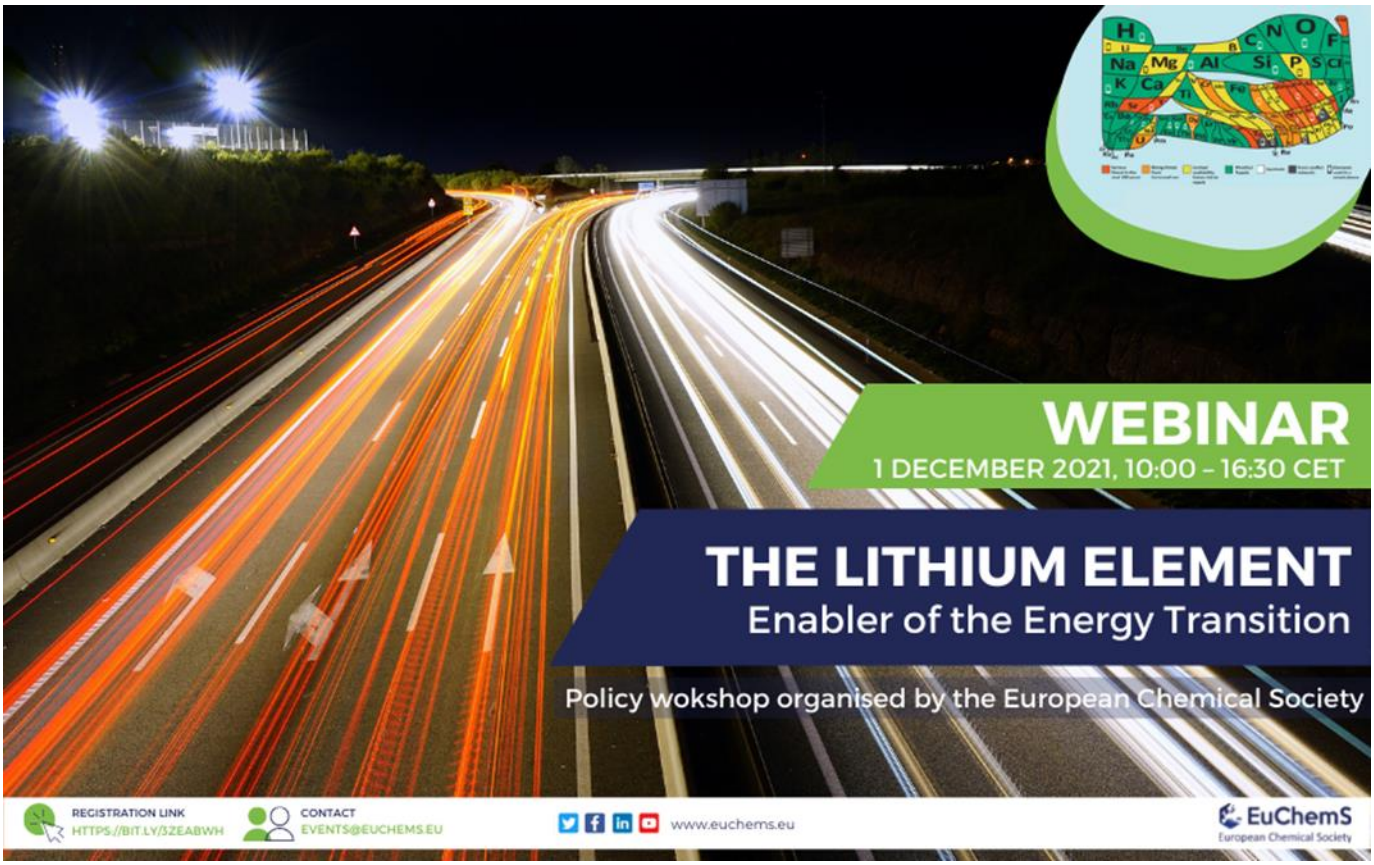
Irish Chemical News

A Journal of the Institute of Chemistry of Ireland



Wednesday 1 December 2021, from 10:00 to 16:30 CET.

