum dots win the 2023 Nobel Prize for Chemistry | CAS

Unveiling the potential of the antibody drug conjugate
12 October
Unveiling the potential of the antibody drug conjugate | CAS

From fighting viruses to tackling tumors: Harnessing mRNA vaccines to treat cancer
4 August
From fighting viruses to tackling tumors: Harnessing mRNA vaccines to treat cancer | CAS

Exosomes: Reshaping drug delivery and diagnostics
2 December 2022
Exosomes: Reshaping drug delivery and diagnostics | CAS

Top 10 emerging trends in biomaterials

25 July 2023
Top 10 emerging trends in biomaterials | CAS

The rise of covalent inhibitors in strategic therapeutic design
17 October
The rise of covalent inhibitors in strategic therapeutic design | CAS

CAS Symposium Explores Convergence of Biology and Chemistry in Emerging Therapeutics
8 September
CAS Symposium Explores Convergence of Biology and Chemistry in Emerging Therapeutics | CAS

R&D insights: The covalent inhibitor revolution
18 October
R&D insights: The covalent inhibitor revolution | CAS

Top 10 emerging trends in biomaterials
25 June
Top 10 emerging trends in biomaterials | CAS

Are large language models right for scientific research
11 August
Are large language models right for scientific research | CAS

Tiny technology, big possibilities
25 October
Tiny technology, big possibilities | CAS

Understanding the power of catalysis
1 September
Understanding the power of catalysis | CAS

R&D insights: Antibody-drug conjugates
16 October
R&D insights: Antibody-drug conjugates | CAS

Top 10 emerging trends in biomaterials
25 July
Top 10 emerging trends in biomaterials | CAS

The rise of covalent inhibitors in strategic therapeutic design
17 October
The rise of covalent inhibitors in strategic therapeutic design | CAS

Hydrogen needs cleaner production: Photocatalysis is the answer
3 November
Hydrogen needs cleaner production: Photocatalysis is the answer | CAS

Is nuclear energy critical in solving climate change?
9 February
Can nuclear energy solve climate change? | CAS

Climate Change, Environment, Sustainability & Related Topics

Climate change glossary: Terms you need to understand, explained - Pakistan - DAWN.COM
22 September
https://www.dawn.com/news/1776397

Northern Lights Carbon Capture Project Orders Third Liquified CO2 Transport Ship
1 September
Northern Lights Carbon Capture Project Orders Third Liquified CO2 Transport Ship (gcaptain.com)

Scientists Find Success with New Direct Ocean Carbon Capture Technology - Inside Climate News
2 September
Scientists Find Success With New Direct Ocean Carbon Capture Technology - Inside Climate News

When buying an EV increases your carbon footprint
29 August
When buying an EV increases your carbon footprint (techxplore.com)
DOI: 10.1038/s41893-022-00862-3

"Remarkable:" Australian wave energy pioneer wins major tender to build first unit in Spain | RenewEconomy
6 September
"Remarkable:" Australian wave energy pioneer wins major tender to build first unit in Spain | RenewEconomy

G20 per capita CO2 emissions from coal rise 7% from 2015 -research | Reuters
5 September
G20 per capita CO2 emissions from coal rise 7% from 2015, research shows | Reuters

MIT Unveils Next-Gen Carbon Capture Technology | OilPrice.com
6 September
MIT Unveils Next-Gen Carbon Capture Technology | OilPrice.com

Organic Valley embarks on project to sequester carbon | Dairy Foods
6 September
Organic Valley embarks on project to sequester carbon | Dairy Foods

Call for glyphosate ban in EU to protect water quality - Agriland.ie
6 September
Call for glyphosate ban in EU to protect water quality - Agriland.ie

Pace of increase in CO2 concentration has increased three-fold: report
6 September
Pace of increase in CO2 concentration has increased three-fold: report (phys.org)

Biomethane could replace a quarter of natural gas use
7 September
Biomethane could replace a quarter of natural gas use

Climate policy focus now shifting to implementation, EU says – EURACTIV.com
7 September
Climate policy focus now shifting to implementation, EU says – EURACTIV.com

Iron and Steel: how can Hydrogen and Direct Electrification replace fossil-based production?
4 September
Iron and Steel: how can Hydrogen and Direct Electrification replace fossil-based production? - Energy Post

Carbon Capture: how all Germany's captured CO2 can be used by the Chemical industry
5 September
Carbon Capture: how all Germany's captured CO2 can be used by the Chemical industry - Energy Post

Accounting for the climate benefit of temporary carbon storage in nature | Nature Communications
7 September
Accounting for the climate benefit of temporary carbon storage in nature | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41242-5

Could Advanced Reactors Make Carbon Capture Systems More Viable? | Department of Energy
7 September
Could Advanced Reactors Make Carbon Capture Systems More Viable? | Department of Energy

Biochar-infused concrete: A green solution for corporate sustainability
7 September
Biochar-infused concrete: A green solution for corporate sustainability (techxplore.com)
DOI: 10.1016/j.cemconcomp.2023.105204

Visualized: How Much Metal is Used in Clean Energy Technology?
8 September
Visualized: How Much Metal is Used in Clean Energy Technology? (visualcapitalist.com)

Methane inhibitors show positive results in Johnstown winter-milk herd - Agriland.ie
9 September
Methane inhibitors show positive results in Johnstown winter-milk herd - Agriland.ie

G20 agrees to pursue tripling renewables capacity but stop short of major goals | Reuters
9 September
G20 agrees to pursue tripling renewables capacity but stop short of major goals | Reuters

Ireland and UK sign new gas supply agreement
11 September
Ireland and UK sign new gas supply agreement (rte.ie)

SWAN welcomes commission's decision on nitrates limits
11 September
SWAN welcomes commission's decision on nitrates limits (rte.ie)

Head of Teagasc Climate Centre named
11 September
Head of Teagasc Climate Centre named (irishexaminer.com)

‘You need to do the math and then explain the math’: A talk with ExxonMobil’s Darren Woods

12 September

‘You need to do the math and then explain the math’: A talk with ExxonMobil’s Darren Woods | McKinsey

UN maps out decarbonisation of construction sector

12 September

UN maps out decarbonisation of construction sector (rte.ie)

Earth’s atmosphere can clean itself; breakthrough study finds

11 September

Earth’s atmosphere can clean itself, breakthrough study finds (thebrighterside.news)

Dow's Bold Carbon-Reduction Strategy

12 September

Dow's Bold Carbon-Reduction Strategy | Chemical Processing

USDA to adjust GHG model to help ethanol get aviation fuel subsidy | Reuters

13 September

USDA to adjust GHG model to help ethanol get aviation fuel subsidy | Reuters

Wave Energy Gets Ready for a Big First – CleanTechnica

12 September

Wave Energy Gets Ready for a Big First - CleanTechnica

John FitzGerald: There are win-wins for farmers in the climate change battle – The Irish Times

15 September

John FitzGerald: There are win-wins for farmers in the climate change battle – The Irish Times

UCC research reveals where Cork's greenhouse gasses are being generated

13 September

Latest News | University College Cork (ucc.ie)

Kildare’s biomethane could replace all the natural gas consumed in the county, report says - Kildare Live

13 September

Kildare’s biomethane could replace all the natural gas consumed in the county, report says - Kildare Live (leinsterleader.ie)

New files shed light on ExxonMobil’s efforts to undermine climate science | US news | The Guardian

14 September

New files shed light on ExxonMobil’s efforts to undermine climate science | US news | The Guardian

Climate change is undermining nearly all sustainable development goals, says report

14 September

Climate change is undermining nearly all sustainable development goals, says report (phys.org)

Livestock sector needs to 'exploit' opportunities to hold more nitrogen - report - Agriland.ie

15 September

Livestock sector needs to 'exploit' opportunities to hold more nitrogen - report - Agriland.ie

Taoiseach to seek meeting with EU Commission on nitrates derogation after meeting farmers
15 September
Taoiseach to seek meeting with EU Commission on nitrates derogation after meeting farmers (thejournal.ie)

Scientists create process to upcycle plastics into energy-storage liquids using light-emitting diodes
13 September
Scientists create process to upcycle plastics into energy-storage liquids using light-emitting diodes (phys.org)
DOI: 10.1016/j.chempr.2023.07.008

Researchers use carbon capture and utilization technology to recycle industrial carbon dioxide
14 September
Researchers use carbon capture and utilization technology to recycle industrial carbon dioxide (phys.org)
DOI: 10.1016/j.cej.2023.143684

Cement is everywhere. The industry is turning to carbon capture to curb emissions, and it's not alone
16 September
Cement is everywhere. The industry is turning to carbon capture to curb emissions, and it's not alone | CBC News

Sublime Systems Receives ASTM Certification for Low Carbon Cement
17 September
Sublime Systems Receives ASTM Certification For Low Carbon Cement - CleanTechnica

Renewables are cheaper than ever yet fossil fuel use is still growing – here's why — The Conversation
19 September
Renewables are cheaper than ever yet fossil fuel use is still growing – here's why (theconversation.com)

This 200-Year-Old Technology Could Revolutionize the Future of Heating
18 September
This 200-Year-Old Technology Could Revolutionize the Future of Heating (inverse.com)

UK absent from key international statement on climate action | Climate crisis | The Guardian
20 September
https://www.theguardian.com/environment/2023/sep/20/uk-absent-from-key-international-statement-on-climate-action-un-summit

Engineers Want to Make Methanol by Pulling Carbon Right Out of the Air - Universe Today
15 September
Engineers Want to Make Methanol by Pulling Carbon Right Out of the Air - Universe Today

Watch "System 03 Delivers: Our Biggest Plastic Extraction…" on YouTube
21 September
https://youtu.be/wjF0gB29OG4

Explained: How carbon capture and storage projects work – Channel 4 News(Video)
19 September
Explained: How carbon capture and storage projects work – Channel 4 News

MIT's Biomass Breakthrough: 100% Sustainable Jet Fuel from Plant Waste
20 September
MIT's Biomass Breakthrough: 100% Sustainable Jet Fuel From Plant Waste (scitechdaily.com)
DOI: 10.1016/j.joule.2022.08.005

Two thirds of general waste could've been recycled or composted, EPA finds
22 September
Two thirds of general waste could've been recycled or composted, EPA finds (thejournal.ie)

https://www.businessinsider.com/universities-ditch-ai-detectors-over-fears-students-falsely-accused-cheating-2023-9?r=US&IR=T
22 September
China Says Fossil Fuel Phase-Out Is Unrealistic | OilPrice.com

Building food and agriculture businesses for a green future
19 September
Building food and agriculture businesses for a green future | McKinsey

UAE oil company executives working with Cop28 team, leak reveals | Cop28 | The Guardian
22 September
UAE oil company executives working with Cop28 team, leak reveals | Cop28 | The Guardian

Bill Gates on climate change: Planting trees is 'complete nonsense' | Fortune
22 September
Bill Gates on climate change: Planting trees is 'complete nonsense' | Fortune

Will E-Fuels Change The Way We Fly? | IFL Science
22 September
Will E-Fuels Change The Way We Fly? | IFLScience

What's being done to take 'forever chemicals' out of our water?
22 September
What's being done to take 'forever chemicals' out of our water? (rte.ie)

Range of pesticides, including neonicotinoids, found in pollen of different bee species
19 September
Range of pesticides, including neonicotinoids, found in pollen of different bee species (phys.org)
DOI: 10.1016/j.scitotenv.2023.166214

Blue carbon: The potential of coastal and oceanic climate action | McKinsey
13 May 2022
Blue carbon: The potential of coastal and oceanic climate action | McKinsey

Limerick's biomethane could replace all the natural gas consumed in the county
24 September
Limerick's biomethane could replace all the natural gas consumed in the county (limerickpost.ie)

SCIENTISTS INVENT GAME-CHANGING WAY TO MAKE CLEAN ENERGY EVEN CLEANER: 'WE WANT TO BE GOOD CITIZENS FOR EVERYBODY'
26 September
Scientists invent game-changing way to make clean energy even cleaner: 'We want to be good citizens for everybody' (thecooldown.com)

Meeting climate change goals is still possible with renewable energy and EVs : NPR
26 September
Meeting climate change goals is still possible with renewable energy and EVs : NPR

Green fuels in shipping face major challenges for 2050 net zero target
27 September
Green fuels in shipping face major challenges for 2050 net zero target (theconversation.com)

•Net zero goal still alive, says IEA – but the world still faces major obstacles to reach it
27 September
Net zero goal still alive, says IEA – but the world still faces major obstacles to reach it (theconversation.com)

A glass of wine with your climate crisis? - Bulletin of the Atomic Scientists
26 September
A glass of wine with your climate crisis? - Bulletin of the Atomic Scientists (thebulletin.org)

The green energy surge still isn't enough for 1.5 degrees. We'll have to overshoot, adapt and soak up carbon dioxide
28 September
The green energy surge still isn't enough for 1.5 degrees. We'll have to overshoot, adapt and soak up carbon dioxide (theconversation.com)

'Make-or-break moment' for decarbonisation in Europe
28 September
'Make-or-break moment' for decarbonisation in Europe (irishexaminer.com)

Microplastics in clouds may be contributing to climate change, research suggests | Science & Tech News | Sky News
28 September
Microplastics in clouds may be contributing to climate change, research suggests | Science & Tech News | Sky News

Analysis: Wind power industry drifts off course | Reuters
28 September
Analysis: Wind power industry drifts off course | Reuters

Biofuels Vs Synthetic Fuels: The Five Points That Favor Waste Biomass to Fuels – CleanTechnica
27 September
Biofuels Vs Synthetic Fuels: The Five Points That Favor Waste Biomass To Fuels - CleanTechnica

We've Been Overlooking a Major Part of Climate Change, And It's Sending Warning Signs : ScienceAlert
3 October 2023
We've Been Overlooking a Major Part of Climate Change, And It's Sending Warning Signs : ScienceAlert and
Soil heat extremes can outpace air temperature extremes
21 September
Soil heat extremes can outpace air temperature extremes | Nature Climate Change
DOI: https://doi.org/10.1038/s41558-023-01812-3
Ranked: The Most Carbon-Intensive Sectors in the World
1 October

Ranked: The Most Carbon-Intensive Sectors in the World (visualcapitalist.com)

Carbon Capture Method Plucks Carbon Dioxide Straight from the Air

4 October

Carbon Capture Method Plucks Carbon Dioxide Straight From the Air | Technology Networks

DOI: 10.1021/acs.est.3c02543

Climate action to hit public purse by €5.5bn a year by end of decade - IFAC – The Irish Times

4 October

Climate action to hit public purse by €5.5bn a year by end of decade - IFAC – The Irish Times

Doubly oxidised carbene tests the limits of the octet rule | Research | Chemistry World

3 October

Doubly oxidised carbene tests the limits of the octet rule | Research | Chemistry World

DOI: 10.1038/s41586-023-06539-x

How traders can capture value in sustainable fuels | McKinsey

4 October

How traders can capture value in sustainable fuels | McKinsey

New research finds that ancient carbon in rocks releases as much carbon dioxide as the world's volcanoes

4 October

New research finds that ancient carbon in rocks releases as much carbon dioxide as the world's volcanoes (phys.org)

DOI: 10.1038/s41586-023-06581-9

Biodegradable bags not currently recommended for recycling organic waste

4 October

Biodegradable bags not currently recommended for recycling organic waste (phys.org)

ESB joins Simply Blue Group on Saoirse Wave Energy project - TechCentral.ie

5 October

https://www.techcentral.ie/esb-joins-simply-blue-group-on-saoirse-wave-energy-project

How dormant plant traits could be reawakened to unlock fertiliser-free farming — The Conversation

5 October

How dormant plant traits could be reawakened to unlock fertiliser-free farming (theconversation.com)

New sustainable way to synthesize vital fertilizer.

4 October

New sustainable way to synthesize vital fertilizer (phys.org)

DOI: 10.1002/adfm.202305894

Organic molecule from trees excels at seeding clouds, CERN study reveals – Physics World

5 October

https://physicsworld.com/a/organic-molecule-from-trees-excels-at-seeding-clouds-cern-study-reveals

DOI: 10.1126/sciadv.adi5297

Rock organic carbon oxidation CO_2 release offsets silicate weathering sink | Nature

4 October

Rock organic carbon oxidation CO2 release offsets silicate weathering sink | Nature
DOI: https://doi.org/10.1038/s41586-023-06581-9

Scaling up global grid-scale Storage to 80GW/year (it was 16GW in 2022) - Energy Post

3 October
https://energypost.eu/scaling-up-global-grid-scale-storage-to-80gw-year-it-was-16gw-in-2022

Electrochemical Carbon Capture: a cheaper one-step process, power by clean energy - Energy Post

4 October
Electrochemical Carbon Capture: a cheaper one-step process, power by clean energy - Energy Post

Fossil-fuel industry embrace raises alarm bells over direct air capture | Reuters

10 October
Fossil-fuel industry embrace raises alarm bells over direct air capture | Reuters

Carbon Capture Done Right: The Age of Non-Cement Concrete

11 October
Carbon Capture Done Right: The Age Of Non-Cement Concrete (cleantechnica.com)

From air to your plate: tech startups making food from atmospheric CO2 | Nature Biotechnology

26 September
From air to your plate: tech startups making food from atmospheric CO2 | Nature Biotechnology
DOI: https://doi.org/10.1038/s41587-023-01992-5

IAEA Climate Change Conference Ends with Appeal for 'Level Playing Field' for Low Carbon Nuclear Power

13 October
IAEA Climate Change Conference Opens as Agency Unveils Even Brighter Nuclear Outlook | IAEA

Plans for new deep-water Bremore Ireland Port outlined

11 October
https://www.rte.ie/news/business/2023/1011/1410255-bremore-ireland-port-plans

How Could the IPCC Make an Error this Large?

11 October
How Could the IPCC Make an Error this Large? (substack.com)

Maersk Green Methanol Plans Won't Decarbonize Methanol Much – CleanTechnica

13 October
Maersk Green Methanol Plans Won't Decarbonize Methanol Much - CleanTechnica

Rock weathering does not act as CO2 sink – study - MINING.COM

13 October
Rock weathering does not act as CO2 sink – study - MINING.COM

Methane levels are rising - could it be nature's response to warming? | Euronews

16 October
Methane levels are rising - could it be nature's response to warming? | Euronews

Enhancing CO2 adsorption capacity of ZIF-8 by synergetic effect of high pressure and temperature

16 October

Enhancing CO2 adsorption capacity of ZIF-8 by synergetic effect of high pressure and temperature | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-44960-4

This 3D printed wind turbine design uses solar arrays for 24/7 green energy - Yanko Design

17 October
This 3D printed wind turbine design uses solar arrays for 24/7 green energy - Yanko Design

Transforming wastewater into valuable chemicals with sunlight

16 October
Transforming wastewater into valuable chemicals with sunlight (phys.org)
DOI: 10.1038/s41893-023-01233-2

Certa opens first Irish HVO biofuel station in Dublin

17 October
Certa opens first Irish HVO biofuel station in Dublin (rte.ie)

Saudi Arabia's Ambitious Decarbonization Plans | OilPrice.com

16 October
Saudi Arabia's Ambitious Decarbonization Plans | OilPrice.com

Global Emissions Predicted to Hit New High in 2023, Scientists Warn

18 October
Global Emissions Predicted to Hit New High in 2023, Scientists Warn : ScienceAlert

Brushing aside “dogma,” MacMillan Lab uses Marcus Theory to drive cobalt photocatalysis – Princeton University Department of Chemistry

17 October
Brushing aside “dogma,” MacMillan Lab uses Marcus Theory to drive cobalt photocatalysis – Princeton University Department of Chemistry

Gulf Stream weakening now 99% certain, and ramifications will be global

16 October
Gulf Stream weakening now 99% certain, and ramifications will be global | Live Science

World may have crossed solar power 'tipping point,' study suggests

17 October
World may have crossed solar power 'tipping point,' study suggests (techxplore.com)
DOI: 10.1038/s41467-023-41971-7

BASF Delivers Industrial-Scale Production of Metal Organic Frameworks for Carbon Capture

10 October
BASF Delivers Industrial-Scale Production of Metal Organic Frameworks for Carbon Capture | Chemical Processing

Massive river heat pump launched to warm thousands of homes

12 October
Massive river heat pump launched to warm thousands of homes - future Net Zero

Fuel Cell Jet Engines Feeding on SAF Are Now Actively Being Pursued – autoevolution

18 October
Fuel Cell Jet Engines Feeding on SAF Are Now Actively Being Pursued - autoevolution

Calcium promotes persistent soil organic matter by altering microbial transformation of plant litter | Nature Communications
19 October
Calcium promotes persistent soil organic matter by altering microbial transformation of plant litter | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42291-6

Carbon removal looks more promising by the day. Is methane next? - E&E News by POLITICO
19 October
Carbon removal looks more promising by the day. Is methane next? - E&E News by POLITICO (eenews.net)

Decarbonizing the Decarbonizing, Tidal Energy Project – CleanTechnica
20 October
Decarbonizing the Decarbonizing, Tidal Energy Project - CleanTechnica

Watch "Why carbon neutral cement is years away | Transfo…" on YouTube
21 October
(182) Why carbon neutral cement is years away | Transforming Business - YouTube

Unlocking opportunities for a greener and fairer world
22 October
Unlocking opportunities for a greener and fairer world (mckinsey.com)

Collectively, we spend only 45 minutes daily on the activities that produce the most pollution, researchers say
20 October
Collectively, we spend only 45 minutes daily on the activities that produce the most pollution, researchers say (phys.org)

New Marine Energy Devices Are Heaving into View
22 October
New Marine Energy Devices Are Heaving Into View (cleantechnica.com)

Scientists close the cycle on recycling mixed plastics
22 October
Scientists close the cycle on recycling mixed plastics (phys.org)
DOI: 10.1039/D3MH00801K

Turbine troubles have sent wind energy stocks tumbling — and a slew of issues remain
20 October
Turbine troubles have sent wind energy stocks tumbling — and a slew of issues remain (cnbc.com)

Global Energy Perspective 2023
18 October
Global Energy Perspective 2023 | McKinsey

Climate 'loss and damage' talks end in failure
22 October
Climate 'loss and damage' talks end in failure (phys.org)

Here’s the climate movement’s biggest mistake since the 1970s, according to the climate scientist who won the Nobel Prize alongside Al Gore | Fortune
23 October

https://fortune.com/2023/10/23/climate-movement-biggest-mistake-since-1970s-scientist-who-nobel-prize-al-gore-david-schimel

Most of the world washes their clothing by hand. elJad/Pixabay, CC BY-NC-SA Doing laundry by hand sheds just as many microfibres as machine washing – new research

24 October
Doing laundry by hand sheds just as many microfibres as machine washing – new research (theconversation.com)

Molecular Motion: Powering the Next Wave in Electricity Generation

21 October
Molecular Motion: Powering the Next Wave in Electricity Generation (scitechdaily.com)
DOI: 10.1063/5.0169055

From Bill Gates to the pope, talk of carbon capture is dividing society

25 October
From Bill Gates to the pope, talk of carbon capture is dividing society (cnbc.com)

Adding crushed rock to farmland pulls carbon out of the air, field test shows

24 October
Adding crushed rock to farmland pulls carbon out of the air, field test shows (phys.org)
DOI: 10.1088/2515-7620/acfd89

Headed to 'Potential Collapse': Alarm Bells Are Blaring in New Climate Report

24 October
Headed to 'Potential Collapse': Alarm Bells Are Blaring in New Climate Report (gizmodo.com)

Substantial halogenated organic chemicals stored in permafrost soils on the Tibetan Plateau | Nature Geoscience

23 October
Substantial halogenated organic chemicals stored in permafrost soils on the Tibetan Plateau | Nature Geoscience
DOI: https://doi.org/10.1038/s41561-023-01293-1

Ireland could have multi-billion euro green jet-fuel sector, says report | Independent.ie

25 October
Ireland could have multi-billion euro green jet-fuel sector, says report | Independent.ie

Decarbonize and create value: How incumbents can tackle the steep challenge

24 October
Decarbonize and create value: How incumbents can tackle the steep challenge | McKinsey

Exclusive: Shell cuts low-carbon jobs, scales back hydrogen in overhaul by CEO | Reuters

25 October
Exclusive: Shell cuts low-carbon jobs, scales back hydrogen in overhaul by CEO | Reuters

EPA wastewater report represents 'jaw-dropping hypocrisy' - Agriland.ie

26 October
EPA waste water report represents 'jaw-dropping hypocrisy' - Agriland.ie

To decarbonize cement, the industry needs a full transformation | Canary Media

24 October

https://www.canarymedia.com/articles/clean-industry/to-decarbonize-cement-the-industry-needs-a-full-transformation

Anaerobic digestion bill proposed to develop a nationwide plan - Agriland.ie

25 October
Anaerobic digestion bill proposed to develop a nationwide plan - Agriland.ie

How can we recycle the dirty byproduct from coal power stations?