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:

New email for the Editor: editor@instituteofchemistry.org

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

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

RCSI
ROYAL COLLEGE OF SURGEONS IN IRELAND
COLÁISTE RÍOGA NA MÁINLEÁ IN ÉIRINN

A Message from the President

Dear Fellows, Members, Graduates and Associates,

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

May I first congratulate Patrick Hobbs in his long-standing role as editor of the Irish Chemical News. Pat works tirelessly and voluntarily behind the scenes, month in and month out, endeavoring to keep our chemistry community abreast of the latest developments in our respective fields. Pat has put together yet another outstanding issue comprising notifications of our most recent ICI awardees, an update in relation to the ICI Congress, the Inorganic Ireland Symposium and the 72nd Irish Chemistry Research Colloquium as well as a number of reports from Medicinal Chemistry Ireland, SFI, IDA Ireland and Enterprise Ireland. This issue also includes details in relation to EuChemS webinars and awards and numerous 'Siliconrepublic' articles. A feature of the Irish Chemical News publications, since the onset of the SARS CoV-2 pandemic, has been the inclusion of pertinent updates, particularly related to vaccine developments.

A special highlight of this issue is a report featuring four young chemists who represented Ireland at the most recent International Chemistry Olympiad (IChO) in 2021. The IChO is an annual competition for the world's most talented chemistry students at secondary school level. In 2021, there were 312 students competing from 85 countries. As you will read later, two students were awarded silver medals, placing them in the top 10-30% of Chemistry students in the world. One student received a bronze medal and the fourth student completed the extraordinary success of Team Ireland by getting an honourable mention award. To put this into context, previous cumulative success of Team Ireland at IChO since 1997 has resulted in a total of 20 bronze medals, four honourable mentions and two silver medals. A special word of thanks to the academic staff from 5 Irish Institutions for giving of their time and expertise in training and supporting these students in preparation for the IChO.

For such a small country, we can be so very proud of the many and varied scientific and professional achievements of our scientific community, across all levels and sectors, both nationally and internationally. A special word of congratulations to Professor Tadhg Begley, an Irish chemist, UCC alumnus, Distinguished Professor, Derek Barton Professor of Chemistry and Robert A. Welch Foundation Chair, at Texas A&M University, who is the recipient of the ICI Boyle Higgins' Gold Medal and Lecture Award 2021. Professor Begley is not only an outstanding and internationally recognised leader in the field of chemical biology and natural product synthesis but he has also inspired generations of chemists both here in Ireland and indeed internationally. We are very much hoping that Professor Begley will be able to deliver his award lecture in person in 2022.

May I also draw your attention to open calls for awards including two EuChemS awards; the EuChemS Lecture Award 2021 and the European Chemistry Gold Medal both with deadline dates of 31st December 2021. The call for nominations for the SFI St Patrick's Day Science Medal Award 2022 is also open with a

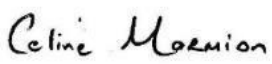
more pressing deadline date of 5th November, 2021. May I strongly urge you to submit nominations for these prestigious awards.

May I also draw your attention to the fact that call for the ICI Annual Award for Chemistry (Eva Philbin Public Lecture Series) 2021 is now open. May I please encourage you to nominate a colleague who you feel has significantly raised the profile of chemistry through both the excellence of their work but also their ability to communicate their work effectively. Please refer to the ICI website for further details (https://www.chemistryireland.org/awards-events/#awards). Note the deadline for nominations is Friday, 26th November, 2021.