23 October
How can we recycle the dirty byproduct from coal power stations? (rte.ie)

Further action to cut methane emissions from livestock - GOV.UK

26 October
Further action to cut methane emissions from livestock - GOV.UK (www.gov.uk)

Biodegradation of PET by the membrane-anchored PET esterase from the marine bacterium Rhodococcus pyridinivorans P23 | Communications Biology

27 October
Biodegradation of PET by the membrane-anchored PET esterase from the marine bacterium Rhodococcus pyridinivorans P23 | Communications Biology (nature.com)
DOI: https://doi.org/10.1038/s42003-023-05470-1

1,500GW of Renewables deployment delayed globally because Grids aren't modernising fast enough - Energy Post

24 October
1,500GW of Renewables deployment delayed globally because Grids aren't modernising fast enough - Energy Post

Green Methanol: an alternative fuel for heavy vehicles and shipping? - Energy Post

25 October
Green Methanol: an alternative fuel for heavy vehicles and shipping? - Energy Post

Can concrete dust help to fight climate change? This Irish startup is trying it out on US farmland | Euronews

27 October
Can concrete dust help to fight climate change? This Irish startup is trying it out on US farmland | Euronews

Ranked: The Foods with the Largest Environmental Impact

27 October
Ranked: The Foods With the Largest Environmental Impact (visualcapitalist.com)

How a planning blockage is threatening Ireland's wind farm industry

31 October
How a planning blockage is threatening Ireland's wind farm industry (thejournal.ie)

What polar bears can teach us about climate change & more

29 October
What polar bears can teach us about climate change (mckinsey.com)

Study shows support for carbon removal but great concern over solar manipulation

30 October
Study shows support for carbon removal but great concern over solar manipulation (phys.org)
DOI: 10.1016/j.gloenvcha.2023.102765

Revolutionizing Transportation: Sweden's Electric Roads
26 October
Revolutionizing Transportation: Sweden's Electric Roads (interestingengineering.com)

Forests are vital to protect the climate, yet the world is falling far behind its targets
1 November
https://theconversation.com/forests-are-vital-to-protect-the-climate-yet-the-world-is-falling-far-behind-its-targets-216703

What's standing in the way of sustainable steel?
1 November
What's standing in the way of sustainable steel? (techxplore.com)
DOI: 10.1073/pnas.2305097120

Report finds 'huge' losses of nitrogen to the environment - Agriland.ie
2 November
Report finds 'huge' losses of nitrogen to the environment - Agriland.ie

New service allows people to check Irish air quality
3 November
New service allows people to check Irish air quality (rte.ie)

Meat 'inefficient' in feeding growing world population - study - Agriland.ie
2 November
Meat 'inefficient' in feeding growing world population - study - Agriland.ie

Annual Energy Efficiency improvements must double to meet climate targets. We know how to do it
31 October
Annual Energy Efficiency improvements must double to meet climate targets. We know how to do it - Energy Post

Light can evaporate water faster than heat, MIT finds
1 November
Light can evaporate water faster than heat, MIT finds (interestingengineering.com)

Decarbonizing Mobility Forum: Amsterdam 2023 Outcomes Report
26 October
Decarbonizing Mobility Forum: Amsterdam 2023 Outcomes Report | McKinsey

Plastic waste in rivers may carry dangerous microbes: Study
4 November
Plastic waste in rivers may carry dangerous microbes: Study (phys.org)
DOI: 10.1186/s40168-023-01662-3

New method to recycle adsorbents in wastewater treatment
2 November
New method to recycle adsorbents in wastewater treatment (phys.org)

Laying the Foundation for Carbon Dioxide Reduction - UConn Today
1 November
Laying the Foundation for Carbon Dioxide Reduction - UConn Today

New CO2 to CO tech boosts eco-friendly steel production, Energy News, ET EnergyWorld

6 November
New CO2 to CO tech boosts eco-friendly steel production, Energy News, ET EnergyWorld (indiatimes.com)

A cool future for freeze desalination
30 June 2023
A cool future for freeze desalination | KU Explorer

Why a climate researcher pushed the limits of low-carbon travel — and his employer's patience
8 November
Why a climate researcher pushed the limits of low-carbon travel — and his employer's patience (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03496-3

Innovation awards finalist: NEG8 Carbon creates a compact modular system to capture CO2 – The Irish Times
8 November
Innovation awards finalist: NEG8 Carbon creates a compact modular system to capture CO2 – The Irish Times

Luminous 'mother-of-pearl' clouds explain why climate models miss so much Arctic and Antarctic warming
7 November
Luminous 'mother-of-pearl' clouds explain why climate models miss so much Arctic and Antarctic warming (theconversation.com)

'Insanity': petrostates planning huge expansion of fossil fuels, says UN report | Fossil fuels | The Guardian
8 November
'Insanity': petrostates planning huge expansion of fossil fuels, says UN report | Fossil fuels | The Guardian

Wind generated 31% of electricity needs in October
7 November
Wind generated 31% of electricity needs in October (rte.ie)

China launches three-year plan for promoting bamboo as an eco-friendly substitute for plastics, according to the National Forestry and Grassland Administration - Global Times
7 November
China launches three-year plan for promoting bamboo as an eco-friendly substitute for plastics, according to the National Forestry and Grassland Administration - Global Times

We're Disrupting Another Major Earth Cycle, And No One's Talking About It: ScienceAlert
5 November
We're Disrupting Another Major Earth Cycle, And No One's Talking About It : ScienceAlert
DOI: https://doi.org/10.1038/s43017-023-00485-y

Scaling up Carbon Capture, Utilization and Storage for Sustainable Architecture | ArchDaily
6 November
Scaling up Carbon Capture, Utilization and Storage for Sustainable Architecture | ArchDaily

Gently down the stream: Carbon's journey from land to sea and beyond
7 November
Gently down the stream: Carbon's journey from land to sea and beyond (phys.org)

DOI: 10.1029/2023GB007776

Engineers cook up a new way to tackle CO2: Make baking soda
6 November
Engineers cook up a new way to tackle CO2: Make baking soda (snexplores.org)
DOI: 10.1126/sciadv.adg1956 and DOI: https://doi.org/10.1787/bbd20707-en

World's biggest tidal energy 'kite' could power a small town
10 November
World's biggest tidal energy 'kite' could power a small town (thenextweb.com)

Talks needed over density of offshore windfarms in Europe, warn experts | Wind power | The Guardian
10 November
Talks needed over density of offshore windfarms in Europe, warn experts | Wind power | The Guardian

Floating factories of artificial leaves could make green fuel for jets and ships | Greenhouse gas emissions | The Guardian
10 November
https://www.theguardian.com/environment/2023/nov/12/floating-factories-artificial-leaves-green-fuel-jets-ships-carbon-dioxide

Massive Swedish tidal kite, 1.2MW Dragon 12 tests ready for operation
10 November
Massive Swedish tidal kite, 1.2MW Dragon 12 tests ready for operation (interestingengineering.com)

Could 'wind trees' with micro turbines be a solution to green energy in tight urban spaces? | Euronews
12 November
Could 'wind trees' with micro turbines be a solution to green energy in tight urban spaces? | Euronews

Ten key requirements for a systemic approach to climate adaptation
8 November
Ten key requirements for a systemic approach to climate adaptation | McKinsey

Curbing demand for plastics is best way to overcome problem
12 November
Curbing demand for plastics is best way to overcome problem (cosmosmagazine.com)

4 Key Actions to Help Decarbonize the Chemical Industry
9 November
4 Key Actions To Help Decarbonize The Chemical Industry (forbes.com)

Flattening the solar duck: Why households should also face negative export tariffs | RenewEconomy
13 November
Flattening the solar duck: Why households should also face negative export tariffs | RenewEconomy

Eco Material's Sustainable Green Cement Is Transforming Construction
13 November
Eco Material's Sustainable Green Cement Is Transforming Construction (forbes.com)

Green Genius: MIT and Harvard Engineers Transform CO2 Into Formate Fuel
9 November
Green Genius: MIT and Harvard Engineers Transform CO2 Into Formate Fuel (scitechdaily.com)

DOI: 10.1016/j.xcrp.2023.101662

Government to provide gas storage facility to bolster energy reserve – The Irish Times

14 November
Government to provide gas storage facility to bolster energy reserve – The Irish Times

New Floating Offshore Wind Turbine Showcases Vertical Axis Tech

14 November
https://cleantechnica.com/2023/11/14/new-floating-offshore-wind-turbine-features-vertical-axis-technology

Henrik Henriksson: Rapidly scaling a green steel start-up

14 November
Henrik Henriksson: Scaling a green steel start-up | McKinsey

EU now has 9,000+ "energy communities": smart, decentralised, flexible generation and consumption

13 November
EU now has 9,000+ "energy communities": smart, decentralised, flexible generation and consumption - Energy Post

IMF adds climate change to its economic risk assessments, pilots new lending tools

14 November
IMF adds climate change to its economic risk assessments, pilots new lending tools - Energy Post

Plan-led approach will make Ireland a renewable energy powerhouse, says Minister Ryan

17 November
Plan-led approach will make Ireland a renewable energy powerhouse, says Minister Ryan (irishexaminer.com)

Gillian O'Sullivan: We used 32pc less N, grew more grass and saved €5k by switching to foliar nitrogen | Independent.ie

17 November
Gillian O'Sullivan: We used 32pc less N, grew more grass and saved €5k by switching to foliar nitrogen | Independent.ie

New York's Beehives Are Contaminated with Pesticides

10 November
New York's Beehives Are Contaminated With Pesticides | Technology Networks
DOI: 10.1177/10406387231203965

'Electrocaloric' heat pump could transform air conditioning

20 November
'Electrocaloric' heat pump could transform air conditioning (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03595-1

Biomethane successfully injected into NI gas supply

21 November
Biomethane successfully injected into NI gas supply (rte.ie)

Why reuse is not the silver bullet to true circular economy in Europe | Euronews

20 November
Why reuse is not the silver bullet to a circular economy in Europe | Euronews

Progress on renewable projects 'much slower than expected' – The Irish Times

20 November

https://www.irishtimes.com/business/2023/11/20/progress-on-renewable-projects-much-slower-than-expected

In September we went past 1.5 degrees. In November, we tipped over 2 degrees for the first time. What's going on?
21 September
In September we went past 1.5 degrees. In November, we tipped over 2 degrees for the first time. What's going on? (theconversation.com)

Dust: the tiny substance with enormous power
17 November
Dust: the tiny substance with enormous power (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03588-0

COP28 turns attention to potent methane emissions
21 November
COP28 turns attention to potent methane emissions (rte.ie)

Methane reducing feed additive 'could be cost neutral' despite €50/cow price tag | Independent.ie
21 November
https://m.independent.ie/farming/news/methane-reducing-feed-additive-could-be-cost-neutral-despite-50cow-price-tag/a1871691759.html

Recycling won't solve the plastic problem. Here's what will. | The Hill
21 November
Recycling won't solve the plastic problem. Here's what will. | The Hill

Adding calcium to soils can help increase organic matter, trap more carbon
20 November
Adding calcium to soils can help increase organic matter, trap more carbon (phys.org)
DOI: 10.1038/s41467-023-42291-6

Carbon-dioxide-removal options are multiplying (Subscription)
20 November
Carbon-dioxide-removal options are multiplying (economist.com)

The world's 280 million electric bikes and mopeds are cutting demand for oil far more than electric cars
16 November
The world's 280 million electric bikes and mopeds are cutting demand for oil far more than electric cars (theconversation.com)

For developing world to quit coal, rich countries must eliminate oil and gas faster – new study
17 February 2023
For developing world to quit coal, rich countries must eliminate oil and gas faster – new study (theconversation.com)

Is it too late to keep global warming below 1.5°C? The challenge in 7 charts
21 November
Is it too late to keep global warmingbelow 1.5 °C?The challenge in 7 charts (nature.com)

David Armstrong McKay, climate crisis researcher: 'We need to start adapting for the worst-case scenarios'
18 November

David Armstrong McKay, climate crisis researcher: 'We need to start adapting for the worst-case scenarios' | Climate | EL PAÍS English (elpais.com)

More efficient electrodes for carbon dioxide recycling

17 November

More efficient electrodes for carbon dioxide recycling (techxplore.com)

DOI: 10.1038/s41467-023-42348-6

Cavan's first CNG refuelling station officially opens | NorthernSound

22 November

Cavan's first CNG refuelling station officially opens | NorthernSound

Climate: A UAE company has secured African land the size of the UK for controversial carbon offset projects | CNN

23 November

Blue Carbon: A UAE company has secured African land the size of the UK for controversial carbon offset projects | CNN

Perceived feasibility and potential barriers of a net-zero system transition among Japanese experts | Communications Earth & Environment

23 November

Perceived feasibility and potential barriers of a net-zero system transition among Japanese experts | Communications Earth & Environment (nature.com)

DOI: https://doi.org/10.1038/s43247-023-01079-8

Explainer: Why carbon capture is no easy solution to climate change | Reuters

22 November

Explainer: Why carbon capture is no easy solution to climate change | Reuters

New Floating Offshore Wind Turbine Showcases Vertical Axis Tech

17 November

New Floating Offshore Wind Turbine Showcases Vertical Axis Tech (cleantechnica.com)

Why we need a European Central Carbon Bank within the EU ETS framework

20 November

Why we need a European Central Carbon Bank within the EU ETS framework - Energy Post

Oil and gas industry needs to let go of carbon capture as solution to climate change, IEA says

23 November

Oil and gas industry needs to let go of carbon capture as solution to climate change, IEA says (cnbc.com)

Wave devouring propulsion: A green technology for maritime sustainability

24 November

Wave devouring propulsion: A green technology for maritime sustainability (techxplore.com)

DOI: 10.1016/j.rser.2023.113589

How coal power plants can go green with Carnot batteries

24 November

How coal power plants can go green with Carnot batteries (interestingengineering.com)

Air-Conditioning Discovery Eliminates Harmful Gases | Scientific American

20 November

'Electrocaloric' heat pump could transform air conditioning (nature.com)

DOI: https://doi.org/10.1038/d41586-023-03595-1

Biggest aircraft since the Hindenburg cleared for test flights - Big Think
25 November
Biggest aircraft since the Hindenburg cleared for test flights - Big Think

Three positive climate developments
24 November
Three positive climate developments (phys.org)

Tea Extracts Amplify Silver Nanoparticles' Antimicrobial Power
20 November
Tea Extracts Amplify Silver Nanoparticles' Antimicrobial Power (azonano.com)
DOI: doi.org/10.1039/D3NA00220A

Global Energy Perspective 2023
18 October
Global Energy Perspective 2023 | McKinsey

Gene Editing and CRISPR

Gene responsible for blood sugar regulation identified in diabetes research - Doha News | Qatar
2 September
Gene responsible for blood sugar regulation identified in diabetes research - Doha News | Qatar

Potent Substance Discovered by Scientists May Evade Antibiotic Resistance : ScienceAlert
4 September
https://www.sciencealert.com/potent-substance-discovered-by-scientists-may-evade-antibiotic-resistance

CRISPR imaging reveals chromatin fluctuation at the centromere region related to cellular senescence | Scientific Reports
5 September
CRISPR imaging reveals chromatin fluctuation at the centromere region related to cellular senescence | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-41770-6

CRISPR used to 'reprogram' cancer cells into healthy muscle in the lab | Live Science
5 September
CRISPR used to 'reprogram' cancer cells into healthy muscle in the lab | Live Science

Programmable RNA detection with CRISPR-Cas12a | Nature Communications
5 September
Programmable RNA detection with CRISPR-Cas12a | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41006-1

CRISPR Advances Cardiovascular Disease Research | Drug Discovery News
1 October 2021
CRISPR Advances Cardiovascular Disease Research | Drug Discovery News

Prime Editing Comes of Age | The Scientist Magazine(R)
8 September
DOI: https://www.the-scientist.com/methods/prime-editing-comes-of-age-71328

Chinese scientists have developed a new gene-editing tool that doesn’t use CRISPR | South China Morning Post
9 September
Chinese scientists have developed a new gene-editing tool that doesn’t use CRISPR | South China Morning Post (scmp.com)

Scientists Identify Two New Genes That Cause Resistance to Chemotherapy
4 December
Scientists Identify Two New Genes That Cause Resistance to Chemotherapy | Technology Networks
DOI: 10.1186/s12943-023-01846-3

A NICER approach to genome editing
15 September
A NICER approach to genome editing (phys.org)
DOI: 10.1038/s41467-023-41048-5

A gene therapy hope for halting Huntington’s disease

20 September
A gene therapy hope for halting Huntington's disease | Drug Discovery News

Where Will CRISPR Therapeutics Be in 5 Years?

19 September
Where Will CRISPR Therapeutics Be in 5 Years? | The Motley Fool

Smallest Known CRISPR System Could Be Used to Shred Viruses | Technology Networks

27 September
Smallest Known CRISPR System Could Be Used To Shred Viruses | Technology Networks
DOI: 10.1038/s41467-023-41501-5

Arrayed CRISPR Screening for Revolutionizing Target Discovery

27 September
Arrayed CRISPR Screening for Revolutionizing Target Discovery (news-medical.net)

Genetically engineered, plastic-eating bacteria can give waste a new life

27 September
Genetically engineered, plastic-eating bacteria can give waste a new life (phys.org)
DOI: 10.1038/s41467-023-40777-x

Newly engineered CRISPR enzyme for editing DNA could improve patient treatment

29 September
Newly engineered CRISPR enzyme for editing DNA could improve patient treatment (phys.org)
DOI: 10.1016/j.cell.2023.08.031

New CRISPR tool has an "on/off" switch

1 October
New base editor has an "on/off" switch (freethink.com)

New CRISPR system is 66% smaller but just as powerful

7 October
New CRISPR system is 66% smaller but just as powerful (freethink.com)

Gene therapies for rare diseases are under threat. Scientists hope to save them

6 October
Gene therapies for rare diseases are under threat. Scientists hope to save them (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03109-z

Combining compact human protein domains with CRISPR systems for robust gene activation | Nature Methods

9 October
Combining compact human protein domains with CRISPR systems for robust gene activation | Nature Methods
DOI: https://doi.org/10.1038/s41592-023-02038-z

The same lab that cloned Dolly the sheep has used gene editing to create chickens resistant to avian flu

10 October
The same lab that cloned Dolly the sheep has used gene editing to create chickens resistant to avian flu | Science | EL PAÍS English (elpais.com)

Hair Turns Gray Due to Stuck Stem Cells | The Scientist Magazine(R)

8 September

Hair Turns Gray Due to Stuck Stem Cells | The Scientist Magazine® (the-scientist.com)

CRISPR editing in the lung with novel lipids | Nature Biotechnology

30 March
CRISPR editing in the lung with novel lipids | Nature Biotechnology
DOI: https://doi.org/10.1038/s41587-023-01744-5

Emerging non-viral vectors for gene delivery | Journal of Nanobiotechnology | Full Text

17 August
Emerging non-viral vectors for gene delivery | Journal of Nanobiotechnology | Full Text (biomedcentral.com)
DOI: https://doi.org/10.1186/s12951-023-02044-5

Rules Of DNA "Rewritten" By Tiny Organism Discovered in A Pond | IFLScience

14 October
Rules Of DNA "Rewritten" By Tiny Organism Discovered In A Pond | IFLScience
DOI: https://doi.org/10.1371/journal.pgen.10109131

An anti-CRISPR system that helps save viruses from destruction

18 October
An anti-CRISPR system that helps save viruses from destruction (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03265-2

Most of today's gene therapies rely on viruses — and that's a problem

20 October
Most of today's gene therapies rely on viruses — and that's a problem (sciencenews.org)

Hope as Ge
rman researchers discover baldness genes 'for first time ever' - Irish Mirror Online

22 October
Hope as German researchers discover baldness genes 'for first time ever' - Irish Mirror Online

Genome rewriting generates mouse models of human diseases

1 November
Genome rewriting generates mouse models of human diseases (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03079-2

Gene editing has had a big week in the spotlight. Here's what's going on

1 November
Readout Newsletter: Updates on GSK, Vertex, and Cytokinetics (statnews.com)

Study reveals how formaldehyde alters gene expression through epigenetics

2 November
Study reveals how formaldehyde alters gene expression through epigenetics (news-medical.net)

CRISPR cure for HIV now tested in 3 patients - Big Think

29 October
CRISPR cure for HIV now tested in 3 people (freethink.com)

Gene editing technology expected to be a top focus for National-led Government - NZ Herald

7 November
Gene editing technology expected to be a top focus for National-led Government - NZ Herald

Engineered yeast breaks new record: a genome with over 50% synthetic DNA

8 November
Engineered yeast breaks new record: a genome with over 50% synthetic DNA (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03495-4

Engineered yeast breaks new record: a genome with over 50% synthetic DNA

8 November
Engineered yeast breaks new record: a genome with over 50% synthetic DNA (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03495-4

Scientists use quantum biology, AI to sharpen genome editing tool

8 November
Scientists use quantum biology, AI to sharpen genome editing tool (phys.org)
DOI: 10.1093/nar/gkad736

Can gene editing drive out HIV and hepatitis viruses from inside cells? | Nature Biotechnology

30 October
Can gene editing drive out HIV and hepatitis viruses from inside cells? | Nature Biotechnology
DOI: https://doi.org/10.1038/s41587-023-02022-0

DNA writing technologies moving toward synthetic genomes | Nature Biotechnology

26 October
DNA writing technologies moving toward synthetic genomes | Nature Biotechnology
DOI: https://doi.org/10.1038/s41587-023-02006-0

Move Over, CRISPR: Algae and Snails Are Hiding Gene Editing Superpowers

11 November
Move Over, CRISPR: Algae and Snails Are Hiding Gene Editing Superpowers (scitechdaily.com)
DOI: 10.1126/sciadv.adk0171

First trial of 'base editing' in humans lowers cholesterol — but raises safety concerns

13 November
First trial of 'base editing' in humans lowers cholesterol — but raises safety concerns (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03543-z

Bridging Disciplines to Study CRISPR-Induced Chromosome Destabilization

8 April 2022
Bridging Disciplines to Study CRISPR-Induced Chromosome Destabilization | The Scientist Magazine® (the-scientist.com)

New form of CRISPR offers fresh gene editing options for aquaculture | The Fish Site