I had the privilege, alongside Professor Donal O'Shea, of co-hosting the 45th ICI Congress with the ICI Young Chemists' Network (YCN). The Congress theme was 'Impacting Healthcare with Chemistry' in honour of Sir Charles A. Cameron. We are enormously grateful to all who presented for giving of their time and sharing their expertise. The Congress was divided into two parts with the scientific session taking place in the morning and the afternoon session focussing on career enhancing talks and networking opportunities to support our young chemists. A particular highlight of the Congress was the presentation of the ICI Postgraduate Award 2021 to Mr Ioannis Mylonas Margaritis, School of Chemistry, NUI Galway. Warmest congratulations to Ioannis and to his supervisor Dr Constantina Papatriantafyllopoulou and to those, including Professor Patrick McArdle, who have mentored and supported him on his journey to date. We were also delighted that Dr Priyanka Ganguly, one of the 2020 ICI Postgraduate awardees and Dr Saoirse Dervin, the 2019 ICI Postgraduate awardee joined Dr Mark Kelada, the chair of the YCN, in an insightful panel discussion during the afternoon session in which they shared their highlights and challenges on their research journeys to date with the delegates present.

Finally, I would like to take this opportunity to acknowledge all Council members for their ongoing help and support and also thank you, our ICI Fellows, members, graduates and associates. I am delighted to say that we are seeing an increase in our membership numbers. If you have any ideas in ways in which we can further support you, please get in touch.

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



Professor Celine J. Marmion PhD FRSC FICI
President, Institute of Chemistry of Ireland
20th October, 2021

Editorial

This Issue has been long is gestation covering the period from the start of May to the end of September. It's bigger than I intended and covers many topics in chemistry in a wide sense and also the Corona Virus pandemic with many interesting links. With the success of the vaccine roll out and new infections now at manageable levels most normal activities are resuming. Nevertheless, caution is needed as we have over 10,000 new cased per week despite over 92 percent of the adult population being "fully vaccinated" and over 12s programme well under way. Hopefully those of us in the older age bracket will get a booster vaccine in the not too distant future as the current vaccines do wane over a 6 month period. It is my intension to drastically reduce or drop this section in the next Issue as the Pandemic wanes and incoming articles have slowed, particularly those with a chemistry focus. Simply it is reaching its natural end and we have for the record the list of evolving knowledge during the pandemic.

Lastly on the much heated debate on the origins of the Corona pandemic as comprehensive as the latest reviews are, the 'lab leak' scenario can't be ruled out conclusively, which leaves room for doubts to creep in. Even the WHO investigation was not conclusive.

They also warn that the focus on a highly improbable lab origin is distracting from more urgent scientific tasks, such as investigating animal sources of SARS-CoV-2, or preparing for the next pandemic – like we should have done for this one. The papers on this topic take up several pages so I have them all together in Addendum 1.

On the home front a number of events have been happening. A first is the major success for Irish Secondary students at the 53rd International Chemistry Olympiad. This is the best ever for Irish students. We had the announcement of the ICI David Brown Award 2021 Recipient: Professor Nicholas P. Farrell. The 72nd Irish Chemistry Research Colloquium in June at University of Limerick. Medicinal Chemistry Ireland had a symposium in July and this relatively new group is working with ICI to improve its profile and communicate the work of its members in this field. This is the first time this group have been highlighted in ICN. Inorganic had their symposium Ireland in May hosted from Galway. The events were on line due to pandemic restrictions.

The 45th Institute of Chemistry of Ireland Congress – took place Thursday, 30th September. The Congress theme was 'Impacting Healthcare with Chemistry' in honour of Sir Charles A. Cameron to commemorate the centenary of his death. A report on Sir Charles work will be presented in the next Issue.

The Institute of Chemistry of Ireland Young Chemists' Network, together with RCSI, University of Medicine and Health Sciences co-hosted the event. The afternoon session was dedicated to the interests of the Young Chemists with several interesting presentations and discussions. Two sessions highlighted "Building Your Career" presented by Thornshaw Scientific Recruitment and "Tips for Early Career Researchers" presented by Dr Kevin Nolan, DCU and Dr Joseph Byrne, NUI Galway.