15 November
CAT and C4U Bring CRISPR-Cas3 to Aquaculture - (aquatechcenter.com)

UK first to approve CRISPR treatment for diseases: what you need to know

16 November
UK first to approve CRISPR treatment for diseases: what you need to know (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03590-6

CRISPR pioneers react to Casgevy, first gene-editing treatment – STAT (Subscription)

19 November
CRISPR pioneers react to Casgevy, first gene-editing treatment - STAT (statnews.com)

CRISPR-based cholesterol treatment works in small study

20 November

CRISPR-based cholesterol treatment works in small study (freethink.com)

Advancing viticulture: Pioneering transgene-free CRISPR genome editing in grapevines

21 November

Advancing viticulture: Pioneering transgene-free CRISPR genome editing in grapevines (phys.org)

DOI: 10.1093/hr/uhac240

'Treasure trove' of new CRISPR systems holds promise for genome editing

23 November

'Treasure trove' of new CRISPR systems holds promise for genome editing (nature.com)

DOI: https://doi.org/10.1038/d41586-023-03697-w

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

Could National Hydrogen Plan solve the energy crisis? | Today with Claire Byrne - RTÉ Radio 1

1 September
https://www.rte.ie/radio/radio1/clips/22293469/

Chemical engineers draft a roadmap for research into metallic 'sponges' for clean hydrogen

1 September
Chemical engineers draft a roadmap for research into metallic 'sponges' for clean hydrogen (phys.org)
DOI: 10.26599/POM.2023.9140030

New catalyst decreases the energy required to split hydrogen gas from water

6 September
New catalyst decreases the energy required to split hydrogen gas from water (phys.org)
DOI: 10.26599/NRE.2023.9120086

Efficient and sustainable water electrolysis achieved by excess electron reservoir enabling charge replenishment to catalysts | Nature Communications

5 Sept
Efficient and sustainable water electrolysis achieved by excess electron reservoir enabling charge replenishment to catalysts | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41102-2

Nanocomposite-based electrocatalyst for alkaline overall water splitting at low cell voltage for hydrogen production

30 August
Nanocomposite-based electrocatalyst for alkaline overall water splitting at low cell voltage for hydrogen production (phys.org)
DOI: 10.1021/acscatal.3c02096

Impact of proposed hydrogen plant raises concerns of rural County Sligo community | Independent.ie

7 September
Impact of proposed hydrogen plant raises concerns of rural County Sligo community | Independent.ie

Safe Tanks for Hydrogen Vehicles - Hydrogen Central

6 September
Safe Tanks For Hydrogen Vehicles - Hydrogen Central (hydrogen-central.com)

'Seriously underestimated' | Vast amounts of hydrogen will be required for back-up power in net-zero system: study

11 September
'Seriously underestimated' | Vast amounts of hydrogen will be required for back-up power in net-zero system: study | Hydrogen news and intelligence (hydrogeninsight.com)

G20 leaders’ declaration on hydrogen suggests US will adopt similar rules to EU on green H2 production

11 September
G20 leaders’ declaration on hydrogen suggests US will adopt similar rules to EU on green H2 production | Hydrogen news and intelligence (hydrogeninsight.com)

Impossible dreams? The 11 biggest green hydrogen projects announced around the world so far | Hydrogen news and intelligence
14 September
Impossible dreams? The 11 biggest green hydrogen projects announced around the world so far | Hydrogen news and intelligence (hydrogeninsight.com)

Paper proposes a new way to understand how materials interact with hydrogen
11 September
Paper proposes a new way to understand how materials interact with hydrogen (phys.org)
DOI: 10.1103/PhysRevLett.131.108001

Everything you need to know about hydrogen cars | Autocar
15 September
Everything you need to know about hydrogen cars | Autocar

Japan green ammonia heavyweight joins giga-scale renewable hydrogen project | RenewEconomy
14 September
Japan green ammonia heavyweight joins giga-scale renewable hydrogen project | RenewEconomy

Stellantis and Aramco prove hydrogen-based e-fuels will work in road-vehicle engines despite differences with fossil equivalents | Hydrogen news and intelligence
15 September
Stellantis and Aramco prove hydrogen-based e-fuels will work in road-vehicle engines despite differences with fossil equivalents | Hydrogen news and intelligence (hydrogeninsight.com)

70 Gigatonnes – Steel Plant Upgrades Could Save Equivalent of Two Years of Global Carbon Emissions
20 September
70 Gigatonnes – Steel Plant Upgrades Could Save Equivalent of Two Years of Global Carbon Emissions (scitechdaily.com)
DOI: 10.1038/s41586-023-06486-7

Solar and hydrogen-powered aircraft will fly around the world for 20 days without stopping
19 September
solar and hydrogen-powered aircraft will fly around the world for 20 days without stopping (designboom.com)

New catalyst could see excess clean energy stored as hydrogen
21 September
New catalyst could see excess clean energy stored as hydrogen (interestingengineering.com)

Global push for clean hydrogen foiled by costs and lack of support, report finds | Hydrogen power | The Guardian
22 September
Global push for clean hydrogen foiled by costs and lack of support, report finds | Hydrogen power | The Guardian

'World first' | Rolls-Royce and Easyjet tests show 100% hydrogen combustion can power aircraft take-off | Hydrogen news and intelligence
25 September
'World first' | Rolls-Royce and Easyjet tests show 100% hydrogen combustion can power aircraft take-off | Hydrogen news and intelligence (hydrogeninsight.com)

China's largest green hydrogen project — a $4bn, 640MW ammonia/methanol facility — begins construction | Hydrogen news and intelligence

28 September

China's largest green hydrogen project — a $4bn, 640MW ammonia/methanol facility — begins construction | Hydrogen news and intelligence (hydrogeninsight.com)

Methane pyrolysis: another weird way to make hydrogen

2 October

Methane pyrolysis: another weird way to make hydrogen (cosmosmagazine.com)

Iridium Panic Soothed by New Green Hydrogen Systems – CleanTechnica

3 October

Iridium Panic Soothed By New Green Hydrogen Systems - CleanTechnica

'There are no alternatives to forever plastics for green hydrogen electrolysers', industry warns EU | Hydrogen news and intelligence

5 October

'There are no alternatives to forever plastics for green hydrogen electrolysers', industry warns EU | Hydrogen news and intelligence (hydrogeninsight.com)

Study findings may dramatically lower the cost of producing green hydrogen

4 October

Study findings may dramatically lower the cost of producing green hydrogen (techxplore.com)
DOI: 10.1039/D3EE00987D

Research team develops highly efficient solar cell that enables decentralized production of hydrogen

4 October

Research team develops highly efficient solar cell that enables decentralized production of hydrogen (techxplore.com)
DOI: 10.1016/j.xcrp.2023.101606

Dutch start-up bags €40m of EU funds to bring hybrid hydrogen electrolyser-battery to market | Hydrogen news and intelligence

11 October

Dutch start-up bags €40m of EU funds to bring hybrid hydrogen electrolyser-battery to market | Hydrogen news and intelligence (hydrogeninsight.com)

Green Energy Breakthrough: Scientists Develop Catalyst With 7.9x Higher Activity for Hydrogen Production

15 October

Green Energy Breakthrough: Scientists Develop Catalyst With 7.9x Higher Activity for Hydrogen Production (scitechdaily.com)
DOI: 10.1002/anie.202307816

MIT design would harness 40 percent of the sun's heat to produce clean hydrogen fuel | MIT News | Massachusetts Institute of Technology

16 October

MIT design would harness 40 percent of the sun's heat to produce clean hydrogen fuel | MIT News | Massachusetts Institute of Technology

World first 100% hydrogen gas turbine tested in France

15 October

World first 100% hydrogen gas turbine tested in France (interestingengineering.com)

World first as Siemens Energy burns 100% hydrogen in industrial gas turbine | Hydrogen news and intelligence

16 October

World first as Siemens Energy burns 100% hydrogen in industrial gas turbine | Hydrogen news and intelligence (hydrogeninsight.com)

Hydrogen storage slashes the cost of grid-connected green H2 production by nearly half, reports steel consortium | Hydrogen news and intelligence

17 October

https://www.hydrogeninsight.com/industrial/hydrogen-storage-slashes-the-cost-of-grid-connected-green-h2-production-by-nearly-half-reports-steel-consortium/2-1-1536424

Green hydrogen price in Europe unlikely to fall below €5/kg by 2030, putting off potential offtakers: analyst

19 October

Green hydrogen price in Europe unlikely to fall below €5/kg by 2030, putting off potential offtakers: analyst | Hydrogen news and intelligence (hydrogeninsight.com)

'Rule out hydrogen heating — it will make the energy system 18% more expensive', UK told by own advisors

18 October

'Rule out hydrogen heating — it will make the energy system 18% more expensive', UK told by own advisors | Hydrogen news and intelligence (hydrogeninsight.com)

New noble-metal-free electrocatalyst decreases the energy required to generate hydrogen gas from water

19 October

https://phys.org/news/2023-10-noble-metal-free-electrocatalyst-decreases-energy-required.html

DOI: 10.1007/s12274-023-6118-8

Hydrogen transport | EU leaders agree to slash heavy-duty vehicle emissions by 45% by 2030 | Hydrogen news and intelligence

19 October

Hydrogen transport | EU leaders agree to slash heavy-duty vehicle emissions by 45% by 2030 | Hydrogen news and intelligence (hydrogeninsight.com)

Opinion | Hydrogen as a Threat to Decarbonization | Common Dreams

21 October

Opinion | Hydrogen as a Threat to Decarbonization | Common Dreams

What’s New on The Rungs of Liebreich’s Hydrogen Ladder?

22 October

What's New On The Rungs Of Liebreich's Hydrogen Ladder? - CleanTechnica

Researchers Boost Hydrogen Fuel Cell Efficiency with Ionic Materials | OilPrice.com

26 October

Researchers Boost Hydrogen Fuel Cell Efficiency With Ionic Materials | OilPrice.com

Water-injected 2.0-liter turbo-four hydrogen engine spits out 410 hp

26 October

Water-injected 2.0-liter turbo-four hydrogen engine spits out 410 hp (newatlas.com)

A potentially cheaper and 'cooler' way to transport hydrogen

26 October
A potentially cheaper and 'cooler' way to transport hydrogen (techxplore.com)
DOI: 10.1002/chem.202302297

'Profound breakthrough' | New technology generates steady high-temperature heat from hydrogen without combustion or fuel cells | Hydrogen news and intelligence

27 October
'Profound breakthrough' | New technology generates steady high-temperature heat from hydrogen without combustion or fuel cells | Hydrogen news and intelligence (hydrogeninsight.com)

Hydrogel technology boosts efficiency and stability of gas evolution reactions

27 October
Hydrogel technology boosts efficiency and stability of gas evolution reactions (techxplore.com)
DOI: 10.1002/adfm.202308827

New Way to Get 700 C Degrees Heat and Electricity from Hydrogen.

9 November
New Way To Get 700 C Degrees Heat And Electricity From Hydrogen. (forbes.com)

Europe’s big Hydrogen ambitions won’t deliver. Stick to ammonia-fertiliser, refining, shipping, aviation (maybe later)

7 November
Europe’s big Hydrogen ambitions won’t deliver. Stick to ammonia-fertiliser, refining, shipping, aviation (maybe later) - Energy Post

Nations are on track to meet their NDC targets. The catch is those targets aren’t high enough for net zero by 2050

6 November
Nations are on track to meet their NDC targets. The catch is those targets aren’t high enough for net zero by 2050 - Energy Post

A Safety-First Blueprint for Scaling Green Hydrogen Production

9 November
A Safety-First Blueprint For Scaling Green Hydrogen Production (forbes.com)

A new storage concept with hydrogen production - 2023 - Wiley Analytical Science

9 November
A new storage concept with hydrogen production - 2023 - Wiley Analytical Science

Ambition vs reality | Only a tiny proportion of the world's clean hydrogen projects have firm offtake deals: BNEF | Hydrogen news and intelligence

14 November
Ambition vs reality | Only a tiny proportion of the world's clean hydrogen projects have firm offtake deals: BNEF | Hydrogen news and intelligence (hydrogeninsight.com)

Researchers improve water splitting reaction for green hydrogen gas production

15 November
Researchers improve water splitting reaction for green hydrogen gas production (phys.org)
DOI: 10.1016/j.apcatb.2023.123233
##

Germany and Netherlands plan €600m joint auction for green hydrogen early next year

15 November
Germany and Netherlands plan €600m joint auction for green hydrogen early next year | Hydrogen news and intelligence (hydrogeninsight.com)

Cost vs Resilience: Europe's sourcing strategy will shape the regional Hydrogen economy
15 November
Cost vs Resilience: Europe's sourcing strategy will shape the regional Hydrogen economy - Energy Post

Half of all clean hydrogen produced globally could be transported long-distance by 2030, says Hydrogen Council | Hydrogen news and intelligence
17 November
Half of all clean hydrogen produced globally could be transported long-distance by 2030, says Hydrogen Council | Hydrogen news and intelligence (hydrogeninsight.com)

PV-driven microgrid for hydrogen, cooling
17 November
PV-driven microgrid for hydrogen, cooling – pv magazine International (pv-magazine.com)

Hydrogen trucks will be more expensive to own and operate than battery equivalents in Europe until at least 2040: report | Hydrogen news and intelligence
15 October
Hydrogen trucks will be more expensive to own and operate than battery equivalents in Europe until at least 2040: report | Hydrogen news and intelligence (hydrogeninsight.com)

New ICCT Report on European Trucking Has Fatal Flaw Favoring Hydrogen – CleanTechnica
15 November
New ICCT Report On European Trucking Has Fatal Flaw Favoring Hydrogen - CleanTechnica

The British firm revolutionising hydrogen fuel cell production | Autocar
20 November
The British firm revolutionising hydrogen fuel cell production | Autocar

Scientists reiterate concerns about climate-warming hydrogen leaks – EURACTIV.com (may have to sign in after first time reading)
20 November
Scientists reiterate concerns about climate-warming hydrogen leaks – EURACTIV.com

The hunt for 'holy grail' of clean energy buried beneath the ground | The Independent
22 November
The hunt for 'holy grail' of clean energy buried beneath the ground | The Independent

Middle East & Africa to export Hydrogen to Europe? Better to make green Iron & Steel and export that
23 November
Middle East & Africa to export Hydrogen to Europe? Better to make green Iron & Steel and export that - Energy Post

Fuel Cells

Striking Gold – A Molecular Mystery Solution for Potential Clean Energy
1 September
Striking Gold – A Molecular Mystery Solution for Potential Clean Energy (scitechdaily.com)

DOI: 10.1038/s41929-023-00996-3

Toyota reveals hydrogen fuel cell electric Hilux prototype
5 September
Toyota reveals hydrogen fuel cell electric Hilux prototype

Watch "How Do Fuel Cell Vehicles Work? | Electrified Pow…" on YouTube
21 September
https://youtu.be/bXGqlGM-XYs

Fuel Cells Are Key to America's Energy Independence | OilPrice.com
30 September
Fuel Cells Are Key To America's Energy Independence | OilPrice.com

Watch "Taking the 'fossil fuels' out of fuel cells. Revolutionary new technology." on YouTube
2 October
https://youtu.be/Lnz0XB--IqA?si=XF7pY_FIxPJ2g1pQ

Zirconium Nitride Outshines Platinum in Fuel Cell Performance | OilPrice.com
5 October
Zirconium Nitride Outshines Platinum In Fuel Cell Performance | OilPrice.com

How Flash Heating Plastic Waste Could Produce Green Hydrogen and Graphene
8 October
How Flash Heating Plastic Waste Could Produce Green Hydrogen and Graphene (singularityhub.com)

Role of support bio-templating in Ni/Al2O3 catalysts for hydrogen production via dry reforming of methane | Scientific Reports
9 October
Role of support bio-templating in Ni/Al2O3 catalysts for hydrogen production via dry reforming of methane | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43782-8

Researchers use new in cobalt-modified nano material to make fuel cells more robust, sustainable
11 October
Researchers use new new cobalt-modified nano material to make fuel cells more robust, sustainable (phys.org)
DOI: 10.1021/acs.jpcc.3c04274

A Hydrogen Fuel Cell Solution for A World Awash In Feathers
22 October
A Hydrogen Fuel Cell Solution For A World Awash In Feathers (cleantechnica.com)

They went hunting for fossil fuels. What they found could help save the world | CNN
29 October
They went hunting for fossil fuels. What they found could help save the world | CNN

'Profound breakthrough' | New technology generates steady high-temperature heat from hydrogen without combustion or fuel cells
27 October
'Profound breakthrough' | New technology generates steady high-temperature heat from hydrogen without combustion or fuel cells | Hydrogen news and intelligence (hydrogeninsight.com)

Electrochemical carbon–carbon coupling with enhanced activity and racemate stereoselectivity by microenvironment regulation | Nature Communications

30 October
Electrochemical carbon–carbon coupling with enhanced activity and racemate stereoselectivity by microenvironment regulation | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42724-2

When 0.2% Methane leakage can make Gas dirtier than Coal

30 October
When 0.2% Methane leakage can make Gas dirtier than Coal - Energy Post

Swedish firm behind world's first 'fossil-free' steel pilot shelves plan for hydrogen facility at Finnish steelworks | Hydrogen news and intelligence

2 November
Swedish firm behind world's first 'fossil-free' steel pilot shelves plan for hydrogen facility at Finnish steelworks | Hydrogen news and intelligence (hydrogeninsight.com)

Has solution to climate change been buried deep in Earth all along? | The Independent

3 November
https://www.independent.co.uk/climate-change/news/hydrogen-white-gold-us-renewables-b2440021.html

New approach to water electrolysis for green hydrogen

3 November
New approach to water electrolysis for green hydrogen (phys.org)
DOI: 10.1021/acscatal.3c01497

Hydrogen plan could save taxpayer '£5bn a year' more than heat pumps

4 November
https://www.telegraph.co.uk/news/2023/11/04/net-zero-heat-pump-hydrogen-plan-heating-boiler-cadent

Green hydrogen production from Indian power grid to yield 30 kg CO2 per kg hydrogen: V K Saraswat, member, NITI Aayog, ET EnergyWorld

6 November
Green hydrogen production from Indian power grid to yield 30 kg CO2 per kg hydrogen: V K Saraswat, member, NITI Aayog, ET EnergyWorld (indiatimes.com)

This Startup Hopes Its Nanomaterial Fuel Tanks Will Jumpstart the Hydrogen Revolution

6 November
https://www.forbes.com/sites/alanohnsman/2023/11/06/this-startup-hopes-its-nanomaterial-fuel-tanks-will-jumpstart-the-hydrogen-revolution

Research team develops fast-charging hybrid microbial fuel cell and CO2 electrolyzer based on formic acid

31 October
Research team develops fast-charging hybrid microbial fuel cell and CO2 electrolyzer based on formic acid (techxplore.com)
DOI: 10.1002/anie.202312147

CEO on why natural gas infrastructure must be ready for clean hydrogen

9 November
https://www.cnbc.com/2023/11/09/ceo-on-why-natural-gas-infrastructure-must-be-ready-for-clean-hydrogen.html

Hydrogen takes centre stage in global clean energy transition - Small Caps
10 November
Hydrogen takes centre stage in global clean energy transition (smallcaps.com.au)

Powering the Future of Clean Energy: Scientists Unlock Zirconium Nitride Secrets
13 November
Powering the Future of Clean Energy: Scientists Unlock Zirconium Nitride Secrets (scitechdaily.com)
DOI: 10.1039/D3SC01827J

Silver catalysts spark a revolution in affordable fuel cells
14 November
Silver catalysts spark a revolution in affordable fuel cells (interestingengineering.com)

Making Fuel Cells cheap enough for mainstream use: can Cobalt nanoparticles replace Platinum as catalysts?
22 November
Making Fuel Cells cheap enough for mainstream use: can Cobalt nanoparticles replace Platinum as catalysts? - Energy Post

Green Ammonia

Major new fuel source 'could replace any diesel engine globally and cut all CO2 emissions'
23 October
Major new fuel source 'could replace any diesel engine' (gbnews.com)

Toyota and GAC's Groundbreaking Ammonia Engine Is Not an EV Killer – autoevolution
24 October
Toyota and GAC's Groundbreaking Ammonia Engine Is Not an EV Killer - autoevolution

Singapore a step closer to using low-carbon ammonia for bunkering, power generation | The Straits Times
25 October
Singapore a step closer to using low-carbon ammonia for bunkering, power generation | The Straits Times

Ammonia fuel offers great benefits but demands careful action, says study
8 November
Ammonia fuel offers great benefits but demands careful action, says study (techxplore.com)
DOI: 10.1073/pnas.2311728120

World's first: On-board ammonia cracking system generates pure hydrogen - Offshore Energy
21 November
World's first: On-board ammonia cracking system generates pure hydrogen - Offshore Energy (offshore-energy.biz)

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.

Solar Cell Chemistry & Technology

Selenium solar cell built with laser-annealing achieves record fill factor of 63.7% – pv magazine International

4 September
Selenium solar cell built with laser-annealing achieves record fill factor of 63.7% – pv magazine International (pv-magazine.com)

Pursuit of ultra low-cost perovskite solar with graphene wins government backing | RenewEconomy

5 September
Pursuit of ultra low-cost perovskite solar with graphene wins government backing | RenewEconomy

Flexible solar cell achieves major power conversion efficiency gains

4 September
https://techxplore.com/news/2023-09-flexible-solar-cell-major-power.html
DOI: 10.1002/adma.202305652

New perovskite material for lead-free solar cells – pv magazine International

5 September
New perovskite material for lead-free solar cells – pv magazine International (pv-magazine.com)

Linking two solar technologies is a win-win for efficiency and stability

5 September
Linking two solar technologies is a win-win for efficiency and stability (techxplore.com)
DOI: 10.1016/j.joule.2023.07.017

Tandem solar cells are the next big thing in PV – but first, some roadblocks must be cleared | RenewEconomy

11 September
Tandem solar cells are the next big thing in PV – but first, some roadblocks must be cleared | RenewEconomy

Are Perovskite Solar Cells Reaching the Efficiency and Voltage Limits? | ACS Energy Letters

8 September
Are Perovskite Solar Cells Reaching the Efficiency and Voltage Limits? | ACS Energy Letters
DOI: https://doi.org/10.1021/acsenergylett.3c01649

From solar outlier to 1TW a year: New report tips stunning perovskite progress | Renew Economy

19 September
From solar outlier to 1TW a year: New report tips stunning perovskite progress | RenewEconomy

Perovskite Stability & Solar Conversion Performance Improve in Materials with Less Bromide Migration – CleanTechnica

19 September
Perovskite Stability & Solar Conversion Performance Improve in Materials with Less Bromide Migration - CleanTechnica

Effect of the Precursor Chemistry on the Crystallization of Triple Cation Mixed Halide Perovskites | Chemistry of Materials

14 September

Effect of the Precursor Chemistry on the Crystallization of Triple Cation Mixed Halide Perovskites | Chemistry of Materials (acs.org)
DOI: https://doi.org/10.1021/acs.chemmater.3c00799

P-type solar products may be phased out by 2026 as n-type tech 'rapidly' expands – pv magazine International

21 September
https://www.pv-magazine.com/2023/09/21/p-type-solar-products-may-be-phased-out-by-2026-as-n-type-tech-rapidly-expands

Mask and plate: a scalable front metallization with low-cost potential for III–V-based tandem solar cells enabling 31.6 % conversion efficiency | Scientific Reports

21 September
Mask and plate: a scalable front metallization with low-cost potential for III–V-based tandem solar cells enabling 31.6 % conversion efficiency | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-42407-4

Fraunhofer ISE, AMOLF claim record efficiency of 36.1% for silicon-based multijunction solar cell – pv magazine International

25 September
Fraunhofer ISE, AMOLF claim record efficiency of 36.1% for silicon-based multijunction solar cell – pv magazine International (pv-magazine.com)

Ductile oligomeric acceptor enables highly efficient and mechanically robust flexible organic solar cells

28 September
Ductile oligomeric acceptor enables highly efficient and mechanically robust flexible organic solar cells (phys.org)
DOI: 10.1002/adma.202305562

Novel perovskite/CIGS tandem PV cell design promises 38.39% efficiency – pv magazine International

2 October
Novel perovskite/CIGS tandem PV cell design promises 38.39% efficiency – pv magazine International (pv-magazine.com)

Inhibition of defect-induced α-to-δ phase transition for efficient and stable formamidinium perovskite solar cells | Nature Communications

30 September
Inhibition of defect-induced α-to-δ phase transition for efficient and stable formamidinium perovskite solar cells | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41853-y

Perovskite quantum dot solar cells on the path to achieve 30% efficiency – pv magazine International

5 October
Perovskite quantum dot solar cells on the path to achieve 30% efficiency – pv magazine International (pv-magazine.com)

Techno-economic dispatch model to combine pumped hydro with solar, wind power

2 October
Techno-economic dispatch model to combine pumped hydro with solar, wind power – pv magazine International (pv-magazine.com)

Carrier multiplication in perovskite solar cells with internal quantum efficiency exceeding 100% | Nature Communications

9 October
https://www.nature.com/articles/s41467-023-41758-w
DOI: https://doi.org/10.1038/s41467-023-41758-w

Researchers reveal mechanism of efficient upconversion in two-dimensional perovskite

9 October
Researchers reveal mechanism of efficient upconversion in two-dimensional perovskite (phys.org)
DOI: 10.1126/sciadv.adi9347

If the first solar entrepreneur hadn't been kidnapped, would fossil fuels have dominated the 20th century the way they did?