EuChemS is very active and presented the 2019 EuChemS Lecture Awardee Webinar in June and are organising two further webinars titled "Good Chemistry – Do Chemists Need Ethics?" and "The Lithium Element – Enabler of the Energy Transition" on the 1st of December. Nominations are open for the EuChemS Lecture Award 2021 and European Chemistry Gold Medal. Details in this issue.

In the "Chemistry and related Science around the World" section there is a multitude of topics covered.

There are too many to mention them all but climate change and measures to reduce its impact and technological efforts feature prominently. Many pure chemistry items are also included. Solar cell are getting a lot of press, in particular perovskites and Hybrid organic-inorganic halide perovskites are attractive photoelectric materials exhibiting the advantages of low cost (1) and ease in manufacturing (2) while exhibiting strong panchromatic sunlight absorption (3), long carrier diffusion lengths (4), and adjustable direct bandgaps (5). The power conversion efficiencies (PCEs) of perovskite solar cells (PSCs) achieved within only a few years have reached 25.5% (6–9) using the regular (n-i-p) structure. Solar cells have been surprisingly inefficient in the range (13-low 20s %) with typical panels providing 300 -530 watts not enough to boil a kettle. But progress is being made.

Battery technology is also a major topic and active area. We have many types of battery under development with improved performance such as Li, Na Fe, Ni-metal hydride and even nuclear batteries.

Installation and planned installations of wind farms is progressing and Ireland continued to install these and some solar energy farms are on the way. Ireland has now capacity at max wind to account for 42% of electricity generated here.

There is a big debate about whether electro-voltaic EV or hydrogen will dominate in the transport sector and several papers/reports are included in this Issue. A big concern with hydrogen is safety given its explosivity as a general fuel for domestic cars. There is also the debate between blue and green hydrogen. Will hydrogen be used directly as fuel in a combustion engine or be used to operate EVs via fuel-cells?

Progress is slowly happening and likely to increase for example Germany is closing a coal burning plant after only six years operation, to produce green hydrogen from wind but older plants might be better to close first. The UK will ban gas boilers are banned in new homes from 2025. As gas boilers are banned in new homes from 2025, The Government has said it will install thousands of heat pumps. There is an article on how they work in houses, flats, period homes and new builds.

Increasingly I am getting articles on the hazards of PFASs and REACH Revision and PFAS is coming into play: The European Commission ("Commission") has recently provided an important update on the two key initiatives enshrined in the new Chemicals Sustainability Strategy ("CSS"): the future revision of Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals ("REACH") and the ongoing restriction on per- and polyfluoroalkyl substances ("PFAS"). Pollutants in our homes, bodies and food such as PFASs are getting more attention in the press so expect to hear more on this topic.

Reports from SFI, ISA, Enterprise Ireland and Siliconrepublic are included.