12 October
If the first solar entrepreneur hadn't been kidnapped, would fossil fuels have dominated the 20th century the way they did? (theconversation.com)

Move Over Solar Power, "Artificial Photosynthesis" Breakthrough Leads to New Energy-Rich Fuel Source - The Debrief

12 October
Move Over Solar Power, "Artificial Photosynthesis" Breakthrough Leads to New Energy-Rich Fuel Source - The Debrief

Highly performing metal halide perovskite solar cells fabricated in ambient air

12 October
Highly performing metal halide perovskite solar cells fabricated in ambient air (techxplore.com)
DOI: 10.1038/s41560-023-01358-w

Hyperbranched polymer functionalized flexible perovskite solar cells with mechanical robustness and reduced lead leakage | Nature Communications

13 October
Hyperbranched polymer functionalized flexible perovskite solar cells with mechanical robustness and reduced lead leakage | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41931-1

Bifacial perovskite solar cells for indoor applications achieve 30.3% efficiency – pv magazine International

12 October
Bifacial perovskite solar cells for indoor applications achieve 30.3% efficiency – pv magazine International (pv-magazine.com)

Scientists invent ‘hybrid material’ that could make solar panels way more efficient — and a lot smaller

12 October
Scientists invent ‘hybrid material’ that could make solar panels way more efficient — and a lot smaller (yahoo.com)

Research team counters solar energy misinformation

16 October
Research team counters solar energy misinformation (techxplore.com)
DOI: 10.1038/s41567-023-02230-0

The momentum of the solar energy transition | Nature Communications

17 October

The momentum of the solar energy transition | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41971-7

Self-assembled monolayer paves the way for adapting perovskite solar cells for renewable energy

20 October
Self-assembled monolayer paves the way for adapting perovskite solar cells for renewable energy (techxplore.com)
DOI: 10.1126/science.ade9637

The squeezed dark nuclear spin state in lead halide perovskites | Nature Communications

21 October
The squeezed dark nuclear spin state in lead halide perovskites | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42265-8

Hong Kong researchers develop inverted perovskite solar cell with 25.6% efficiency – pv magazine International

23 October
Hong Kong researchers develop inverted perovskite solar cell with 25.6% efficiency – pv magazine International (pv-magazine.com)

Perovskite nanocrystalline cheaper than silicon for photovoltaic cells, study shows

24 October
Perovskite nanocrystalline cheaper than silicon for photovoltaic cells, study shows (phys.org)
DOI: 10.1021/acsnano.3c03989

Perovskite PV cell hits 19.9% efficiency with single-walled carbon nanotube – pv magazine International

27 October
Perovskite PV cell hits 19.9% efficiency with single-walled carbon nanotube – pv magazine International (pv-magazine.com)

3D-printed reactor core makes solar fuel production more efficient

27 October
3D-printed reactor core makes solar fuel production more efficient (techxplore.com)
DOI: 10.1002/admi.202300452

Anion optimization for bifunctional surface passivation in perovskite solar cells | Nature Materials

30 October
Anion optimization for bifunctional surface passivation in perovskite solar cells | Nature Materials
DOI: https://doi.org/10.1038/s41563-023-01705-y

Commercial perovskites imminent – pv magazine International

31 October
Commercial perovskites imminent – pv magazine International (pv-magazine.com)

Solar power expected to dominate electricity generation by 2050—even without more ambitious climate policies

27 October
Solar power expected to dominate electricity generation by 2050—even without more ambitious climate policies (techxplore.com)

New lead-free perovskite solar cell design promises 26.96% efficiency – pv magazine International
31 October
New lead-free perovskite solar cell design promises 26.96% efficiency – pv magazine International (pv-magazine.com)

Semi-transparent Perovskite Solar Cells with an Evaporated Ultra-Thin Perovskite Absorber - Zhang - Advanced Functional Materials - Wiley Online Library
29 October
Semitransparent Perovskite Solar Cells with an Evaporated Ultra-Thin Perovskite Absorber - Zhang - Advanced Functional Materials - Wiley Online Library
DOI: https://doi.org/10.1002/adfm.202307471

New attempt to build solar cells based on gallium-arsenide-nitrogen-bismuth – pv magazine International
2 November
https://www.pv-magazine.com/2023/11/02/new-attempt-to-build-solar-cells-based-on-gallium-arsenide-nitrogen-bismuth

Inverted perovskite solar cell achieves 25.3% efficiency via interface engineering – pv magazine International
1 November
Inverted perovskite solar cell achieves 25.3% efficiency via interface engineering – pv magazine International (pv-magazine.com)

Synergistic Role of Water and Oxygen Leads to Degradation in Formamidinium-Based Halide Perovskites | Journal of the American Chemical Society
2 November
Synergistic Role of Water and Oxygen Leads to Degradation in Formamidinium-Based Halide Perovskites | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c05657

Seeking stability to support sustainable outdoor solar cells
6 November
Seeking stability to support sustainable outdoor solar cells (techxplore.com)
DOI: 10.1016/j.joule.2023.07.003

Improvement of oxygen reduction activity and stability on a perovskite oxide surface by electrochemical potential | Nature Communications
8 November
Improvement of oxygen reduction activity and stability on a perovskite oxide surface by electrochemical potential | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42462-5

Bifacial Solar Panels to Unlock Agrivoltaic Potential
8 November
Bifacial Solar Panels To Unlock Agrivoltaic Potential (cleantechnica.com)

Solar panel advances will see millions abandon electrical grid, scientists predict | The Independent
9 November
https://www.independent.co.uk/tech/solar-panels-energy-grid-uk-b2444279.html

Researchers shed light on mysterious, higher energy yields in vertical PV systems – pv magazine International

10 November

Researchers shed light on mysterious, higher energy yields in vertical PV systems – pv magazine International (pv-magazine.com)

Machine Learning Fast-Forwards Solar Cell Design

16 November

Machine Learning Fast-Forwards Solar Cell Design | Technology Networks

DOI: 10.1002/aenm.202370154

All-perovskite tandem solar cell with 2D/3D heterostructure achieves 28.1% efficiency – pv magazine International

14 November

All-perovskite tandem solar cell with 2D/3D heterostructure achieves 28.1% efficiency – pv magazine International (pv-magazine.com)

New Solar study: 50% of global power by 2050, even without more ambitious climate policies

17 November

New Solar study: 50% of global power by 2050, even without more ambitious climate policies - Energy Post

Australian perovskite breakthrough takes the "alchemy" out of solar cell production | RenewEconomy

17 November

Australian perovskite breakthrough takes the "alchemy" out of solar cell production | RenewEconomy

Solar panel world record smashed with ‘miracle material’ | The Independent

12 November

Solar panel world record smashed with ‘miracle material’ | The Independent

Shedding light on unique conduction mechanisms in a new type of perovskite oxide

17 November

Shedding light on unique conduction mechanisms in a new type of perovskite oxide (phys.org)

DOI: 10.1021/acs.chemmater.3c02378

Mysterious, higher energy yields in vertical PV systems – pv magazine USA

15 November

https://pv-magazine-usa.com/2023/11/15/mysterious-higher-energy-yields-in-vertical-pv-systems

Physics-based model to predict soiling losses in bifacial solar modules – pv magazine International

21 November

Physics-based model to predict soiling losses in bifacial solar modules – pv magazine International (pv-magazine.com)

Researchers manufacture the first back-contact micrometric photovoltaic cells

22 November

Researchers manufacture the first back-contact micrometric photovoltaic cells (techxplore.com)

DOI: 10.1016/j.xcrp.2023.101701

Researchers manufacture the first back-contact micrometric photovoltaic cells

22 November

Researchers manufacture the first back-contact micrometric photovoltaic cells (techxplore.com)

DOI: 10.1016/j.xcrp.2023.101701

A novel recyclable organocatalyst for the gram-scale enantioselective synthesis of (S)-baclofen

24 November
https://www.beilstein-journals.org/bjoc/articles/19/133
DOI: https://doi.org/10.3762/bjoc.19.133

Arizona's Canal Solar Project: A blueprint for sustainable energy

24 November
Arizona's Canal Solar Project: A blueprint for sustainable energy (interestingengineering.com)

Scientists Claim 29.9% Efficiency in Perovskite Solar Cells Paired with CIGS

23 November
Researchers Claim 29.9% Efficiency in Perovskite Solar Cells Paired with CIGS (mercomindia.com)

Rechargeable Batteries & Technology

Note * Articles provided by TS2 Space. TS2 SPACE provides **telecommunications services** by using the global satellite constellations. No references in articles or DOIs given. Possibility of AI generated articles? These are indicated by an *.

Closing the Loop on Battery Chemical Manufacturing & other reports (February-October 2023)

25 October

Closing the Loop on Battery Chemical Manufacturing | Chemical Processing

Future Sodium Ion Batteries Could Be Ten Times Cheaper for Energy Storage | NextBigFuture.com

1 September

Future Sodium Ion Batteries Could Be Ten Times Cheaper for Energy Storage | NextBigFuture.com

Approaching practically accessible solid-state batteries: stability issues related to solid electrolytes and interfaces

2 September

Approaching practically accessible solid-state batteries: stability issues related to solid electrolytes and interfaces (ts2.space)

A smart color-changing flexible battery with ultra-high efficiency

1 September

A smart color-changing flexible battery with ultra-high efficiency (techxplore.com)

DOI: 10.1002/adma.202301141

How battery revival technology can improve energy storage - The Economic Times

1 September

https://m.economictimes.com/industry/renewables/how-battery-revival-technology-can-improve-energy-storage/articleshow/103258033.cms

What advancements in technology have allowed for the development of solid-state batteries?*

1 September

What advancements in technology have allowed for the development of solid-state batteries? (ts2.space)

Polymer-Based Solid-State Electrolytes for High-Energy-Density Lithium-Ion Batteries – Review - Lu - Advanced Energy Materials - Wiley Online Library

29 August

Polymer-Based Solid-State Electrolytes for High-Energy-Density Lithium-Ion Batteries – Review - Lu - Advanced Energy Materials - Wiley Online Library

DOI: https://doi.org/10.1002/aenm.202301746

Ukraine War Spurs Research into EV Battery Alternatives

3 September

Ukraine War Spurs Research Into EV Battery Alternatives (businessinsider.com)

CMBlu wins 5MW organic flow battery order from SRP in Arizona

4 September

CMBlu wins 5MW organic flow battery order from SRP in Arizona (energy-storage.news)

Multilevel Heterostructure of MoS2/GDYO for Lithium-Ion Batteries - Wang - Advanced Functional Materials - Wiley Online Library

5 September
Multilevel Heterostructure of MoS2/GDYO for Lithium-Ion Batteries - Wang - Advanced Functional Materials - Wiley Online Library
https://doi.org/10.1002/adfm.202308470

Hydrogen Bond Boosted Ferroelectric Polarization Enables High Rate Capability Lithium Metal Batteries

1 September
Hydrogen Bond Boosted Ferroelectric Polarization Enables High Rate Capability Lithium Metal Batteries - Wang - Small - Wiley Online Library
DOI: https://doi.org/10.1002/smll.202305797

The case for hard carbon-based sodium-ion batteries – pv magazine International

6 September
The case for hard carbon-based sodium-ion batteries – pv magazine International (pv-magazine.com)

Aluminum Materials Show Promising Performance for Safer, Cheaper, More Powerful Batteries – CleanTechnica

6 September
Aluminum Materials Show Promising Performance for Safer, Cheaper, More Powerful Batteries - CleanTechnica

Momentum gathering in the flow battery industry - Energy-Storage.News

5 September
Momentum gathering in the flow battery industry - Energy-Storage.News

Scientists Develop a Truly Solid Battery Electrolyte with High-Performance

6 September
Scientists Develop a Truly Solid Battery Electrolyte With High-Performance (scitechdaily.com)
DOI: 10.1093/pnasnexus/pgad263

Efficient and mild: Recycling of used lithium-ion batteries

5 September
Efficient and mild: Recycling of used lithium-ion batteries (techxplore.com)
DOI: 10.1002/anie.202310435

Nanoparticles will change the world, but whether it's for the better depends on decisions made now

7 September
Nanoparticles will change the world, but whether it's for the better depends on decisions made now (theconversation.com)

EnerVenue launches new metal-hydrogen battery variant – pv magazine International

7 September
EnerVenue launches new metal-hydrogen battery variant – pv magazine International (pv-magazine.com)

A solid battery electrolyte with high performance

6 September
A solid battery electrolyte with high performance (techxplore.com)
DOI: 10.1093/pnasnexus/pgad263

Chemists develop more efficient battery designed for storing energy from wind or solar farms

6 September
Chemists develop more efficient battery designed for storing energy from wind or solar farms (techxplore.com)

DOI: 10.1038/s41467-023-40374-y

How are solid-state batteries tested for safety and performance? *

3 September
How are solid-state batteries tested for safety and performance? (ts2.space)

Scientists develop method to recover high-purity silicon from solar panels for upcycling into lithium-ion batteries

7 September
Scientists develop method to recover high-purity silicon from solar panels for upcycling into lithium-ion batteries (techxplore.com)
DOI: 10.1016/j.solmat.2023.112394

1T-2H Mixed-Phase MoS2 Stabilized with a Hyperbranched Polyethylene Ionomer for Mg2+/Li+ Co-Intercalation Toward High-Capacity Dual-Salt Batteries - Rahmatinejad - Small - Wiley Online Library

10 September
1T-2H Mixed-Phase MoS2 Stabilized with a Hyperbranched Polyethylene Ionomer for Mg2+/Li+ Co-Intercalation Toward High-Capacity Dual-Salt Batteries - Rahmatinejad - Small - Wiley Online Library
DOI: https://doi.org/10.1002/smll.202304878

The Battery Cycle: NMC, LFP, LTO – What's the difference? – pv magazine International

12 September
The Battery Cycle: NMC, LFP, LTO – What's the difference? – pv magazine International (pv-magazine.com)

All-Solid-State Batteries: Advancements and Challenges

12 September
All-Solid-State Batteries: Advancements and Challenges (ts2.space)

First AI-based control method for vanadium redox flow batteries – pv magazine International

13 September
First AI-based control method for vanadium redox flow batteries – pv magazine International (pv-magazine.com)

Three steps to reduce battery storage fire risk – pv magazine International

14 September
Three steps to reduce battery storage fire risk – pv magazine International (pv-magazine.com)

Toyota Details Next-Gen EV Batteries, Promises 497-Mile Range In 2026

14 September
Toyota Details Next-Gen EV Batteries, Promises 497-Mile Range In 2026 (insideevs.com)

Scientists X-ray Li-ion batteries for deeper insight

13 September
Scientists X-ray Li-ion batteries for deeper insight (interestingengineering.com)

Fully Charged in Just 6 Minutes – Groundbreaking Technique Could Revolutionize EV Charging

13 September
Fully Charged in Just 6 Minutes – Groundbreaking Technique Could Revolutionize EV Charging (scitechdaily.com)
DOI: 10.1002/adfm.202300143

New graphene EV batteries hailed as 'wonder material' that could revolutionize transportation: 'Science is the easy part'

14 September
New graphene EV batteries hailed as 'wonder material' that could revolutionize transportation: 'Science is the easy part' (thecooldown.com)

Anode-less redox flow batteries capable of fast cycling – pv magazine USA

11 September
Anode-less redox flow batteries capable of fast cycling – pv magazine USA (pv-magazine-usa.com)
DOI: https://doi.org/10.1016/j.est.2023.10876

Robust Micro-Sized and Defect-Rich Carbon–Carbon Composites as Advanced Anodes for Potassium-Ion Batteries - Quan - Small - Wiley Online Library

15 September
Robust Micro-Sized and Defect-Rich Carbon–Carbon Composites as Advanced Anodes for Potassium-Ion Batteries - Quan - Small - Wiley Online Library
DOI: https://doi.org/10.1002/smll.202305841

Lithium: New invention will lead to ‘battery revolution’, scientists say | The Independent

15 September
Lithium: New invention will lead to ‘battery revolution’, scientists say | The Independent

Scientists design ultrastable, high-energy-density Zn–Mn battery

18 September
Scientists design ultrastable, high-energy-density Zn–Mn battery (techxplore.com)
DOI: 10.1021/jacs.3c07764

Researchers offer insights into solid-electrolyte interphases in next-gen aqueous potassium-ion batteries

19 September
Researchers offer insights into solid-electrolyte interphases in next-gen aqueous potassium-ion batteries (techxplore.com)
DOI: 10.1002/anie.202307446

Sodium Ion Battery Ramping to Over 170 GWh of Capacity by 2027 | NextBigFuture.com

20 September
Sodium Ion Battery Ramping to Over 170 GWh of Capacity by 2027 | NextBigFuture.com

Exxon Knew All About Zinc Bromine Flow Batteries

20 September
Exxon Knew All About Zinc Bromine Flow Batteries (cleantechnica.com)

New method to recycle materials inside lithium-ion batteries

21 September
New method to recycle materials inside lithium-ion batteries (techxplore.com)
DOI: 10.1038/s41560-023-01348-y

Improving lithium-ion cells by replacing polyethylene terephthalate jellyroll tape | Nature Materials

21 September
Improving lithium-ion cells by replacing polyethylene terephthalate jellyroll tape | Nature Materials
DOI: https://doi.org/10.1038/s41563-023-01673-3

Unlocking Battery Mysteries: X-Ray “Computer Vision” Reveals Unprecedented Physical and Chemical Details

22 September
Unlocking Battery Mysteries: X-Ray “Computer Vision” Reveals Unprecedented Physical and Chemical Details (scitechdaily.com)
DOI: 10.1038/s41586-023-06393-x

Electrochemical Performance of Mixed Redox-Active Organic Molecules in Redox Flow Batteries | Energy | ChemRxiv | Cambridge Open Engage

22 September
Electrochemical Performance of Mixed Redox-Active Organic Molecules in Redox Flow Batteries | Energy | ChemRxiv | Cambridge Open Engage

A Deeper Understanding of Metal Nucleation and Growth in Rechargeable Metal Batteries Through Theory and Experiment - Cooper - Angewandte Chemie International Edition - Wiley Online Library

21 September
A Deeper Understanding of Metal Nucleation and Growth in Rechargeable Metal Batteries Through Theory and Experiment - Cooper - Angewandte Chemie International Edition - Wiley Online Library
DOI: https://doi.org/10.1002/anie.202309247

This company has found a simple fix to make batteries 4 times more durable: ‘What goes into those batteries is so important’

20 September
This company has found a simple fix to make batteries 4 times more durable: ‘What goes into those batteries is so important’ (thecooldown.com)

Meet ESV: A lithium-free energy storage solution

25 September
https://interestingengineering.com/innovation/space-battery-tech-readied-for-grid

Study unveils new solid electrolyte with cheap, eco-friendly materials

26 September
Study unveils new solid electrolyte with cheap, eco-friendly materials (techxplore.com)
DOI: 10.1002/anie.202309852

Chart: The Countries Committing to Nuclear Power | Statista

26 September
Chart: The Countries Committing to Nuclear Power | Statista

Lithium-ion battery fires are a growing public safety concern − here’s how to reduce the risk

26 September
Lithium-ion battery fires are a growing public safety concern − here's how to reduce the risk (theconversation.com)

What causes lithium-ion battery fires? Why are they so intense? And how should they be fought? An expert explains

28 September
https://theconversation.com/what-causes-lithium-ion-battery-fires-why-are-they-so-intense-and-how-should-they-be-fought-an-expert-explains-214470

Preparation of high-performance supercapacitor electrode with nanocomposite of CuO/NCNO flower-like | Scientific Reports

27 September
Preparation of high-performance supercapacitor electrode with nanocomposite of CuO/NCNO flower-like | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43430-1

Rechargeable Battery Performance Twist: Debunking Decades of Electrode Assumptions

28 September
Rechargeable Battery Performance Twist: Debunking Decades of Electrode Assumptions (scitechdaily.com)
DOI: 10.1038/s41560-023-01361-1

Revealing the closed pore formation of waste wood-derived hard carbon for advanced sodium-ion battery | Nature Communications

27 September
Revealing the closed pore formation of waste wood-derived hard carbon for advanced sodium-ion battery | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-39637-5

Types of Battery Chemistries: From Li-ion to Lead-Acid - E-Vehicleinfo

27 September
Types of Battery Chemistries: From Li-ion to Lead-Acid - E-Vehicleinfo

How pressure improves battery materials in ball milling

29 September
How pressure improves battery materials in ball milling (interestingengineering.com)

New Breakthrough in Energy Storage – MIT Engineers Create Supercapacitor out of Ancient Materials

4 October
New Breakthrough in Energy Storage – MIT Engineers Create Supercapacitor out of Ancient Materials (scitechdaily.com)

Carbon–cement supercapacitors as a scalable bulk energy storage solution

31 July
Carbon–cement supercapacitors as a scalable bulk energy storage solution | PNAS
DOI: https://doi.org/10.1073/pnas.2304318120

Zn salts incorporated polyurethane/polyacrylonitrile electrospinning fiber membrane for high porosity polymer electrolyte in Zn ion battery | Scientific Reports

5 October
Zn salts incorporated polyurethane/polyacrylonitrile electrospinning fiber membrane for high porosity polymer electrolyte in Zn ion battery | Scientific Reports (nature.com)
DOI: https://doi.org/10.1038/s41598-023-43962-6

Revolutionizing High-Energy Batteries: XPS and Cryo-TEM Uncover Breakthrough in Li Metal Battery Technology

2 October
https://www.spectroscopyonline.com/view/revolutionizing-high-energy-batteries-xps-and-cryo-tem-uncover-breakthrough-in-li-metal-battery-technology

How sodium-ion batteries could make electric cars cheaper

10 October
How sodium-ion batteries could make electric cars cheaper (theconversation.com)

A promising molecular catalyst for aqueous polysulfide-based redox flow batteries

13 October
A promising molecular catalyst for aqueous polysulfide-based redox flow batteries (techxplore.com)
DOI: 10.1038/s41560-023-01370-0

Polyoxometalates and ionic liquid enhance solid-state lithium-ion electrolyte performance

12 October
https://phys.org/news/2023-10-polyoxometalates-ionic-liquid-solid-state-lithium-ion.html
DOI: 10.26599/POM.2023.9140036

A cheaper, safer alternative to lithium-ion batteries: Aqueous rechargeable batteries

13 October
A cheaper, safer alternative to lithium-ion batteries: Aqueous rechargeable batteries (techxplore.com)
DOI: 10.1016/j.ensm.2023.102881

Are lithium-ion batteries worse than fossil fuels? * (AI Generated? £ sources provided)

14 October
Are lithium-ion batteries worse than fossil fuels? (ts2.space)

Salgenx Unveils Saltwater Flow Battery Technology: Affordable, Sustainable, and Transforming Energy Storage

15 October
Salgenx Unveils Saltwater Flow Battery Technology: Affordable, Sustainable, and Transforming Energy Storage (prwireindia.com)

Why don't we use sodium batteries? *AI Generated?

12 October
Why don't we use sodium batteries? (ts2.space)

Electrochemically induced crystalline-to-amorphization transformation in sodium samarium silicate solid electrolyte for long-lasting sodium metal batteries | Nature Communications

16 October
Electrochemically induced crystalline-to-amorphization transformation in sodium samarium silicate solid electrolyte for long-lasting sodium metal batteries | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42308-0

A biocompatible electrolyte enables highly reversible Zn anode for zinc ion battery | Nature Communications

16 October
A biocompatible electrolyte enables highly reversible Zn anode for zinc ion battery | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42333-z

'Promising' new breakthrough for recycling EV batteries discovered by Swedish scientists | Euronews

17 October
'Promising' new breakthrough for recycling EV batteries discovered by Swedish scientists | Euronews

A Primer on the Different Solid-State Battery Chemistries *(3 sources provided. AI?)

15 October
A Primer on the Different Solid-State Battery Chemistries (ts2.space)

Designing superionic conductors for all-solid-state lithium batteries - Green Car Congress
17 October
Designing superionic conductors for all-solid-state lithium batteries - Green Car Congress

Groundbreaking Dual-Purpose Batteries Store Energy and Capture CO2 | OilPrice.com
19 October
Groundbreaking Dual-Purpose Batteries Store Energy And Capture CO2 | OilPrice.com

Electrolyte design for lithium-ion batteries with a cobalt-free cathode and silicon oxide anode | Nature Sustainability
19 October
Electrolyte design for lithium-ion batteries with a cobalt-free cathode and silicon oxide anode | Nature Sustainability

How Toyota's 745-mile Solid-State Batteries Differ from Lithium-ion Batteries
17 October
How Toyota's 745-mile Solid-State Batteries Differ From Lithium-ion Batteries (topspeed.com)

How many kw is 200Ah lithium battery? *
16 October
How many kw is 200Ah lithium battery? (ts2.space)

Breakthrough for new battery that boasts five times the power of lithium-ion | Recharge
19 October
Breakthrough for new battery that boasts five times the power of lithium-ion | Recharge (rechargenews.com)

New lithium-based solid electrolyte delivers dry air stability, efficient transport and high compatibility toward metallic lithium - Green Car Congress
21 October
New lithium-based solid electrolyte delivers dry air stability, efficient transport and high compatibility toward metallic lithium - Green Car Congress

NASA Just Made a Solid-State Battery - Gamechanger?
22 October
(199) NASA Just Made a Solid State Battery - Gamechanger? - YouTube

Low-temperature synthesis of lithium ceramic for batteries
23 October
https://techxplore.com/news/2023-10-low-temperature-synthesis-lithium-ceramic-batteries.html
DOI: 10.1002/anie.202304581

Organic flow battery firm CMBlu gets €100 million investment
24 October
Organic flow battery firm CMBlu gets €100 million investment (energy-storage.news)

Researchers discovered a lithium-ion battery alternative that could ‘revolutionize’ EVs — and they’re 50% cheaper to make
24 October
Researchers discovered a lithium-ion battery alternative that could ‘revolutionize’ EVs — and they’re 50% cheaper to make (yahoo.com)

Scientists synthesize cathode active materials for lithium-ion batteries at relatively low temperatures

24 October
Scientists synthesize cathode active materials for lithium-ion batteries at relatively low temperatures (techxplore.com)
DOI: 10.1021/acs.inorgchem.3c01704

Ultramicro Supercapacitor: A Game-Changing Energy Storage Marvel

25 October
Ultramicro Supercapacitor: A Game-Changing Energy Storage Marvel (scitechdaily.com)
DOI: 10.1021/acsenergylett.2c02476

Toyota says it's just being 'honest' about unrealistic electric car future | CarExpert

25 October
Toyota says it's just being 'honest' about unrealistic electric car future | CarExpert

Anod Hybrid E-Bike Combines Supercapacitors and Lithium-Ion Batteries

23 October
Anod Hybrid E-Bike Combines Supercapacitors And Lithium-Ion Batteries (insideevs.com)

Sodium batteries offer an alternative to tricky lithium

26 October
Sodium batteries offer an alternative to tricky lithium (economist.com)

Electrodes with hollow nanotubes improve performance of potassium-ion batteries

27 October
Electrodes with hollow nanotubes improve performance of potassium-ion batteries (phys.org)
DOI: 10.26599/EMD.2023.9370001

Goodbye fires! New tech leads to safer EV batteries with more storage

27 October
Goodbye fires! New tech leads to safer EV batteries with more storage (interestingengineering.com)

Japanese scientists make better lithium-ion battery without cobalt - Nikkei Asia

29 October
https://asia.nikkei.com/Business/Science/Japanese-scientists-make-better-lithium-ion-battery-without-cobalt

From manufacture to lifetime emissions, just how green are EVs compared to petrol or diesel cars? | Euronews

30 October
From manufacture to lifetime emissions, just how green are EVs compared to petrol or diesel cars? | Euronews

Developing batteries with 10 times the energy storage

31 October
Developing batteries with 10 times the energy storage (techxplore.com)
DOI: 10.1038/s41467-023-42109-5

SEI growth on Lithium metal anodes in solid-state batteries quantified with coulometric titration time analysis | Nature Communications

31 October
SEI growth on Lithium metal anodes in solid-state batteries quantified with coulometric titration time analysis | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42512-y

The Newest Battery Tech: Superior Solid-State by HPB *

31 October

The Newest Battery Tech: Superior Solid-State by HPB. (ts2.space)

The Battery of the New Generation: Sodium-Ion Batteries Ready to Challenge Lithium-Ion Dominance *

1 November
The Battery of the New Generation: Sodium-Ion Batteries Ready to Challenge Lithium-Ion Dominance (ts2.space)

Battery 2030: Resilient, sustainable, and circular

16 January 2023
Lithium-ion battery demand forecast for 2030 | McKinsey

Applied physical sciences study finds specialized chemicals would increase efficiency of solar cells - College of Arts and Sciences

3 November
Applied physical sciences study finds specialized chemicals would increase efficiency of solar cells - College of Arts and Sciences (unc.edu)

Innovative Breakthrough: Maxell's Groundbreaking Advancement in All-Solid-State Battery Technology *

4 November
Innovative Breakthrough: Maxell's Groundbreaking Advancement in All-Solid-State Battery Technology (ts2.space)

Lithium-ion battery fires 'will go up exponentially', warns energy storage chief | Recharge

6 November
Lithium-ion battery fires 'will go up exponentially', warns energy storage chief | Recharge (rechargenews.com)

Organic photovoltaic dual-ion battery for Internet of Things applications – pv magazine International

6 November
Organic photovoltaic dual-ion battery for Internet of Things applications – pv magazine International (pv-magazine.com)

Self-healing polyurethane-based polymer electrolyte with high strength for all-solid-state lithium metal batteries – ScienceDirect

November?
Self-healing polyurethane-based polymer electrolyte with high strength for all-solid-state lithium metal batteries - ScienceDirect
DOI: https://doi.org/10.1016/j.colsurfa.2023.132703

Five Keys to Unlock Successful Pesticide Analysis by GC/MS/MS(sign to download)

10 October 2022
Five Keys To Unlock Successful Pesticide Analysis by GC/MS/MS | Technology Networks

Sunflower Extract Can Protect Blueberries from Mold

25 October
Sunflower Extract Can Protect Blueberries From Mold | Technology Networks
DOI: 10.1021/acs.jafc.3c05553

Revolutionary New Electric eJet Motor Could Signal a Breakthrough in Electric Propulsion for Aviation - The Debrief

7 November
Revolutionary New Electric eJet Motor Could Signal a Breakthrough in Electric Propulsion for Aviation - The Debrief

Lithium-ion battery recycling in India - Need to build local refining capabilities to curb black mass export • EVreporter
8 November
Lithium-ion battery recycling in India - Need to build local refining capabilities to curb black mass export • EVreporter

Molecular engineering advances lithium-metal batteries, paving the way for safer, more powerful devices
9 December
Molecular engineering advances lithium-metal batteries, paving the way for safer, more powerful devices (techxplore.com)
DOI: 10.1016/j.matt.2023.10.017

New designs for solid-state electrolytes may soon revolutionize the battery industry
2 November
New designs for solid-state electrolytes may soon revolutionize the battery industry (techxplore.com)
DOI: 10.1126/science.adg6591

Quasi-solid-state magnesium-ion battery achieves energy density of 264 Wh/kg – pv magazine International
8 November
Quasi-solid-state magnesium-ion battery achieves energy density of 264 Wh/kg – pv magazine International (pv-magazine.com)

How much more effective are solid-state batteries? *
10 November
How much more effective are solid-state batteries? (ts2.space)

Scientists shed new light on critical issue facing battery components in EVs: 'The whole field has been misled'
11 November
Scientists shed new light on critical issue facing battery components in EVs: 'The whole field has been misled' (yahoo.com)

Batteries for the future
9 November
Batteries for the future (cosmosmagazine.com)

Hot topic: Researchers push to reduce fire risk from lithium-ion batteries
6 November
Hot topic: Researchers push to reduce fire risk from lithium-ion batteries (nbcnews.com)

Comparative Analysis: Graphene Batteries vs Lithium-Ion - A Fresh Perspective on Performance and Efficiency *
10 November
Comparative Analysis: Graphene Batteries vs Lithium-Ion - A Fresh Perspective on Performance and Efficiency (ts2.space)

The Future of EV Battery Recycling: A Greener Approach *
11 November
https://ts2.space/en/the-future-of-ev-battery-recycling-a-greener-approach

Battery breakthrough makes next-gen cells 60% better | The Independent
14 November

Battery breakthrough makes next-gen cells 60% better | The Independent

“Cooperative” Behavior in Electrolytes Can Significantly Boost Battery Performance

16 November
“Cooperative” Behavior in Electrolytes Can Significantly Boost Battery Performance | Technology Networks
DOI: 10.1016/j.chempr.2023.03.021

A New All-Solid Battery Hits Long Duration Energy Storage Mark

17 November
A New All-Solid Battery Hits Long Duration Energy Storage Mark (cleantechnica.com)

The Next Leap in Battery Tech: Lithium-Ion Batteries Are No Longer the Gold Standard

18 November
The Next Leap in Battery Tech: Lithium-Ion Batteries Are No Longer the Gold Standard (scitechdaily.com)
DOI: 10.26599/EMD.2023.9370005

Precise solid-phase synthesis of CoFe@FeOx nanoparticles for efficient polysulfide regulation in lithium/sodium-sulfur batteries | Nature Communications

18 November
Precise solid-phase synthesis of CoFe@FeOx nanoparticles for efficient polysulfide regulation in lithium/sodium-sulfur batteries | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42941-9

Solid State Battery Vs Hydrogen Fuel Cell *

16 November
Solid State Battery Vs Hydrogen Fuel Cell (ts2.space)

New design for a rechargeable hydrogen-chlorine battery in a wide temperature range

22 November
New design for a rechargeable hydrogen-chlorine battery in a wide temperature range (techxplore.com)
DOI: 10.1021/jacs.3c09819

Borate–pyran lean electrolyte-based Li-metal batteries with minimal Li corrosion | Nature Energy

23 November
Borate–pyran lean electrolyte-based Li-metal batteries with minimal Li corrosion | Nature Energy
DOI: https://doi.org/10.1038/s41560-023-01405-6

New material promises to greatly extend solid-state battery life - Nikkei Asia

24 November
New material promises to greatly extend solid-state battery life - Nikkei Asia

Soap bubble discovery could lead to better lithium-metal batteries

24 November
Soap bubble discovery could lead to better lithium-metal batteries (freethink.com)

Batteries: Salt in Batteries: Battery giants invest in Sodium-based technology, signalling potential disruption in industry - The Economic Times

26 November
Batteries: Salt in Batteries: Battery giants invest in Sodium-based technology, signalling potential disruption in industry - The Economic Times (indiatimes.com)

The Slow March of Sodium-Ion Batteries to Compete With Lithium-Ion | Hackaday

26 November

The Slow March Of Sodium-Ion Batteries To Compete With Lithium-Ion | Hackaday

Toyota's 745-Mile Solid-State Battery Breakthrough, Explained

26 November

Toyota's 745-Mile Solid-State Battery Breakthrough, Explained (topspeed.com)

Northvolt unveils 160 Wh/kg sodium-ion battery

22 November

Northvolt unveils 160 Wh/kg sodium-ion battery – pv magazine International (pv-magazine.com)

##########

Chemistry & Artificial Intelligence

OpenAI Shares 4 Ways to Use ChatGPT in Education
4 September
OpenAI Shares 4 Ways to Use ChatGPT in Education (analyticsinsight.net)

Bayer Is Rapidly Expanding Its Footprint with Artificial Intelligence
4 September
Bayer Is Rapidly Expanding Its Footprint With Artificial Intelligence (forbes.com)

Researchers use AI to find new magnetic materials without critical elements
5 September
Researchers use AI to find new magnetic materials without critical elements (phys.org)
DOI: 10.1021/acs.chemmater.3c00892

Machine learning for chemistry: Basics and applications
4 September
Machine learning for chemistry: Basics and applications (phys.org)
DOI: 10.1016/j.eng.2023.04.013

6 Easy Steps to Acquire Machine Learning Skills
5 September
6 Easy Steps to Acquire Machine Learning Skills (analyticsinsight.net)

We know remarkably little about how AI language models work | MIT Technology Review
5 Sept
We know remarkably little about how AI language models work | MIT Technology Review

What OpenAI Really Wants
5 September
What OpenAI Really Wants | WIRED

OpenAI confirms that AI writing detectors don't work | Ars Technica
8 September
DOI: https://arstechnica.com/information-technology/2023/09/openai-admits-that-ai-writing-detectors-dont-work

Tuning the Chern number in the nitrogen-vacancy center in diamond
7 September
Tuning the Chern number in the nitrogen-vacancy center in diamond (phys.org)
DOI: 10.1038/s41534-023-00732-6

Predicting Retrosynthesis in a Single Step by Incorporating chemists' Insights with AI Models – MarkTechPost
10 September
Predicting Retrosynthesis in a Single Step by Incorporating chemists' Insights with AI Models - MarkTechPost

ChatGPT - Excel: Introduction to Chat GPT in Excel
11 Sept
(119) ChatGPT - Excel : Introduction to Chat GPT in Excel | @PavanLalwani - YouTube
https://www.youtube.com/watch?v=5zjXSro3WGE

Meet PyGraft: An Open-Sourced Python-Based AI Tool that Generates Highly Customized, Domain-Agnostic Schemas and Knowledge Graphs – MarkTechPost
13 September
https://www.marktechpost.com/2023/09/13/meet-pygraft-an-open-sourced-python-based-ai-tool-that-generates-highly-customized-domain-agnostic-schemas-and-knowledge-graphs/

As artificial intelligence goes multimodal, medical applications multiply | Science
15 September
https://www.science.org/doi/10.1126/science.adk6139
DOI: 10.1126/science.adk6139

Watch "How Bing Chat Enterprise works with your data using GPT-4" on YouTube
18 September
https://youtu.be/CFE6eMdaMRA?si=fR752VOzXG-mz_Md

How to use ChatGPT to do research for papers, presentations, studies, and more | ZDNET
18 September
How to use ChatGPT to do research for papers, presentations, studies, and more | ZDNET

Integrating end-to-end learning with deep geometrical potentials for ab initio RNA structure prediction | Nature Communications
16 Sept
Integrating end-to-end learning with deep geometrical potentials for ab initio RNA structure prediction | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41303-9

Can Large Language Models Self-Evaluate for Safety? Meet RAIN: A Novel Inference Method Transforming AI Alignment and Defense Without Finetuning – MarkTechPost
17 October
Can Large Language Models Self-Evaluate for Safety? Meet RAIN: A Novel Inference Method Transforming AI Alignment and Defense Without Finetuning - MarkTechPost

LLMs & Knowledge Graphs – MarkTechPost
19 September
https://www.marktechpost.com/2023/09/19/llms-knowledge-graphs

AI: The next frontier of performance in industrial processing plants
19 September
AI performance processing | McKinsey

AlphaFold tool pinpoints protein mutations that cause disease
19 September
AlphaFold tool pinpoints protein mutations that cause disease (nature.com)
DOI: doi: https://doi.org/10.1038/d41586-023-02943-5

AI can help to speed up drug discovery — but only if we give it the right data
19 September
AI can help to speed up drug discovery — but only if we give it the right data (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02896-9

In future, we'll see fewer generic AI chatbots like ChatGPT and more specialised ones that are tailored to our needs
20 September
https://theconversation.com/in-future-well-see-fewer-generic-ai-chatbots-like-chatgpt-and-more-specialised-ones-that-are-tailored-to-our-needs-212578

U of T Engineering professor incorporating AI to help decarbonize chemical industries - U of T Engineering News
19 September
U of T Engineering professor incorporating AI to help decarbonize chemical industries - U of T Engineering News (utoronto.ca)

Universities Ditch AI Detectors Over Fears Students Could Be Falsely Accused of Cheating
22 September
Universities Ditch AI Detectors Over Fears Students Could Be Falsely Accused of Cheating (businessinsider.com)

Machine-learning-boosted drug discovery with 10-fold time reduction
22 September
Machine-learning-boosted drug discovery with 10-fold time reduction (phys.org)
DOI: 10.1021/acs.jcim.3c01239

Brace for Cognitive Impact from Artificial Intelligence
22 September
Brace for Cognitive Impact From Artificial Intelligence | Psychology Today

AlphaFold touted as next big thing for drug discovery — but is it?
22 September
AlphaFold touted as next big thing for drug discovery — but is it? (nature.com)

Machine learning unravels mysteries of atomic geometry
25 September
Machine learning unravels mysteries of atomic geometry (phys.org)
DOI: 10.1038/s41467-023-41157-1

Chemists used machine learning and molecular modeling to identify potential anticancer drugs
26 September
Chemists used machine learning and molecular modeling to identify potential anticancer drugs (phys.org)
DOI: 10.3390/biomedicines11082251

AI and science: what 1,600 researchers think
27 September
AI and science: what 1,600 researchers think (nature.com)
DOI: https://doi.org/10.1038/d41586-023-02980-0

Science and the new age of AI (Multiple Articles within)
27 September
Science and the new age of AI (nature.com)

A Perspective on Sustainable Computational Chemistry Software Development and Integration | Journal of Chemical Theory and Computation
28 September

A Perspective on Sustainable Computational Chemistry Software Development and Integration | Journal of Chemical Theory and Computation (acs.org)
DOI: https://doi.org/10.1021/acs.jctc.3c00419

In Pursuit of the Exceptional: Research Directions for Machine Learning in Chemical and Materials Science | Journal of the American Chemical Society

27 September
In Pursuit of the Exceptional: Research Directions for Machine Learning in Chemical and Materials Science | Journal of the American Chemical Society (acs.org)
DOI: https://doi.org/10.1021/jacs.3c04783

Retrosynthesis prediction with an interpretable deep-learning framework based on molecular assembly tasks | Nature Communications

3 October
Retrosynthesis prediction with an interpretable deep-learning framework based on molecular assembly tasks | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-41698-5

A New Precedent—A.I. Gets the "American Nobel" Prize in Medicine

1 October
A New Precedent—A.I. Gets the "American Nobel" Prize in Medicine (substack.com)

Machine learning reveals how to dissolve polymeric materials in organic solvents

4 October
https://phys.org/news/2023-10-machine-reveals-dissolve-polymeric-materials.html
DOI: 10.1021/acs.macromol.2c02600

The 5th Industrial Revolution: The Dawn of the Cognitive Age | Psychology Today

6 October
The 5th Industrial Revolution: The Dawn of the Cognitive Age | Psychology Today

AlphaFold2 in Molecular Discovery | Journal of Chemical Information and Modeling

9 October
AlphaFold2 in Molecular Discovery | Journal of Chemical Information and Modeling (acs.org)
DOI: https://doi.org/10.1021/acs.jcim.3c01459

Scientists Begin Building AI for Scientific Discovery Using Tech Behind ChatGPT

9 October
https://www.simonsfoundation.org/2023/10/09/scientists-begin-building-ai-for-scientific-discovery-using-tech-behind-chatgpt

Generative AI will get a 'cold shower' in 2024, analysts predict

10 October
Generative AI will get a 'cold shower' in 2024, analysts predict (cnbc.com)

How ChatGPT and other AI tools could disrupt scientific publishing

10 October
How ChatGPT and other AI tools could disrupt scientific publishing (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03144-w

The 5th Industrial Revolution: The Dawn of the Cognitive Age

6 October
The 5th Industrial Revolution: The Dawn of the Cognitive Age | Psychology Today Ireland

AI's potential to accelerate drug discovery needs a reality check
10 October
AI's potential to accelerate drug discovery needs a reality check (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03172-6

New ChatGPT-Like AI Tool For Scientific Discovery Polymathic AI Launched | Technology News | Zee News (A lot of ads)
New ChatGPT-Like AI Tool For Scientific Discovery 'Polymathic AI' Launched | Technology News | Zee News (india.com)

How ChatGPT is transforming the postdoc experience
16 October
How ChatGPT is transforming the postdoc experience (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03235-8

Leveraging generative AI in Europe: The opportunities and challenges
17 October
Leveraging generative AI in Europe: The opportunities and challenges | McKinsey

OpenAI Releases GPT-4: The New Powerhouse Language Model
20 October
OpenAI Releases GPT-4: The New Powerhouse Language Model (ts2.space)

Crystal structure prediction at finite temperatures | npj Computational Materials
21 October
Crystal structure prediction at finite temperatures | npj Computational Materials (nature.com)
DOI: https://doi.org/10.1038/s41524-023-01120-6

Neural scaling of deep chemical models | Nature Machine Intelligence
23 October
Neural scaling of deep chemical models | Nature Machine Intelligence
DOI: https://doi.org/10.1038/s42256-023-00740-3

Deep learning solves long-standing challenges in identification of nanoparticle shape
24 October
Deep learning solves long-standing challenges in identification of nanoparticle shape (phys.org)
DOI: 10.1063/5.0160979

Accelerating Biocatalysis Discovery with Machine Learning: A Paradigm Shift in Enzyme Engineering, Discovery, and Design | ACS Catalysis
26 October
Accelerating Biocatalysis Discovery with Machine Learning: A Paradigm Shift in Enzyme Engineering, Discovery, and Design | ACS Catalysis
DOI: https://doi.org/10.1021/acscatal.3c03417

Interplay of Computation and Experiment in Enantioselective Catalysis: Rationalization, Prediction, and─Correction? | ACS Catalysis
26 October
Interplay of Computation and Experiment in Enantioselective Catalysis: Rationalization, Prediction, and─Correction? | ACS Catalysis
DOI: https://doi.org/10.1021/acscatal.3c03921

Watch "Gödel, Escher, Bach author Doug Hofstadter on the state of AI today" on YouTube

June 2023
https://youtu.be/lfXxzAVtdpU?si=C0xbwiPpza4-NW2a
(205) Gödel, Escher, Bach author Doug Hofstadter on the state of AI today - YouTube

How AI pioneer Doug Hofstadter wrote Gödel, Escher, Bach

July 2023
(205) How AI pioneer Doug Hofstadter wrote Gödel, Escher, Bach - YouTube
https://youtu.be/JYZcHSqqxtg?si=6z2VJ2Fx-bOmh5m7

Extracting medicinal chemistry intuition via preference machine learning | Nature Communications

31 October
Extracting medicinal chemistry intuition via preference machine learning | Nature Communications
DOI: https://doi.org/10.1038/s41467-023-42242-1

Scientists manipulate quantum fluids of light, bringing us closer to next-generation unconventional computing

31 October
https://phys.org/news/2023-10-scientists-quantum-fluids-closer-next-generation.h
DOI: 10.1103/PhysRevLett.131.186902

Garbage in, garbage out: mitigating risks and maximizing benefits of AI in research

31 October
Garbage in, garbage out: mitigating risks and maximizing benefits of AI in research (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03316-8

Why the UK-led global AI summit is missing the point

31 October
Why the UK-led global AI summit is missing the point (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03333-7

We built a 'brain' from tiny silver wires. It learns in real time, more efficiently than computer-based AI

1 November
We built a 'brain' from tiny silver wires. It learns in real time, more efficiently than computer-based AI (theconversation.com)

Researchers from Meta and UNC-Chapel Hill Introduce Branch-Solve-Merge: A Revolutionary Program Enhancing Large Language Models' Performance in Complex Language Tasks – MarkTechPost

31 October
Researchers from Meta and UNC-Chapel Hill Introduce Branch-Solve-Merge: A Revolutionary Program Enhancing Large Language Models' Performance in Complex Language Tasks - MarkTechPost

Nature's Take: How will ChatGPT and generative AI transform research?