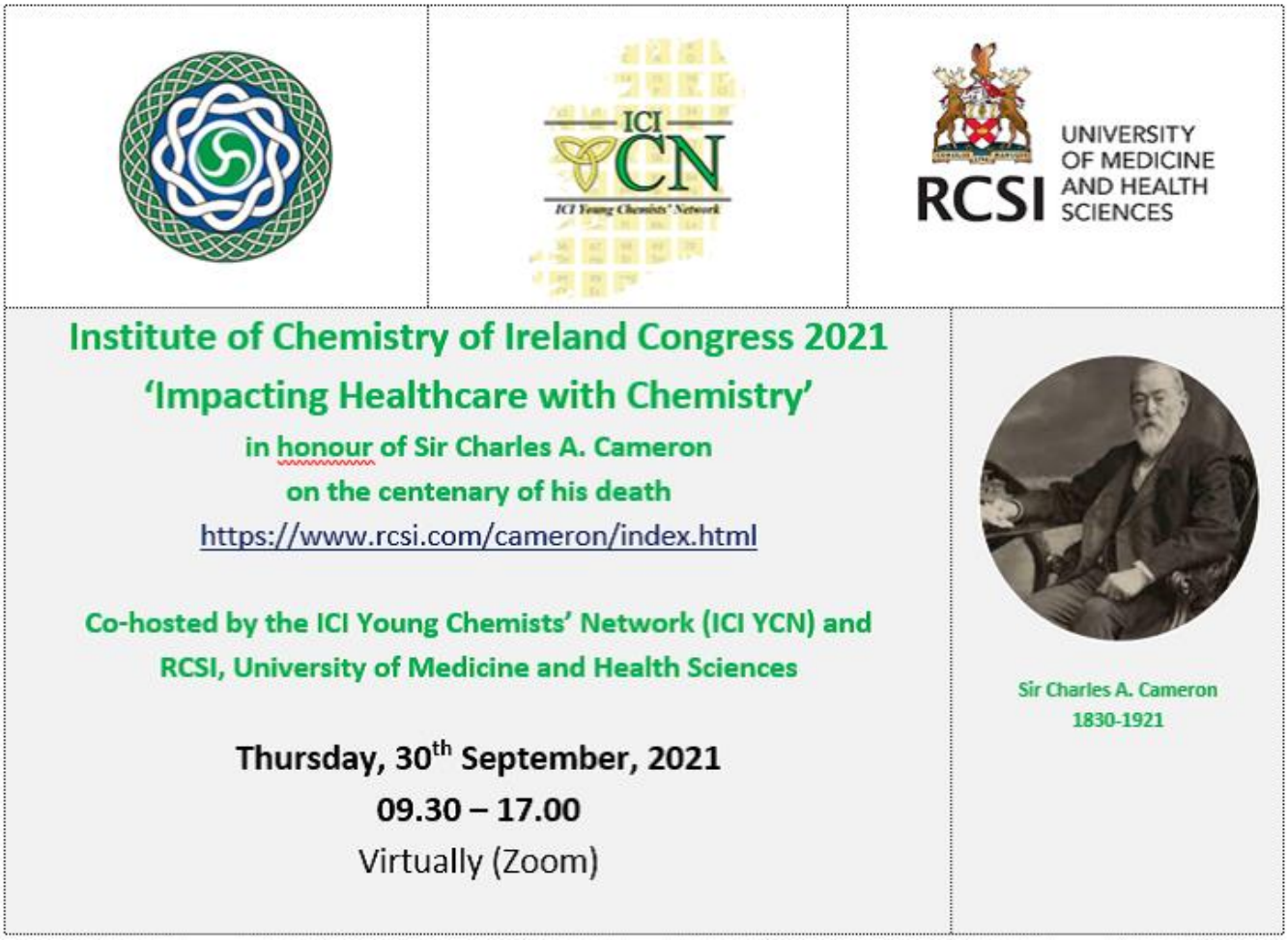
Last but not least remember 8th EuChemS Chemistry Congress (ECC8) is getting closer - August 28 to September 1, 2022. Plan to attend and support EuChemS and the Portuguese Chemical Society.

Comments and Responses are welcome and can be sent a **new Editor Email address: -**

editor@instituteofchemistry.org

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

ICI Congress 2021 was themed “Impacting Healthcare with Chemistry” and was held virtually on Thursday 30th of September, 2021.



Links:

Delegates must register in order to receive the Zoom link to the Congress

https://www.rcsi.com/cameron/index.html

https://forms.gle/NpYGCi5LxmbNyMS5A

youngchemists@instituteofchemistry.org

Email: secretary@instituteofchemistry.org

Morning Session

Please complete the registration form no later than Tuesday, 28th September, 2021 if you wish to attend: https://forms.gle/NpYGCi5LxmbNyMS5A **For any queries, please contact:** youngchemists@instituteofchemistry.org	
09.30-09.45	Welcome, Introduction and Announcement of the ICI Postgraduate Awardee 2021 Professor Celine Marmion, RCSI, University of Medicine and Health Sciences and Institute of Chemistry of Ireland President
09.45-10.15	*'Challenges in and solutions towards identifying protective epitopes for the development of fungal glycolconjugate vaccines'* **Professor Stefan Oscarson, University College Dublin**
10:15-10.45	*'Chemistry can transform a nano-onion into a sniper, but how?'* **Professor Silvia Giordani, Dublin City University**
10.45-11.00	Coffee Break
11.00-11.30	*'Using Chemistry to Highlight the Health Risks of Vaping'* **Professor Donal O'Shea, RCSI, University of Medicine and Health Sciences**
11.30-12.00	*'Synthesis of Carbohydrate Based Ligands for Proteins and Vaccine Design'* **Professor Paul Murphy, NUI Galway**
12.00-12.30	*'A Radical Approach to Probing Enzyme Inhibition'* **Professor Joanna McGouran, Trinity College Dublin**
12.30-13.00	*'Tackling the Challenges of using Surface-Enhanced Raman Spectroscopy for Biological Samples'* **Professor Steven Bell, Queen's University Belfast**
13.00- 13.10	Closing Remarks Professor Celine Marmion, ICI President
13.10-14.00	Lunch

Institiúid Ceimice na hÉireann; **P.O. Box 9322, Ravensdale Road, Dublin D03 CY66**
Email: secretary@instituteofchemistry.org
Patron: Michael D. Higgins, President of Ireland
www.chemistryireland.org/

Afternoon Session

14.00-14.05	Welcome and Introduction Dr Mark Kelada, ICI Young Chemists' Network Chair
14.05-14.45	**Building Your Career** Thornshaw Scientific Recruitment
14.45-15.40	**Tips for Early Career Researchers** Dr Kieran Nolan, Dublin City University and Dr Joseph Byrne, NUI Galway
15.45-16.00	Coffee Break
16.00-16.20	**Networking Session** Facilitated by the ICI YCN Committee
16.20-16.50	**Panel Interview with Successful Young Chemists** ICI Postgraduate Awardees
16.50- 17.00	Closing Remarks Dr Mark Kelada, ICI Young Chemists' Network Chair

The Institute of Chemistry of Ireland Awards

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

The Boyle Higgins Gold Medal and Lecture Award

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

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

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

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

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

The ICI Postgraduate Award

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

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

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

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

ICI Postgraduate Award 2021

Winner of the 2021 Postgraduate Award was announced at the ICI Congress on September 30th.

2021 Winner: Mr Ioannis Mylonas Margaritis, School of Chemistry, NUI Galway

National University of Ireland, Galway

Degree Name: Doctor of Philosophy – PhD Field of Study: Materials Chemistry

Dates attended or expected graduation 2017 – 2021

Project: Synthesis and Characterization of Novel Metal-Organic Frameworks as developing sensors for environmentally hazardous species

Supervisor: Lecturer Dr. Constantina Papatriantafyllopoulou

First established in 2018, the ICI Postgraduate Award recognizes a registered PhD student in any Chemistry discipline working in an Irish Higher Education Institution. The student must have demonstrated excellence in research through publications. They must also have demonstrated a commitment to supporting and promoting Chemistry within their Institution (e.g., through active participation in public engagement initiatives).

A person nominated for this award must be a member of the Institute at the time of nomination or upon receipt of the award.

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

ICI Gold Medal Award

Professor Tadhg P. Begley

Distinguished Professor Robert A. Welch Foundation Chair Derek Barton Professor in Chemistry.

Tadhg P. Begley is an Irish chemist and Distinguished Professor, Robert A. Welch Foundation Chair and Derek Barton Chair of Chemistry at Texas A&M University, and also a published author of books.

Prof Begley was conferred 16 June 2010, with the Degree of Doctor of Science, honoris causa by Professor Patrick Guiry, Director of the Centre for Synthesis & Chemical Biology, University College Dublin.