3 November
Nature's Take: How will ChatGPT and generative AI transform research?
DOI: https://doi.org/10.1038/d41586-023-03467-8

Study explores the scaling of deep learning models for chemistry research

11 November
https://techxplore.com/news/2023-11-explores-scaling-deep-chemistry.html
DOI: 10.1038/s42256-023-00740-3

ChatGPT has entered the classroom: how LLMs could transform education
15 November
ChatGPT has entered the classroom: how LLMs could transform education (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03507-3

The world's first AI university pairs machine learning's great power with great responsibility | Science | AAAS
17 November
The world's first AI university pairs machine learning's great power with great responsibility | Science | AAAS

Graphene proton transport could revolutionize renewable energy
18 November
Graphene proton transport could revolutionize renewable energy (interestingengineering.com)

To protect science, we must use LLMs as zero-shot translators | Nature Human Behaviour (subscription)
20 November
To protect science, we must use LLMs as zero-shot translators | Nature Human Behaviour
DOI: https://doi.org/10.1038/s41562-023-01744-0

Exclusive: OpenAI researchers warned board of AI breakthrough ahead of CEO ouster, sources say | Reuters
23 November
OpenAI researchers warned board of AI breakthrough ahead of CEO ouster, sources say | Reuters

DeepMind Says New Multi-Game AI Is a Step Toward More General Intelligence
20 November
DeepMind Says New Multi-Game AI Is a Step Toward More General Intelligence (singularityhub.com)

OpenAI Mayhem: What We Know Now, Don't Know Yet, and What Could Be Next
22 November
OpenAI Mayhem: What We Know Now, Don't Know Yet, and What Could Be Next (singularityhub.com)

ChatGPT generates fake data set to support scientific hypothesis
22 November
ChatGPT generates fake data set to support scientific hypothesis (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03635-w

ChatGPT generates fake data set to support scientific hypothesis
22 November
ChatGPT generates fake data set to support scientific hypothesis (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03635-w

What the OpenAI drama means for AI progress — and safety
23 November
What the OpenAI drama means for AI progress — and safety (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03700-4

Artificial intelligence finds ways to develop new drugs
23 November
Artificial intelligence finds ways to develop new drugs | ETH Zurich
DOI: 10.1038/s41557-023-01360-5

Quantum Computing & Quantum Computers

Chinese scientists say physics breakthrough is a step towards scalable quantum computation | South China Morning Post

10 September
Chinese scientists say physics breakthrough is a step towards scalable quantum computation | South China Morning Post (scmp.com)
DOI: 10.1126/science.adk6139

Physicists Create New Magnetic Material to Unleash Quantum Computing : ScienceAlert

19 September
Physicists Create New Magnetic Material to Unleash Quantum Computing : ScienceAlert
DOI: https://doi.org/10.1063/5.0153212
DOI: https://doi.org/10.1038/d41586-023-02984-w

Watch "European Conference on Computational and Theoretical Chemistry (CompChem 2023)" on YouTube

2 October
(145) European Conference on Computational and Theoretical Chemistry (CompChem 2023) - YouTube
https://youtu.be/3ZBYmXDBH5c?si=aE7-D7LeV5Q-i2x-

The European Conference on Computational and Theoretical Chemistry (EuChemS CompChem), established in 1994, and previously known as EUCO-CTC, is a platform for scientists in academia, industry and governmental institutions to showcase recent advances, developments and trends in molecular modeling, simulation, and related areas. The EuCo series of conferences is organized by the EuChemS Division of Computational and Theoretical Chemistry (DCTC).

The 14th EuCo-CTC, now renamed as EuChemS CompChem 2023, took place as a physical meeting in Thessaloniki (Greece) on August 27-31, 2023.

The Conference included five thematic sessions on:
• Electronic Structure: Theory and Applications
• Artificial Intelligence in Chemical Research
• Materials Design
• Biomolecular Systems
• Computational Chemistry in Industry

New kind of quantum computer made using high-resolution microscope

5 October
New kind of quantum computer made using high-resolution microscope (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03141-z

Artificial intelligence speeds the discovery of more sustainable, higher-performing polymers

3 November
Artificial intelligence speeds the discovery of more sustainable, higher-performing polymers (phys.org)
DOI: 10.1021/acs.macromol.3c00994

The best AI tools to power your academic research | Euronews

12 November
The best AI tools to power your academic research | Euronews

How to Convert Any Text into a Graph of Concepts | by Rahul Nayak | Nov, 2023 | Towards Data Science

10 November
How to Convert Any Text Into a Graph of Concepts | by Rahul Nayak | Nov, 2023 | Towards Data Science

Neutral-atom quantum computers are having a moment – Physics World

9 November
Neutral-atom quantum computers are having a moment – Physics World

ChatGPT has entered the classroom: how LLMs could transform education

15 November
ChatGPT has entered the classroom: how LLMs could transform education (nature.com)
DOI: https://doi.org/10.1038/d41586-023-03507-3

The best AI tools for writing a research paper - Android Authority

15 November
The best AI tools for writing a research paper - Android Authority

Fine-tuning ChatGPT Achieves State-of-the-Art Performance for Chemical Text Mining | Organic Chemistry | ChemRxiv | Cambridge Open Engage

16 November
Fine-tuning ChatGPT Achieves State-of-the-Art Performance for Chemical Text Mining | Organic Chemistry | ChemRxiv | Cambridge Open Engage
DOI: https://doi.org/10.26434/chemrxiv-2023-k7ct5

SIGMA-ALDRICH®

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**

Your local contact:

Andreina Moran
Account Manager
Sigma Aldrich Ireland Ltd

086 389 8647
andreina.moran@sial.com

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

Fast-tracking fusion energy's arrival with AI and accessibility | MIT News | Massachusetts Institute of Technology

1 September
https://news.mit.edu/2023/fast-tracking-fusion-energy-with-ai-and-accessibility-0901

Fusion News, September 6, 2023

6 September
(114) Fusion News, September 6, 2023 - YouTube

Fusion Pioneer Rod Bateman HTS

14 September
(125) Fusion Pioneer Rod Bateman HTS - YouTube

Watch "Inside the UKs Breakthrough Fusion Reactor - First Light Fusion" on YouTube

5 September
(125) Inside The UKs Breakthrough Fusion Reactor - First Light Fusion - YouTube
https://youtu.be/A5BoixdNzII?si=CEMaS2akUGe-14KI

Unleashing Fusion Energy with the Help of AI

18 September
Unleashing Fusion Energy With the Help of AI (scitechdaily.com)

Scientists Achieve Nuclear Fusion

25 September
https://www.nytimes.com/2022/12/13/science/nuclear-fusion-energy-breakthrough.html

Nuclear Fusion Breakthrough Gets a Bigger Burst of Laser Energy - The New York Times

25 September
https://www.nytimes.com/2023/09/25/science/nuclear-laser-fusion-nif.html

Chi-Nu experiment ends, bolsters nuclear security and energy reactors

26 September
Chi-Nu experiment ends, bolsters nuclear security and energy reactors (phys.org)
DOI: 10.1103/PhysRevC.108.024603

Fusion Experiments Shatter Previous Energy Records | OilPrice.com

27 September
Fusion Experiments Shatter Previous Energy Records | OilPrice.com

A breakthrough discovery could accelerate the arrival of controlled fusion energy on Earth

28 September
A breakthrough discovery could accelerate the arrival of controlled fusion energy on Earth (phys.org)
DOI: 10.1103/PhysRevLett.131.085102

Helion Energy Partners with Nucor Steel for 500MW Nuclear Fusion Power Plant in 2030 | NextBigFuture.com

30 September
Helion Energy Partners With Nucor Steel for 500MW Nuclear Fusion Power Plant in 2030 | NextBigFuture.com

ITER Putting the sun in a box (Commercial)
October
ITER | Customer Story - Dassault Systèmes (3ds.com)

Accelerating the prediction of CO2 capture at low partial pressures in metal-organic frameworks using new machine learning descriptors | Communications Chemistry
3 October
https://www.nature.com/articles/s42004-023-01009-x
DOI: https://doi.org/10.1038/s42004-023-01009-x

Harnessing the Power of Stars: EPFL's 30-Year Odyssey in Fusion Energy Research
4 October
Harnessing the Power of Stars: EPFL's 30-Year Odyssey in Fusion Energy Research (scitechdaily.com)

Metal to non-metal sites of metallic sulfides switching products from CO to CH4 for photocatalytic CO2 reduction | Nature Communications
4 October
Metal to non-metal sites of metallic sulfides switching products from CO to CH4 for photocatalytic CO2 reduction | Nature Communications

Fuse Making Hybrid Fusion-Fission Commercial Energy | NextBigFuture.com
9 October
Fuse Making Hybrid Fusion-Fission Commercial Energy | NextBigFuture.com

Can German engineering solve the challenges of fusion? - BBC News
13 October
Can German engineering solve the challenges of fusion? - BBC News

Tokamak Energy's upgrades bring us closer to clean energy
12 October
Tokamak Energy's upgrades bring us closer to clean energy (interestingengineering.com)

Five New Fusion Prospects, Minus the Neutrons - IEEE Spectrum
15 October
Five New Fusion Prospects, Minus the Neutrons - IEEE Spectrum

Printing a new approach to fusion power plant materials - AM Chronicle
16 October
Printing a new approach to fusion power plant materials - AM Chronicle

Britain's push for fusion breakthroughs must not hinge on one technology
24 October
Britain's push for fusion breakthroughs must not hinge on one technology (telegraph.co.uk)

Japan's fusion power project reaches plasma milestone - Nikkei Asia
25 October
Japan's fusion power project reaches plasma milestone - Nikkei Asia

What happens after a nuclear power station is closed? - BBC News
27 October
What happens after a nuclear power station is closed? - BBC News

First plasma fired up at world's largest fusion reactor | Science | AAAS

31 October
First plasma fired up at world's largest fusion reactor | Science | AAAS

China completes all magnet-supporting products to ITER megaproject – CGTN
4 November
China completes all magnet-supporting products to ITER megaproject - CGTN

Fusion Diary: the spherical tokamak story - Asia Times
6 November
Fusion Diary: the spherical tokamak story - Asia Times

Japan sets new nuclear fusion record - Big Think
4 November
Japan sets new nuclear fusion record (freethink.com)

China's Jiangxi to build a fusion-fission reactor - Asia Times
16 November
China's Jiangxi to build a fusion-fission reactor - Asia Times

Scientists find new way to supercharge lasers by a million times
15 November
Scientists find new way to supercharge lasers by a million times (interestingengineering.com)

What's coming next for fusion research | MIT Technology Review
16 November
What's coming next for fusion research | MIT Technology Review

Supermagnets changing the rules of nuclear fusion - Asia Times
30 November
Supermagnets changing the rules of nuclear fusion - Asia Times

Engineering The Largest Nuclear Fusion Reactor – YouTube
21 November
(282) Engineering The Largest Nuclear Fusion Reactor - YouTube

I Investigated the World's Largest Nuclear Fusion Reactor
21 November
(282) I Investigated the World's Largest Nuclear Fusion Reactor - YouTube

Wright brothers: US startup aims nuclear fusion using plasma railguns
22 November
Wright brothers: US startup aims nuclear fusion using plasma railguns (interestingengineering.com)

Fusion industry outlines ambitious plans to deliver electricity to the grid by 2035 – Physics World
22 November
Fusion industry outlines ambitious plans to deliver electricity to the grid by 2035 – Physics World

Doughnut plasma and 100 million°C cores: How scientists could soon make nuclear fusion a reality | BBC Science Focus Magazine
24 November
Doughnut plasma and 100 million°C cores: How scientists could soon make nuclear fusion a reality | BBC Science Focus Magazine

Tech Breakdown: What's China's role in creation of 'artificial sun'? – CGTN

24 November
Tech Breakdown: What's China's role in creation of 'artificial sun'? - CGTN

Japan firm uses telecom AI to detect flaws in nuclear fusion reactor
24 November
Japan firm uses telecom AI to detect flaws in nuclear fusion reactor (interestingengineering.com)

##

Small (Modular) Nuclear Reactors & New Technology for Conventional Fission Reactors

Over 200 foreign nuclear experts visit world's first onshore small modular reactor in China
9 September
https://youtu.be/abDN5pJlTx0?si=jE6hXYkPBtT169KY

How it Works – the Micro Modular Nuclear Reactor – YouTube
December 2022
(115) How it Works – the Micro Modular Nuclear Reactor - YouTube

New poppy seed-sized fuel pellets could power nuclear reactors on the moon | Live Science
11 September
New poppy seed-sized fuel pellets could power nuclear reactors on the moon | Live Science

AI and atoms: How artificial intelligence is revolutionizing nuclear material
11 September
AI and atoms: How artificial intelligence is revolutionizing nuclear material - Bulletin of the Atomic Scientists (thebulletin.org)

Texas Molten Salt Nuclear Reactor Planned for 2026 | NextBigFuture.com
25 September
Texas Molten Salt Nuclear Reactor Planned for 2026 | NextBigFuture.com

LLNL NIF Plans for Higher Laser Power and a Roadmap to Over 10X Fusion Gain | NextBigFuture.com
27 September
LLNL NIF Plans for Higher Laser Power and a Roadmap to Over 10X Fusion Gain | NextBigFuture.com

Chi-Nu Experiment's Final Insights: Pioneering Data for Nuclear Security & Reactor Design
1 October
Chi-Nu Experiment's Final Insights: Pioneering Data for Nuclear Security & Reactor Design (scitechdaily.com)
DOI: 10.1103/PhysRevC.108.024603

Microsoft Needs So Much Power to Train AI That It's Considering Small Nuclear Reactors
30 September
Microsoft Needs So Much Power to Train AI That It's Considering Small Nuclear Reactors (futurism.com)

The Ghostly Glow of a Nuclear Power Station Was Detected in Pure Water 150 Miles Away : ScienceAlert

1 October 2023
The Ghostly Glow of a Nuclear Power Station Was Detected in Pure Water 150 Miles Away : ScienceAlert
DOI: https://doi.org/10.1038/s41467-023-41943-x

The Future of Nuclear Reactors: Deciphering Electron Behavior in Molten Salts

21 October
The Future of Nuclear Reactors: Deciphering Electron Behavior in Molten Salts (scitechdaily.com)
DOI: 10.1021/acs.jpcb.3c04210

Competences for successful future nuclear energy technologies

2 November
Competences for successful future nuclear energy technologies (innovationnewsnetwork.com)

Why it takes so long to get advanced nuclear reactors up and running - Deseret News

3 November
Why it takes so long to get advanced nuclear reactors up and running - Deseret News

Nuclear Energy & Free Market Capitalism Aren't Compatible – CleanTechnica

Nuclear Energy & Free Market Capitalism Aren't Compatible - CleanTechnica
6 November
Nuclear Energy & Free Market Capitalism Aren't Compatible - CleanTechnica

Bad guys and bombs: The nuclear risks of small modular reactors | Canada's National Observer: News & Analysis

3 November
Bad guys and bombs: The nuclear risks of small modular reactors | Canada's National Observer: News & Analysis

EU Commission to launch industry alliance on small nuclear reactors – EURACTIV.com

8 November
EU Commission to launch industry alliance on small nuclear reactors – EURACTIV.com

Researchers develop neutron-shielding film for radiation protection

15 November
Researchers develop neutron-shielding film for radiation protection (phys.org)
DOI: 10.1038/s41467-023-42670-z

Japan firm uses telecom AI to detect flaws in nuclear fusion reactor

24 November
Japan firm uses telecom AI to detect flaws in nuclear fusion reactor (interestingengineering.com)

Thorium Power Reactors

Copenhagen Atomics Progress to Mass Manufacturing Thorium Reactors and First Reactor in 2028 | NextBigFuture.com

8 September
Copenhagen Atomics Progress to Mass Manufacturing Thorium Reactors and First Reactor in 2028 | NextBigFuture.com

Nuclear Physicist EXPLAINS - What are Thorium Reactors?
January 2023
(141) Nuclear Physicist EXPLAINS - What are Thorium Reactors? - YouTube

Thorium Reactors: A Safer and Sustainable Nuclear Future
18 October
https://www.azocleantech.com/article.aspx?ArticleID=1749

How China became the king of new nuclear power, and how the U.S. is trying to stage a comeback
30 August
https://www.cnbc.com/2023/08/30/how-china-became-king-of-new-nuclear-power-how-us-could-catch-up.html

Nuclear 4.0: Chinas NEW Thorium Reactor Changes Everything!
September 2023
https://www.youtube.com/watch?v=W95DY3q61T4

Hydrogen-Boron 11 Fusion Power Reactors

Hydrogen-Boron 11 Fusion Power Reactors
30 October 2023
https://hb11.energy/2023/10/30/turning-laser-leadership-into-fusion-power-hb11-energy-contributes-to-australias-capability-papers

Group Touts Milestone for Hydrogen-Boron Fusion Power
2 March 2023
https://www.powermag.com/group-touts-milestone-for-hydrogen-boron-fusion-power

SFI News, Updates & Reports

Minister Harris announces Taighde Éireann-Research Ireland as the official name of the new Research and Innovation funding agency

16 November 2023

Pictured l-r: Minister Simon Harris and Professor Philip Nolan

Minister for Further and Higher Education, Research, Innovation and Science Simon Harris has today announced Taighde Éireann - Research Ireland as the official name of the new Research and Innovation funding agency.

The official naming marks another landmark moment in the process to establish the new agency, which will be created on the passing of the Research and Innovation Bill 2023.

The legislation, which will be published in the coming weeks, will amalgamate the activities and functions of the Irish Research Council (IRC) and Science Foundation Ireland (SFI) to create a new competitive funding agency for research and innovation.

Announcing the official name of the agency today, **Minister Harris** said: “I am to very glad to announce Taighde Éireann- Research Ireland as the official name of the new Research and Innovation funding agency.

“It has the clarity and impact needed to communicate the mission of the new agency effectively, both at home and further afield.

“This is an essential element of my Department’s commitments under the Programme for Government, and Impact 2030. The new agency will deliver enhanced added value and ambition as part of the wider research and innovation system.

“Researchers can be reassured that there will be no interruption to ongoing services and funding programmes while the new agency is being set up. This work is underway and the CEO Designate is working closely with my Department on getting ready for the establishment in 2024.”

Professor Philip Nolan was appointed as CEO Designate of the new agency in May.

Speaking today, **Professor Nolan** said: “The creation of the new agency, Taighde Éireann- Research Ireland, offers the opportunity, as outlined in Impact 2030, to place all research areas on an equal and statutory footing and to drive a step-change in interdisciplinary research.

"The agency will be building on the recognised strengths of the IRC and SFI, but will also be a cornerstone of a more connected and ambitious research and innovation system for Ireland.

"The choice of Taighde Éireann - Research Ireland as the name for the new agency is important in transmitting to stakeholders at home and abroad this sense of ambition and purpose.”

The Official Languages (Amendment) Act 2021 requires that the name of a new agency promotes and puts priority on the Irish language.

The name Taighde Éireann - Research Ireland will accomplish these aims, and also allow the new agency to promote the success and excellence of Irish research and innovation in Europe and wider international arenas.

Taighde Éireann - Research Ireland will capitalise on the recognised strengths of the Irish Research Council and Science Foundation Ireland in driving world class research and innovation in Ireland.

The new agency will fund research and innovation excellence in all disciplines across the spectrum of Arts, Engineering, Humanities, Mathematics, Science, Social Sciences, Technology and others.

The Research and Innovation Bill 2023 will place Arts, Humanities and Social Sciences research on a statutory footing for the first time.

The establishment of the agency in statute also ensures parity of esteem for the IRC’s critical mission of supporting researchers at all career stages.

In making competitive funding awards across all disciplines and of varying sizes, the agency will significantly broaden the access of researchers in all areas to an improved range of research funding programmes.

It is expected that Taighde Éireann - Research Ireland will come into operation in 2024.

Science Foundation Ireland sfi For what's next

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

e-Alert: December 2023

SFI-IRC Pathway Programme Launch

SFI and the IRC are pleased to announce that the **SFI-IRC Pathway programme 2024** is now open! The Programme is open to talented post-doctoral researchers across **all research disciplines** who are poised to transition to an independent research career.

The key goal of this joint funding programme is to support excellent researchers, who have held a PhD for at least 2 years, to develop their track record and establish themselves as independent investigators.

Potential applicants to the SFI-IRC Pathway Programme 2024 call should first seek pre-approval from their intended host institution.

An information webinar will be available **Tuesday 12th December 2023**.

Details of the webinar and further information on the **SFI-IRC Pathway programme** is available here:

SFI-IRC Pathway Programme

#BelieveInScience

Three Park Place, Hatch Street Upper,
Dublin 2, Ireland
D02 FX65

+353 (0)1 607 3200
info@sfi.ie

SFI Strategic Partnership Programme

Science Foundation Ireland would like to notify members of the research community that the call guidance documentation for preparing submissions to the **SFI Strategic Partnership Programme** has been updated. This is to reflect changes in both the submission and review processes for full applications to the programme.

The updated programme call document can be found in the downloads section of the programme webpage:

SFI Strategic Partnership Programme

SFI News

This month's SFI News includes the 2022 SFI Annual Report, the winners of the first SDG Challenge, information on current funding opportunities, and SFI-funded researchers featured in the media.

SFI-funded research delivers significant economic and societal benefits for Ireland

Minister Simon Harris launched the 2022 SFI annual report. The report showcases the talent and dedication of the SFI-funded research community. **Read more**

Ministers Harris and Fleming announce winning projects of Sustainable Development Goals Challenge

Prof Sean Doyle and Dr Nicola Mountford (Maynooth University) with Dr Peter Waiswa (Makerere University) have won the first SDG Challenge, with a new approach to identifying sepsis in newborn babies. Read more

Science Week 2023 sparks national conversation about what it means to be human

Minister Simon Harris joined SFI to launch Science Week 2023, announcing €650,000 in funding for festivals and events taking place from 12th-19th November. Read more

Minister Simon Harris welcomes final teams to join the National Challenge Fund

Twenty-five teams have joined the final two National Challenge Fund challenges: the Sustainable Communities Challenge and the Future Food Systems Challenge. Read more

e-Alert: October 2023

SFI-NSF I-Corps@SFI Entrepreneurial Training Programme 2023

Science Foundation Ireland is pleased to launch the 2023 SFI-NSF I-Corps@SFI Entrepreneurial Training Programme Call.

The SFI-NSF I-Corps@SFI Entrepreneurial Training Programme is intended to support SFI grant holders, and associated team members, to develop entrepreneurial and innovation skills that will enable them to realise new economic and societal impact opportunities for their research.

This programme offers a grant of up to €35k over a duration of up to 6-months and access to the world-renowned NSF I-Corps Teams programme.

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

SFI-NSF I-Corps@SFI Entrepreneurial Training Programme

#BelieveInScience
Three Park Place, Hatch Street Upper,
Dublin 2, Ireland
D02 FX65
+353 (0)1 607 3200
info@sfi.ie

e-Alert: June 2023
e-Alert: October 2023

Sustainable Laboratory Certification Pilot Programme

SFI is pleased to announce the launch of the **Sustainable Laboratory Certification Pilot Programme**, which will be delivered in partnership with **My Green Lab**.

This pilot programme will support up to 100 labs maintained by SFI Principal Investigators/Funded Investigators, and their research groups, to participate in the My Green Lab Certification process.

Expressions of Interest are invited now. For more information on the pilot programme and how to apply, visit:

Sustainable Laboratory Certification

Contact Us

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

SFI News

This month's SFI News includes the launch of the Sustainable Laboratory Certification pilot programme, upcoming events, funding opportunities and SFI-funded researchers featured in the media.

SFI spearheads drive for sustainable laboratories

The initiative, delivered in partnership with My Green Lab, aims to bring best-in-class, sustainable research practices into Irish labs. Read more

Sustainable Laboratory Certification Pilot Programme

Expressions of interest are invited from SFI Principal Investigators/Funded Investigators, to participate in the Sustainable Laboratory Certification pilot programme, delivered in partnership with My Green Lab. EoI deadline for the first tranche is 1pm **7th November 2023**.

Apply now

Funding Opportunities

The **SFI Frontiers for the Future Programme** provides opportunities for independent investigators to conduct highly innovative, collaborative research. The Awards stream is now open as a **rolling call**, remaining open for the foreseeable future, subject to budget availability.

The **SFI-NSF I-Corps@SFI Entrepreneurial Training Programme** supports research teams to participate in the **NSF I-Corps Teams** programme. Application deadline for **Call A** is 1pm **19th January 2024**.

Upcoming events

SCI:COM is a unique live event that welcomes great minds from the arena of science communication and beyond for an exciting day of talks, panel discussions, and networking. Taking place on **6th December 2023**, speakers include psychotherapist and author Richie Sadlier, SFI Director General Prof Philip Nolan, and Fiona Fox from the Science Media Centre.

Get inspired

Taking place from **12th - 19th November 2023**, the theme for **Science Week** 2023 is *'Human?'*, which asks people to consider what it means to be human in today's world, and how the decisions we make today will impact the people and world of the future.

Get involved

SFI in the News

SILICON REPUBLIC	THE IRISH TIMES	RTÉ
UCC study finds link between the gut and Alzheimer's	**Harnessing the energy-storage power of green hydrogen**	**What our study of wartime deepfake videos reveal about trust and deception**
Read the article	Read the article	Read the article

Contact Us

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

e-Alert: November 2023

SFI-IRC Pathway Programme 2024

Advanced Notice

Science Foundation Ireland and the Irish Research Council are pleased to advise that the 2024 **SFI-IRC Pathway programme** will launch on December 5th, 2023!

The SFI-IRC Pathway Programme is targeted towards talented post-doctoral researchers across **all research disciplines** who are poised to transition to an independent research career.

The key goal of this joint funding programme is to support excellent researchers, who have held a PhD for at least 2 years, to develop their track record and establish themselves as independent investigators.

The structure of the programme, including eligibility criteria and information required for the application will be the same as 2022 call. As was the case previously, women candidates are strongly encouraged to apply.

The maximum budget request for the 2024 call has been increased to **€495,000** in direct costs over a four-year term.

Potential applicants to the SFI-IRC Pathway Programme 2024 call should first seek pre-approval from their intended host institution.

The deadline for Research Body nomination of candidates is **20th February 2024**, 13:00 Dublin local time.

More information will follow in the coming weeks. Please direct all queries to pathway@sfi.ie.

Contact Us

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

Science Foundation Ireland sfi For what's next

Minister Harris appoints Professor Philip Nolan as CEO Designate of the Research and Innovation funding agency

Department of Further and Higher Education, Research, Innovation and Science
30 May

Minister for Further and Higher Education, Research, Innovation and Science Simon Harris has today announced the appointment of Professor Philip Nolan as the Chief Executive Officer (CEO) Designate of the new Research and Innovation funding agency.

The appointment of Professor Nolan marks a pivotal moment in the process to establish the agency, which will be created on the passing of the Research and Innovation Bill 2023. The legislation, which goes through the Oireachtas later this year, will also amalgamate the activities and functions of the Irish Research Council (IRC) and Science Foundation Ireland (SFI).

Professor Nolan is currently the Director General of Science Foundation Ireland and will stay in this role until the establishment of the new agency.

Previously, he served as the President of Maynooth University and was Deputy President of University College Dublin prior to that.

Announcing the appointment today, Minister Harris said:
"I am delighted to announce the appointment of Professor Nolan, who will bring a wealth of experience and knowledge to the role.

"This appointment marks a significant milestone in the establishment of the agency. It will allow for the operational and transitional work required to set up the agency proceed at pace, alongside the legislative process.

"The appointment of Professor Nolan will provide important continuity and leadership during the transitional period and the early stages of the new agency.

"Professor Nolan will engage closely with my department, as well as the Irish Research Council, in progressing the body of work required to ensure the agency is prepared to serve the research community well shortly after the enactment of the legislation.
"At the same time, Professor Nolan will continue in his role as Director General of Science Foundation Ireland.

"Researchers can be reassured that there will be no interruption to ongoing services and funding programmes while the new agency is being set up. It will be business as usual in the IRC and SFI."

Speaking today, Professor Philip Nolan said:
"I am honoured and excited to have been appointed by Minister Simon Harris as the CEO-designate of the new national research and innovation agency.

"This is a once-in-a-generation opportunity to drive a step change in public investment in research, and give us the talent, knowledge and expertise to address the major societal challenges and changes that we must confront over the coming decades.

"SFI and the IRC have both made vital contributions to research, scholarship, and innovation, and I look forward to working with the Minister and all stakeholders to bring together the

strengths of these two excellent agencies, better to serve society, and to get the very best for all of us from the taxpayers' investment in research and innovation."

The creation of the new research and innovation funding agency is a key action in Impact 2030: Ireland's Research and Innovation Strategy.

The new agency will capitalise on the recognised strengths of the Irish Research Council and Science Foundation Ireland in driving world class research and innovation in Ireland.

The new agency will fund research and innovation excellence in all disciplines across the spectrum of Arts, Engineering, Humanities, Mathematics, Science, Social Sciences, Technology, and others.

The new legislation will place Arts, Humanities and Social Sciences research on a statutory footing for the first time.

The establishment of the agency in statute also ensures parity of esteem for the IRC's critical mission of supporting researchers at all career stages.

In making competitive funding awards across all disciplines and of varying sizes, the agency will significantly broaden the access of researchers in all areas to an improved range of research funding programmes.

It is expected that the new agency should come into operation in January 2024.

Professor Nolan's appointment is effective from today and he will assume the role for the formative years of the new agency.

Notes
The creation of a new research and innovation agency is set against an ambitious programme of reform in the tertiary sector.

This comprises the establishment of the Department of Further and Higher Education, Research, Innovation and Science itself, including the development of a unified tertiary system, its remit for the national research and innovation system and other key policy developments.

For the purposes of the legislation, the unifying agency name of "Research and Innovation Ireland" will be used. However, this is a working title only and the department will work with stakeholders on the selection of a final name which is deemed appropriate in a national and international context and is inclusive of all disciplines.

A programme of stakeholder consultation has been taking place since the development of Impact 2030 and was integral to the development of that whole-of-government strategy on Irish research and innovation. Consultation with wider stakeholders, with particular regard to the research and innovation community, is being prepared in order to seek feedback on the operationalisation of the functions of the new agency and to keep them informed about progress. It is foreseen that this will be led by the CEO Designate of the agency.
The main objectives of the General Scheme of the Research and Innovation Bill are to:

- promote and support excellence in research and innovation across all disciplines
- promote and support research and innovation's contribution to Ireland's economic, social, cultural and environmental development and sustainability

- strengthen engagement between the research and innovation system and enterprise, Government and public bodies, the voluntary sector and society
- in collaboration with the HEA and other public research funders, grow Ireland's international offering and reputation as a location for undertaking excellent research and innovation
- advance equality, diversity and inclusion in research and innovation
- promote, develop and assist the carrying out of oriented basic research in strategic areas of endeavour that concerns the future development and competitiveness of the State

Read more:
General Scheme of Research and Innovation Bill, 2023
General Scheme of the Research and Innovation Bill – Explanatory note
Impact 2030: Ireland's Research and Innovation Strategy

Science Foundation Ireland announces new Director General: Professor Philip Nolan

19 October

The Board of Science Foundation Ireland (SFI), the state agency responsible for investment in research in the areas of science, technology, engineering, and mathematics, has announced the appointment of its new Director General-designate (Chief Executive Officer) Professor Philip Nolan. Professor Nolan will take up the appointment in mid-January 2022.

Philip Nolan has a strong track record of delivering in a number of senior leadership roles in higher education and research and is a trusted advisor to government. Professor Nolan recently completed his term as President of Maynooth University, now the fastest growing and most diverse university in Ireland. During his 10-year term as President, he instigated major campus developments, including a university-wide investment in research capacity, Maynooth University's largest capital project, a €57 million 'Technology Society and Innovation Project', the development of a 20-year campus master plan, and the opening of the International College of Engineering at Fuzhou University in China. At the onset of the Covid-19 pandemic, Professor Nolan was asked by government to chair the National Public Health Emergency Team's (NPHET) Irish Epidemiological Modelling Advisory Group which has played a critical role in controlling the spread of Covid-19 in Ireland.
Professor Peter Clinch, Chairman of SFI, said: "On behalf of the Board, I am delighted to welcome Philip, as Director-General designate, to SFI. A distinguished researcher in his own right, Philip has a proven record of achievement as a leader in research and innovation as Director of the UCD Conway Institute for Biomolecular and Biomedical Research, Deputy President of, University College Dublin, Ireland's largest university, and as President of Maynooth University, Ireland's fastest growing and most diverse university. Over the past two decades SFI has played a central role in building a strong, sustainable, economy and society, through supporting the development of a world class research and

innovation system. Philip's role will be to build on this success to position Ireland as a Global Innovation Leader for the advancement of Ireland's economy and society. I wish him every success as Director General of SFI and look forward to working with him."

Professor Philip Nolan, said: "It is a privilege to be appointed Director-General of SFI. SFI has led the transformation of Ireland's research landscape, sponsoring outstanding research with global impact. The opportunity now is to build on this success, focusing on excellence in research and its translation into tangible benefits for our economy and society, to secure our position as a global innovation leader in science and engineering, and to ensure Ireland plays its part in addressing the complex challenges that face our society. The insights of research, and the energy of innovation, can help us shape a future that is healthier, more equal and inclusive, and sustainable. I look forward to working with the Board, colleagues in SFI and other research and enterprise agencies, and our research, higher education, enterprise, public sector and civil society partners towards this ambitious goal."

The Chairman of SFI, Peter Clinch, also paid tribute to the contribution of outgoing Director General, **Professor Mark Ferguson**. "Over his 10-year term, Mark has led SFI out of the economic crisis and to great heights. He has been a strong advocate for the importance of investment in science as a key building block of Ireland's economy and its importance for addressing major societal challenges such as Covid-19 and climate change. His commitment to excellence, combined with his innovative approach to funding programmes, has greatly advanced SFI's and Ireland's international reputation in research and the funding of science. Mark will complete his second term as Director General in mid-January 2022 and the Board and I wish him every success in his future endeavours."

Professor Philip Nolan
#BelieveInScience
Three Park Place, Hatch Street Upper,
Dublin 2, Ireland
D02 FX65
+353 (0)1 607 3200

Physical Chemistry Chemical Physics
Phys. Chem. Chem. Phys.,
2023,**25**, 26933-26934
DOI
https://doi.org/10.1039/D3CP90210B

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

We bring together innovative technologies and application expertise to help scientists and clinicians address daunting scientific challenges.

Product Innovations

Operetta CLS High-Content Analysis System

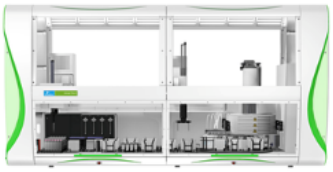
Uncover deep biological understanding in your everyday assays and innovative applications using the Operetta CLS™ high-content analysis system. Featuring a unique combination of technologies, the system delivers all the speed, sensitivity and resolution you need to reveal fine sub-cellula...

Learn More

NexION 2000 ICP Mass Spectrometer

PerkinElmer's NexION® 2000 is the most versatile ICP-MS on the market, featuring an array of unique technologies that combine to deliver the highest performance no matter what your analytical challenge.

Discover the effortless versatility of an instrument that makes it easy...



chemagic Prime Instrument

Automated Nucleic Acid Isolation and Assay Setup

The chemagic™ Prime™ Instrument is a fully automated solution offering hands-free sample transfer, DNA and RNA isolation, normalization (optional), and PCR setup for research applications. This validated, single suppli...

Learn More

PerkinElmer
Dublin, Ireland
C17 The Exchange Calmount Park
Ballymount
Dublin 12
Ireland
http://www.perkinelmer.com/ie
P: 1 800 932 886

https://www.idaireland.com

IDA Updates & Reports

Facts about Ireland 2023

Download here:

IDA-Facts-about-Ireland-2023-(2).pdf (idaireland.com)

IDA Ireland
Wilton Park House,
Wilton Place, Dublin 2
Tel: + 3531 603 4000
Email: idaireland@ida.ie

IDA Ireland unveils new brand that embodies organisation's dynamism and strategic vision

8 November

CEO of IDA Ireland, Michael Lohan

- **New brand reflective of IDA Ireland's commitment to global and national partnerships in a digital age**

- **Embodies digitalisation, innovation, connectivity and a contemporary Ireland**

IDA Ireland today unveiled a new corporate identity that reflects the organisation's steadfast commitment to its partnerships with multinational clients and national stakeholders. The new brand also represents Ireland's transformation to a proven location enabling high value manufacturing, research, innovation, and global business services.

This is the first rebrand undertaken by IDA Ireland in over 40 years. Since the last rebrand in 1980, there have been dramatic shifts in the world of business. The new brand has been designed to better reflect the digitally advanced landscape in which IDA Ireland now operates and to represent a contemporary Ireland positioned for a digital age. This is captured in IDA Ireland's new corporate logo and new corporate tagline.

Corporate logo

The new IDA Ireland logomark, a trinity of dots, pays homage to the iconic shamrock signifying the unique partnership between IDA Ireland, national stakeholders and global companies who collaborate to drive competitiveness, innovation, sustainability, and digitalisation on a global scale.

This new branding embodies the importance of IDA Ireland's relationships in attracting cutting-edge investments into Ireland and empowering client companies to thrive, evolve, digitally transform, and

contribute sustainably to Irish society.

The vibrant green colour of the logomark and the bespoke typeface are designed to exude confidence with a nod to Irish personality and to distinguish IDA Ireland in the marketplace.

Digital innovation has dramatically changed the means through which IDA Ireland communicates with its audiences. The new branding has been designed for optimal use across digital communications channels to help more effectively position IDA Ireland within the fiercely competitive marketplace for foreign direct investment.

Invest in Extraordinary

At the heart of the new IDA Ireland identity lies the powerful tagline, “Invest in Extraordinary.” Ireland is consistently one of the most attractive destinations for foreign direct investment (FDI) with the highest FDI per head of population in Europe.

With almost 1,800 IDA Ireland clients already committed to Ireland, successfully growing and scaling their international business, the concept of investing in the extraordinary conveys this success and ambition. It also underscores the important contribution that global companies make to the Irish economy.

Commenting on the brand launch **CEO of IDA Ireland, Michael Lohan, said:** “I am delighted to launch this exciting new brand for IDA Ireland. This modern take will ensure that IDA Ireland and indeed, Ireland, stand out in the increasingly competitive global environment for foreign direct investment. The new identity is synonymous with the vibrant, innovative country we represent. It symbolises a contemporary, multicultural Ireland, with a thriving dynamic workforce. Our new brand is a positive development, as it not only reflects our proud heritage of more than 70 years securing FDI, but more importantly, it asserts our ongoing commitment to transforming for the future.”

https://www.idaireland.com

How Ireland is Becoming a leader in Renewable Energy Technology

From high tides and strong winds to a government that is strongly supportive of foreign investment and startups, Ireland is at the forefront of Europe's renewables revolution. And Japanese companies are keen to engage.

Perched on Europe's western fringe, with strong prevailing winds blowing in from the Atlantic Ocean, Ireland is better placed than most countries to generate energy from wind power. What's more, its strong track record of encouraging startups and attracting foreign investment means it is developing the underlying technology to exploit that potential to the fullest.

The country plans to generate up to 80% of its electricity from renewable sources by 2030, as specified by its Climate Action Plan 2023, updated in December last year. With 9GW to come from onshore wind resources and at least 5GW from offshore wind, the strategy also envisages some 8GW from solar power by the end of the decade. These plans should help the country meet its targets to cut carbon emissions by 51% by the end of the decade and to reach net-zero carbon emissions no later than 2050, as set out in the Climate Action and Low Carbon Development Act, signed into law in July 2021.

The ambitious targets also represent a large business opportunity, which government bodies are keen to support. "IDA Ireland is encouraging companies that are active in the green sector to establish onshore and offshore wind farms, solar power farms, energy storage (battery) facilities and the wider peripheral infrastructures," says Derek Fitzgerald, director of the IDA's Japan office.

Continue reading this article here:

How Ireland is Becoming a leader in Renewable Energy Technology | IDA Ireland

https://www.idaireland.com

An immune protein stops ovarian cancer growth, study suggests

The pre-clinical models suggest a certain protein is able to directly kill tumour cells and tell other immune cells to prevent the cancer from spreading around the body.

A new study suggests a certain protein in our immune system is able to stop the spread of ovarian cancer cells.
The research looked at high-grade serous ovarian carcinoma, a particularly dangerous and complex form of ovarian cancer.

It is believed to be the most common form of ovarian cancer, but it also has a low survival rate. Patients are usually not diagnosed until later stages, when the disease has metastasised – spread to other parts of the body. Roughly 400 women are diagnosed with ovarian cancer every year in Ireland.

To find preventions and cures for this form of cancer, a research team co-led by Trinity College Dublin researcher Dr Nollaig Bourke looked at 'interferon epsilon', a type of protein found in the immune system.

Continue reading this article here:
An immune protein stops ovarian cancer growth, study suggests | IDA Ireland

Meissner Celebrates Official Opening of Manufacturing Facility in Castlebar, Ireland

Meissner Corporation celebrated the official opening of its new 3,900 m² (42,000 ft²) manufacturing facility in Co. Mayo. Although the facility has been producing therapeutic manufacturing systems for Meissner's pharmaceutical and biopharmaceutical client base since March of 2020, the COVID-19 pandemic delayed the official Grand Opening Celebration until today.

Founded in 1984 and headquartered in Camarillo, California, U.S.A., the company operates globally and supports clients worldwide. Meissner's product portfolio enables the development and manufacture of critical medicines in therapeutic areas such as oncology, cardiology and immunology. The company recently played a leading role in the industry's response to the COVID-19 pandemic, providing critical products that enabled the development, manufacture, and distribution of numerous lifesaving therapeutics and vaccines. This project is supported by the Irish Government through IDA Ireland.

Continue reading this article here:
Meissner Celebrates Official Opening of Manufacturing Facility in Castlebar, Ireland | IDA Ireland

Intel’s €17bn Leixlip facility hits chip production milestone

4 September

Intel said Fab 34 began running a ‘First Full Loop’ of silicon, which means the site can now focus on producing Intel’s latest line of processors later this year.

Intel has reached an important milestone in its Fab 34 facility, bringing it one step closer to producing the company’s latest semiconductors.

The new facility has begun running its “First Full Loop” of silicon this month, which means the facility managed to run silicon wafers from start to finish through the process steps in the cleanroom.

Continue reading this article here:

Intel’s €17bn Leixlip facility hits chip production milestone | IDA Ireland

MSD Ireland announces official opening of new facilities in Dunboyne and Carlow

12 September

Taoiseach Leo Varadkar; Executive Vice President of MSD and President of Manufacturing Division Sanat Chattopadhyay; Michael Kress, Senior Vice President Development Sciences and Clinical Supply; MSD

- Significant expansion of Ireland footprint with over €1 billion invested across two facilities.
- New facilities have led to the creation of 670 highly skilled jobs across MSD’s Irish network with over 100 open jobs.

MSD Ireland, one of the country’s leading healthcare companies, has today announced the official opening of a new, state-of-the-art site in Meath in addition to a significant expansion at its Carlow site. The projects represent a recent investment of over €1 billion across both facilities.

The expansion projects have led to the creation of 670 new jobs across both sites, further building on the company's successful recruitment drive in recent years and bringing total employee numbers in Ireland to over 3,100 people. Active recruitment is currently ongoing for over 100 jobs, offering a wide range of important roles in engineering, science, manufacturing operations, quality and more.

Continue reading:

MSD Ireland announces official opening of new facilities in Dunboyne and Carlow | IDA Ireland

Astellas to Invest more than €330 Million in a New State-of-the-Art Facility in Tralee, Co. Kerry. Ireland

14 September

Astellas Pharma Inc. (TSE:

4503, President and CEO: Naoki Okamura, "Astellas") today announced its intention to submit a planning application to build a new state-of-the-art facility, at an approximate cost of €330 million in Tralee, Co. Kerry.

This investment by Astellas in Ireland will expand our capacity and capabilities for aseptic drug products, reinforce stable production for global supply and accelerate the development and commercialization of innovative antibody drugs and other new products.