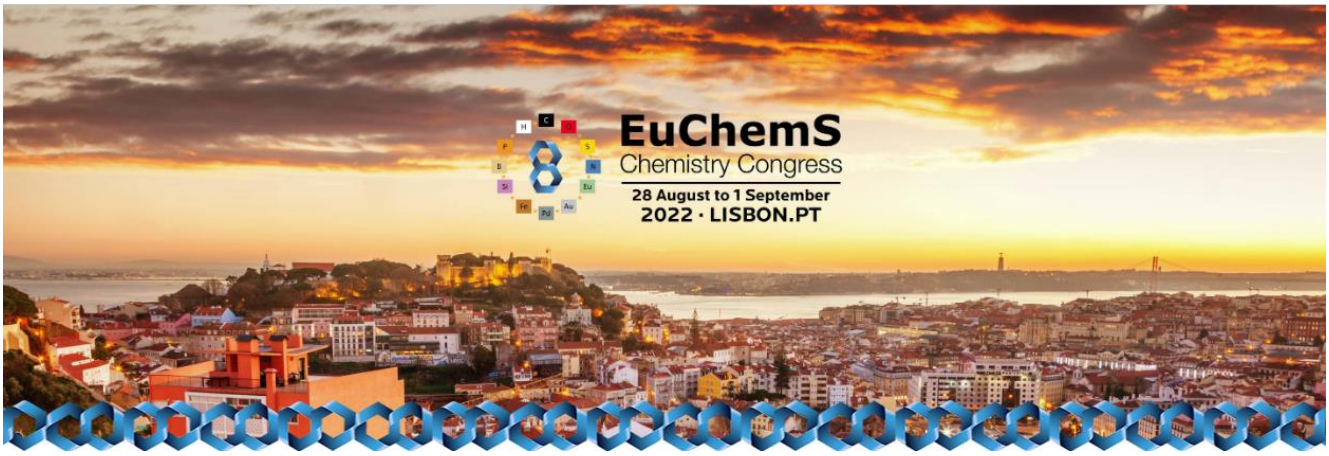
Current Activities
"The Begley Group is interested in the mechanistic chemistry and enzymology of complex organic transformations, particularly those found on the vitamin biosynthetic pathways. We are currently working on the biosynthesis of thiamine, molybdopterin, pyridoxal phosphate and menaquinone. Our research involves a combination of molecular biology, protein biochemistry, organic synthesis and structural studies and provides a strong training for students interested in understanding the organic chemistry of living systems and in pursuing careers in biotechnology, drug design or academia.

Thiamine pyrophosphate plays a key role in the stabilization of the acyl carbanion synthon in carbohydrate and amino acid metabolism. The biosyntheses of the thiamine pyrimidine and thiazole are complex and are different from any of the characterized chemical or biochemical routes to these heterocycles. We are particularly interested in cellular physiology and the mechanistic enzymology of thiamine biosynthesis."

See: https://www.chem.tamu.edu/faculty/tadhg-begley & https://www.chem.tamu.edu/rgroup/begley

The Boyle Higgins Gold Medal and Lecture Award

The Boyle Higgins 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 is made for an outstanding and internationally recognised research contribution to the advancement of chemistry by a chemist of any nationality working in Ireland or by an Irish chemist working overseas.