Speaking of the announcement, Minister Simon Coveney TD said, "I very much welcome Astellas' decision to build a new cutting-edge facility in Tralee. The substantial investment it will bring, coupled with the promise of highly specialised engineering, science and technology jobs, is of great importance for the southwest region. Astellas' commitment to aligning the new facility with their ambitious sustainability targets and values, incorporating the highest national and international best practice in energy and environmental design, is commendable. It is also fully in keeping with the Government's commitment to decarbonise our economy and society, as outlined in our White Paper on Enterprise 2022-30. I wish Astellas every success as they embark on this transformative project."
Continue reading:
Astellas to Invest more than €330 Million in a New State-of-the-Art Facility in Tralee, Co. Kerry. Ireland | IDA Ireland

BT Young Scientist winners score second prize at EU contest

18 September

Liam Carew and Shane O'Connor

Shane O'Connor and Liam Carew were awarded second place at the EU Contest for Young Scientists, for their insightful project that surveyed 2,000 Irish students.

The overall winners of the 2023 BT Young Scientist and Technology Exhibition (BTYSTE) have been recognised at one of the largest science fares in the world.

Shane O'Connor and Liam Carew were awarded second place at this year's EU Contest for Young Scientists (EUCYS) for their project, in a competition against more than 130 young scientists from 36 countries.

O'Connor and Carew, former students from The Abbey School in Tipperary, were noticed by the judging panel for their project titled: 'Assessing the impact of second-level education on key aspects of adolescents' life and development'.

Continue reading:
BT Young Scientist winners score second prize at EU contest | IDA Ireland

Thermo Fisher Scientific doubles Cork laboratory capacity to help develop new medicines

23 October

Thermo Fisher Scientific today officially opened an expanded laboratory at its Cork campus, effectively doubling its capacity that customers can access to develop medicines for cancer, lupus, diabetes, and psoriasis, among other illnesses.

The expanded Scale-Up Laboratory is the latest aspect of expansion at the company's active pharmaceutical ingredient (API) facility since 2019. There's been a five-fold increase in clinical manufacturing capacity and the site has gained more than 20 global pharmaceutical and biotech customers in recent years.

The research and development centre of excellence was officially opened by Simon Coveney TD, Minister of Enterprise, Trade and Employment.

Minister Coveney said: "Thermo Fisher's investment in this cutting-edge laboratory underscores the innovation and collaborative spirit that drives Ireland's research and development sector. This facility will undoubtedly further position Ireland as a hub for pharmaceutical and manufacturing excellence."

Continue reading:
Thermo Fisher Scientific doubles Cork laboratory capacity to help develop new medicines | IDA Ireland

Meissner Celebrates Official Opening of Manufacturing Facility in Castlebar, Ireland

11 October

Meissner Corporation celebrated the official opening of its new 3,900 m² (42,000 ft²) manufacturing facility in Co. Mayo. Although the facility has been producing therapeutic manufacturing systems for Meissner's pharmaceutical and biopharmaceutical client base since March of 2020, the COVID-19 pandemic delayed the official Grand Opening Celebration until today.

Founded in 1984 and headquartered in Camarillo, California, U.S.A., the company operates globally and supports clients worldwide. Meissner's product portfolio enables the development and manufacture of critical medicines in therapeutic areas such as oncology, cardiology and immunology. The company recently played a leading role in the industry's response to the COVID-19

pandemic, providing critical products that enabled the development, manufacture, and distribution of numerous lifesaving therapeutics and vaccines.

This project is supported by the Irish Government through IDA Ireland.

Minister for Enterprise, Trade and Employment Simon Coveney TD said: "I am delighted to congratulate Meissner Corporation on the opening of their manufacturing facility in Castlebar. Since production commenced, the Mayo facility has been providing global clients with essential pharmaceutical and biopharmaceutical products, including playing such an important role in the fight against Covid. The West Region has become a hub for leading biopharma companies and Meissner opening their first facility outside the US, in Castlebar, truly is a vote of confidence to the West, and our talented workforce. Thanks to Meissner Corporation for choosing Castlebar, and I wish them continued success in Ireland."

Continue reading:
Meissner Celebrates Official Opening of Manufacturing Facility in Castlebar, Ireland | IDA Ireland

IDA Ireland Announces Appointment of new CEO – Michael Lohan

21 March 2023

The Board of IDA Ireland, the foreign direct investment (FDI) agency of the Irish Government, is pleased to announce the appointment of Michael Lohan to the role of CEO IDA Ireland.

Mr Lohan is currently IDA Global Head of Life Sciences and Talent Transformation and Innovation Departments and is a member of the organisation's Executive Leadership team. He will take up his new role on 17th April 2023.

Commenting on the appointment, IDA Chairman Frank Ryan said, “Michael Lohan was selected from a strong field of candidates, both internal and external, following a rigorous recruitment process. The Board is confident that Michael has the required experience to lead IDA in the ongoing implementation of our current strategy and on the future development of the organisation. He will continue to lead IDA in the attraction of foreign direct investment to Ireland and the winning of investments for regional locations.

“Michael will also work in close cooperation with the Department of Enterprise Trade and Employment to drive the transformation agenda with client companies in the areas of advance manufacturing, sustainability, digitisation, and increasing the level of research and development undertaken by overseas companies in Ireland. I wish Michael all the best in his new role and have every confidence the organisation will prosper under his leadership”.

IDA Ireland has enjoyed strong results over the last number of years, despite the challenges brought by the difficult global economic environment, and there are now over 300,000 people working for circa 1,800 foreign companies based in Ireland, the highest level ever recorded.

Concluding Frank Ryan said, “On behalf of the Board I want to thank Mary Buckley, who stepped into the role of Interim CEO last October, for her excellent leadership and strong contribution to the IDA during this transition period’.

Mary Buckley will continue as Interim CEO until 16th April 2023, at which time she will revert to her role as Executive Director, IDA Ireland.

IDA Ireland
Three Park Place
Hatch Street Upper
Dublin 2

D02 FX65

+353 1 603 4000

idaireland@ida.ie

Michael Lohan who was officially appointed as our new CEO on the 17th of April shares his top three priorities for 2023, why Ireland is a proven location for #FDI, and of course, how he feels about taking up the new role as CEO of IDA Ireland.

Watch Video here: **https://youtu.be/LVZzyf3SM1I**

#InvestInIreland #WhyIreland #CEO

IDA Ireland
Three Park Place
Hatch Street Upper
Dublin 2

D02 FX65

+353 1 603 4000

idaireland@ida.ie

https://enterprise-ireland.com/en

Enterprise Ireland Updates & Reports

Enterprise Ireland Celebrates 25 Years

This month, we marked a significant milestone in our agency's history as we celebrated our 25th anniversary at the Enterprise Ireland Summit. The celebrations took place from the 17th to the 21st of April. The Enterprise Ireland A/NZ team travelled back to Ireland for a week of events, including launching our new company logo and branding, our 2022 Annual Business Results, and the Meet the Markets Event.

The highlight of the week was the Enterprise Ireland Summit on the 19th of April, where over 800 businesspeople, investors, and other stakeholders from the Enterprise Ireland network gathered to celebrate the achievements of Irish indigenous industry over the past 25 years and to plan the next steps of their internationalisation journey.

Other events included the Meet the Markets Event and Start Up Showcase. During the Meet the Markets Event the Enterprise Ireland A/NZ team and our colleagues conducted hundreds of face-to-face meetings with clients to discuss their future growth ambitions. On the 18th of April, the 600-strong audience at the Start-Up Showcase heard insights from successful company founders on how they overcame challenges and achieved their growth ambitions.

During the Enterprise Ireland Summit, our CEO Leo Clancy announced our Annual Business Results for 2022. Exports from Enterprise Ireland-backed client companies increased by 19% to a record €32.1 bn. Exports to the Asia-Pac region increased by 11% to €2.37 bn. These achievements are a testament to the resilience and determination of our client companies.

The week-long celebration of Irish enterprise culminated with the Business Leaders Conference, where the audience heard inspiring stories from Irish companies on what they have achieved, how they scaled their businesses, and where the opportunities and challenges lie ahead within the international environment.

We are proud of our achievements in the past 25 years and are committed to helping Irish companies succeed globally. We look forward to sharing more updates with you in the future. Thank you for your continued support!

Minister Coveney announces €16.5m capital investment in equipment for industry research

20 November

Minister for Enterprise, Trade and Employment, Simon Coveney T.D. has announced the successful applicants to the 2023 Capital Equipment Fund administered by Enterprise Ireland through the Technology Gateway and Technology Centre Programmes.

48 successful projects from across the third-level sector have secured €16.5m in funding to assist them in purchasing world-leading research equipment that will serve the research, development and innovation (RD&I) needs of Irish industry.

The funding will provide companies with access to both established and leading-edge equipment hosted by Technology Gateways and Technology Centres across Ireland.

Continue reading here:
https://www.enterprise-ireland.com/en/news/minister-coveney-announces-16-5m-capital-investment-in-equipment-for-industry-research

NovaUCD-supported companies plan to create 1,100 jobs and raise €290 million over the next two years

18 October

- **Minister Richmond TD launches NovaUCD 20-Year Anniversary Report**
- **Over 550 companies and early-stage ventures supported since 2003**
- **NovaUCD entrepreneurial community raised €1.3+ billion in equity funding**

Minister of State for Business, Employment and Retail, Neale Richmond TD today officially launched a new report, entitled NovaUCD Ideas to Impact Since 2003. The report highlights the economic and societal impact of NovaUCD and marks the 20th anniversary of the official opening of the hub of innovation and start-up activities at University College Dublin (UCD).

Since 2003, UCD has supported 550+ companies and early-stage ventures through the services and supports provided across the University by NovaUCD, and through business support programmes run and managed by NovaUCD. In addition, the NovaUCD entrepreneurial community has raised €1.3+ billion in equity funding over the last 20 years.

NovaUCD is currently supporting 70+ start-ups and established companies to grow and scale on the national and global stage. Based on the results of a short survey these companies collectively plan to create over 1,100 jobs and raise over €290 million in funding during the next 2 years.

Minister Neale Richmond TD said, *"Innovation opens the door to future growth, future prosperity and future jobs and I am delighted to be here to see first-hand the impact NovaUCD has had on start-ups, both today and over the last 20 years. Start-ups are the life blood of the Irish economy and the report clearly demonstrates UCD's leadership role in supporting entrepreneurs and their contribution to economic and social development.*

Over the past twenty years, NovaUCD has supported over 550 companies, raising over €1.3 billion in funding and I look forward to seeing what the future holds. Government will continue to ……
Read more here:
https://www.enterprise-ireland.com/en/news/novaucd-supported-companies-plan-to-create-1-100-jobs-and-raise-290-million-over-the-next-two-years

Enterprise Ireland clients sign deals and partnerships valued at over €15 million during Enterprise Ireland Trade Mission to the US

18 October

- **Oneview Healthcare and Prodieco sign deals with major healthcare leaders in the US**
- **US Food Ingredients company Socius Ingredients announces R&D investment in Cork**

Wednesday 18th October 2023: Enterprise Ireland client companies including, Oneview Healthcare, Prodieco, and MagrowTec today signed significant deals valued at over €15 million with US partners during Enterprise Ireland's trade mission to the USA this week.

Minister for Enterprise, Trade and Employment, Simon Coveney T.D. is leading the joint Enterprise Ireland and IDA Ireland Trade Mission to Illinois, Indianapolis and Michigan this week, to boost trade relationships with key IDA client companies and promote world class Irish companies in the Mid-West region.

With Illinois being a major medtech hub in the US and representing significant collaboration opportunities for Irish medtech, pharmaceuticals, and healthcare companies, Enterprise Ireland companies announce significant new deals and partnerships with US healthcare leaders in the region, including:

- Connected bedside technology company, **Oneview Healthcare** signed a multi-year deal with Baxter International, the largest hospital bed supplier in the US. Baxter will work with Oneview to provide their connected bedside technology (which connects patients to nurses, meal services, medical records, and in-room systems) to the company's current US customer base.
- **Prodieco**, a leading precision engineering company, who have grown to be the world's largest independent suppliers of tooling change parts for the blister packaging industry, have announced a multi-million euro deal with Zoetis, the world's largest animal health company, as part of the global rollout of Apoquel ® Chewable. Prodieco have previously partnered with Zoetis on the global launches of Simparica & Simparica Trio.
- **Aerogen**, a world leader in acute care aerosol drug delivery, celebrated its expanding partnership with Rush Hospital, based in Illinois. Aerogen has worked with Rush Hospital over the last five years to integrate its respiratory devices, work with its clinical team, and provide better patient care for those struggling with respiratory illness.

Continue reading here:

https://www.enterprise-ireland.com/en/news/enterprise-ireland-clients-sign-deals-and-partnerships-valued-at-over-15-million-during-enterprise-ireland-trade-mission-to-the-usa

Sinéad Crowther of Soothing Solutions announced as HPSU 'Founder of the Year 2023' at Enterprise Ireland awards

12 October

Sinéad Crowther, Founder and CEO of Soothing Solutions, was named the Enterprise Ireland High-Potential Start-Up (HPSU) Founder of the Year for 2023 at an awards event at the Gibson Hotel, Dublin, last night.

Founded in 2017, Louth-based healthcare firm Soothing Solutions manufactures a range of honey jelly pops called Tonstix aimed at providing a children's alternative to lozenges.

Crowther had previously worked as a pharmaceutical technician and had noticed a gap in the market for products to help children suffering from sore throats and coughs. It was early in the journey on Enterprise Ireland's New Frontiers programme in Dundalk Institute of Technology (DkIT) when Sinéad met her co-founder, Denise Lauaki.

Tonstix products are now stocked in more than 1,400 pharmacies across Ireland, and recently launched on Amazon UK.

The Enterprise Ireland Founder of the Year Awards acknowledge and celebrate the commitment that entrepreneurs and start-ups have made to build world-class companies of the future. There were 11 nominees for the 2023 award, all of whom were voted for by their peers who have been taking part in Enterprise Ireland's High Potential Start-Up (HPSU) Founders Forum over the last 24 months.

Other finalists included: Brendan Staunton of Amara Therapeutics, Brian Kenneally of Bundledocs, David Duffy of The Corporate Governance Institute, Patrick McDermott of DigiTally, Jonathan Bouchier-Hayes of Endowave, Darren Sexton of GuardYoo, Kate Scott of Holotoyz, Liam Dunne of Klearcom, Evelyn Kelly of Orphan Drug Consulting, and Eamonn Costello of Patientmpower.

Continue reading here:
https://www.enterprise-ireland.com/en/news/sinead-crowther-of-soothing-solutions

Inishowen Innovation: A New Era of Disruptive Technological Innovation and Growth

5 October

Minister for Agriculture, Food and the Marine of Ireland, Charlie McConalogue TD, today officially opened the Inishowen Innovation hub, in Buncrana.

Inishowen Innovation represents a significant milestone towards fostering disruptive technological advancement, entrepreneurship and economic development in the Inishowen Peninsula, and wider North-West Ireland City Region. The state-of-the-art 700sqm space for start-up and scaling disruptive technology businesses, features gigabit fibre broadband provided by Vodafone and SIRO, along with office space, co-working spaces, meeting rooms, conference facilities, and access to essential tools and technologies. It is co-funded by Donegal County Council and the Regional Enterprise Development Fund (REDF), made available by the Department of Enterprise, Trade and Employment and administered by Enterprise Ireland.

Minister for Agriculture, Food and the Marine, Charlie McConalogue TD stated: *"It is my honour to formally open the Inishowen Innovation Hub in Buncrana today. This hub will be a game changer for Buncrana, Inishowen and the North West and will help current businesses and new businesses flourish in the area. My thanks to all those involved for their hard work in making this day happen."*

Inishowen Innovation will serve as a dynamic centre for collaboration, creativity, and growth where digital startups and tech entrepreneurs are given the support, they need to harness their innovative ideas and drive positive change in the region. It also meets the demand for remote working space and offers a satellite location for global companies looking for a European base. It is already home to 25 clients and is a testament to the Irish governments commitment to creating opportunities for aspiring entrepreneurs to grow and innovate.

Continue reading here:
https://www.enterprise-ireland.com/en/news/inishowen-innovation-a-new-era-of-disruptive-technological-innovation-and-growth

GrassMax is named as the overall winner of EI Innovation Arena Awards 2023

19 September

- **Winners announced of the 2023 Enterprise Ireland Innovation Arena Awards**
- **Simon Coveney TD, Minister for Enterprise, Trade and Employment, attended the official awards ceremony at the National Ploughing Championships**
- **Over 40 international buyers from 10 countries are due to visit the Innovation Arena this week**
-

The world's first temperate climate grassland management tool, GrassMax, has been named as the overall winner at this year's Enterprise Ireland Innovation Arena Awards.

The winners of the Innovation Arena competition, hosted by Enterprise Ireland in association with the National Ploughing Association, were announced at an awards ceremony attended by Simon Coveney TD, Minister for Enterprise, Trade and Employment, at the opening day of the National Ploughing Championships in Ratheniska, Co Laois, this afternoon.

Enterprise Ireland's Innovation Arena is an annual must-see exhibition platform, and the competition recognises innovative and cutting-edge products and services from agritech entrepreneurs who are delivering forward-thinking solutions to address some of the toughest global challenges.

The awards ceremony this afternoon, which was also attended by Leo Clancy, CEO, Enterprise Ireland, and Anna May McHugh, Managing Director, National Ploughing Association, saw GrassMax win the overall award in this year's competition, the prize for Established Innovator of the Year.

The Dublin-based company and its product GrassMax App, combines advanced modelling techniques with remote sensing data to provide a suite of easy-to-use bespoke nutrient and grass management decision-support tools, including satellite-based grassland growth yield measurement. The aim of GrassMax is to remove the need for farmers to routinely walk their grass paddocks, optimise soil fertility and deliver verified enhancements in crop performance and resource use efficiency.

Continue reading here:

https://www.enterprise-ireland.com/en/news/grassmax-is-named-as-the-overall-winner-of-ei-innovation-arena-awards-2023

KTI publishes results of its Annual Knowledge Transfer Survey

24 August

The Annual Knowledge Transfer Survey, a comprehensive report on knowledge transfer activities in Ireland, has today published its findings for the year 2022. The survey which collects data from Ireland's Higher Education Institutes including eight Universities, five Technological Universities, two Institutes of Technology and two Colleges, also incorporates contributions from Teagasc, the Marine Institute and Irish Manufacturing Research (IMR).
Collaborative research projects between companies and Research Performing Organisations (RPOs) continues to be important for business. In 2022, a total of 1,179 R&D agreements were signed with companies ranging from small projects to larger scale research initiatives. There were 1,317 research projects live and ongoing between industry and RPOs by year end.

Continue reading here:

https://www.enterprise-ireland.com/en/news/kti-publishes-results-of-its-annual-knowledge-transfer-survey

siliconrepublic

Trinity researchers breathe new life into flu treatment
31 August
https://www.siliconrepublic.com/innovation/trinity-research-virology-immunology-influenza-covid-rsa

Major study uncovers DNA markers for epilepsy, could lead to new treatments
1 September
https://www.siliconrepublic.com/innovation/epilepsy-treatment-rcsi-research-seizures

'Our future is tied to the health of our oceans,' says this marine scientist
5 September
https://www.siliconrepublic.com/innovation/marine-institute-infomar-research-ocean-mapping-vera-quinlan

Queen's (QUB) bacteria study could lead to new treatments for cystic fibrosis
6 September
https://www.siliconrepublic.com/innovation/queens-university-belfast-bacteria-treatments-cystic-fibrosis-immune

Nobel laureate William Campbell to get Irish diaspora award
11 September
https://www.siliconrepublic.com/innovation/tip-oneill-irish-diaspora-award-william-campbell-donegal-nobel-laureate

Budget 2024: Minister offers hope for a simpler R&D tax credit
13 September
https://www.siliconrepublic.com/start-ups/budget-2024-ireland-research-and-development-tax-credit-michael-mcgrath

'Worrying' research shows various pesticides in Irish bee pollen
19 September
https://www.siliconrepublic.com/innovation/irish-bee-pollen-pesticides-research-trinity-dcu

Cork medtech develops preeclampsia screening test
22 September
https://www.siliconrepublic.com/innovation/cork-medtech-preeclampsia-test-metabolomic-diagnostics-research

Tyndall researcher bags €5.3m to advance biophotonics
26 September
https://www.siliconrepublic.com/innovation/tyndall-stefan-andersson-engels-sfi-biophotonics

Freudenberg Medical to create 100 Galway jobs
2 October
https://www.siliconrepublic.com/jobs-news/freudenberg-medical-galway-jobs-medtech

APC and Fonterra team up to tackle gut health at UCC
2 October
https://www.siliconrepublic.com/innovation/apc-microbiome-fonterra-ucc-research-partnership

UCC scientists find ginger pigment in ancient frog fossils
6 October
https://www.siliconrepublic.com/innovation/ucc-ginger-pigment-ancient-frog-fossil-record

Top future STEM skills and how to help workers master them

16 October
https://www.siliconrepublic.com/advice/stem-future-skills-workers

Siemens Energy is building a battery storage plant in Ireland
17 October
https://www.siliconrepublic.com/machines/siemens-energy-ireland-battery-storage-shannonbridge

Medtronic invests €5m to boost University of Galway research
17 October
https://www.siliconrepublic.com/innovation/medtronic-university-galway-medtech-funding-research

Scientists find rare electronic state in a graphene sandwich
18 October
https://www.siliconrepublic.com/innovation/graphene-sandwich-magnetics-electronics-storage

New SFI programme aims to turn 100 Irish labs green
19 October
https://www.siliconrepublic.com/innovation/sfi-science-foundation-ireland-sustainable-labs

Thermo Fisher doubles capacity to develop medicines in Cork
23 October
https://www.siliconrepublic.com/business/thermo-fisher-scientific-cork-scale-up-laboratory-ireland-biotech

Roche to acquire Telavant Holdings for $7.1bn
23 October
https://www.siliconrepublic.com/business/roche-telavant-holdings-roivant-pfizer-bowel-disease

UCD has a new €4.8m agritech research facility
26 October
https://www.siliconrepublic.com/innovation/ucd-agritech-research-facility-lyons-farm

The challenges and surprises of creating a green lab
31 October
https://www.siliconrepublic.com/innovation/henkel-sustainability-my-green-lab

Rotation, rotation, rotation: A look inside a biotech graduate programme
2 November
https://www.siliconrepublic.com/careers/amgen-graduate-biotech-programme

Pfizer is cutting 100 jobs at Newbridge manufacturing site
7 November
https://www.siliconrepublic.com/business/pfizer-newbridge-jobs-cuts

Four start-ups recognised at UCC Ignite awards
9 November
https://www.siliconrepublic.com/start-ups/ignite-awards-ucc-trustdish-fash-forward

What's it like working as a research scientist in the deep learning space?
9 November
https://www.siliconrepublic.com/people/yahoo-deep-learning-rajdeep-sarkar-working-life

62 women awarded WiSTEM2D scholarships by Johnson & Johnson
14 November
https://www.siliconrepublic.com/careers/wistem2d-johnson-and-johnson-scholarships-ireland

Trinity's Lianne Shanley wins Irish Three Minute Thesis competition
15 November

https://www.siliconrepublic.com/innovation/three-minute-thesis-competition-iua

Quantum chemistry is having a moment in space aboard the ISS

16 November
https://www.siliconrepublic.com/innovation/quantum-chemistry-in-space-iss-nasa-cold-atom-lab

NanobOx secures $1m funding as it prepares for market next year

22 September
https://www.siliconrepublic.com/start-ups/nanobox-startup-funding-john-favier-market-2024-field-trials

Advion


Advion
Mass Spectrometry for Chemists
Reaction Monitoring & Compound Identification in 30 seconds
Direct mass analysis of solid and liquid samples – ASAP®
Direct mass analysis from TLC-plates – Plate Express™
expression
Advion
For more Information:
info@advion.com
www.advion.com