Postponed to August 28, 2022

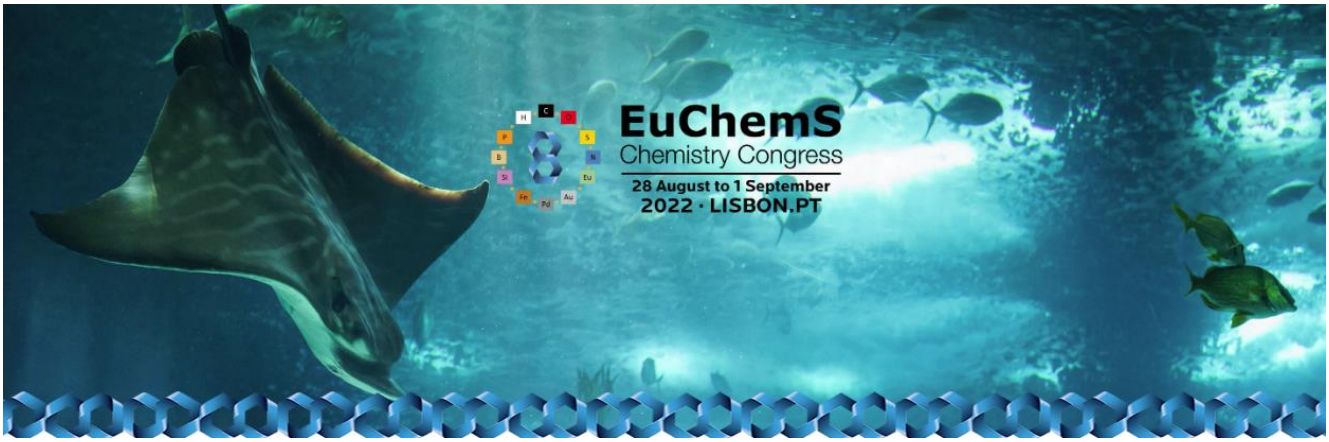
"The COVID-19 pandemic that so deeply affects our lives and countries is not expected to end soon, and its consequences will be felt for a long time. In particular, satisfactory conditions for international scientific conferences to take place will certainly not be fulfilled in the next months. We are thus forced to postpone the 8th EuChemS Chemistry Congress. On the 3rd of May, 2020 the Executive Board of EuChemS, in consultation with the Scientific and Organizing Committee in Portugal were able to settle on a new date for the 8th EuChemS Chemistry Congress.

This was no easy decision but was a necessary one, and the only appropriate option, given the enormous material and immaterial compromise already assumed by the local organization. We praise our supporters and all the body of EuChemS, in particular the organizers of the forthcoming event on the series, for joining the Portuguese Chemical Society (SPQ), with the support of the Portuguese Electrochemical Society (SPE), in the announcement of the new date of 8th EuChemS Chemistry Congress (ECC8), to be held in **Lisbon, Portugal, from August 28 to September 1, 2022".**

Congress Program

Loyal to the initial theme, the 8th EuChemS Chemistry Congress will be built under the unifying theme of **Chemistry the Central Science**. The focus will remain on the central role of chemistry at the interfaces with biology, material and environmental sciences, both for the progress of humankind and for the solution of fundamental problems of modern societies. Some changes will be indeed introduced since nothing remains the same after the enormous test to which we are all being submitted. For the time being, we are still working on an exciting scientific program led by world-class experts, that will develop around the main scientific previously selected.
All previously submitted contributions will not be processed without notice to the 2022 ECC8

program. An opportunity for updating your contributions will be announced in due time. We will keep your pre-registration in our files so that we may send you further information in due time. If you do not agree, please let us know (by a simple e-mail to euchems2020@chemistry.pt) and we will delete your full record. Nevertheless, we hope to see you all in Lisbon in 2022, for celebrating the continuation of this regular series of EuChemS Chemistry Congresses.



Cancellation Procedure and Refund policy

Registrations completed before congress postponement, will remain valid for the 2022, 8th EuChemS Chemistry Congress, if desired. Participants who want a refund, **must cancel their participation by June 30** addressing their request to euchems2020@chemistry.pt. Refunds will be handled promptly with no charges.

Registration is temporarily suspended and will reopen during **2021**.

(https://euchems2022.eu)

EuChemS
European Chemical Society

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

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

Ireland Section

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

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

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

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

CHEMISTRY in Europe
Newsletter for European Chemistry, published by EuChemS

Chemistry in Europe

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

Chemistry in Europe 2021 – 2
https://www.euchems.eu/newsletters/chemistry-in-europe-2021-2
Read the pdf:
PDF-CiE-2021-2.pdf (euchems.eu)

Chemistry in Europe 2021 – 3
https://www.euchems.eu/newsletters/chemistry-in-europe-2021-3
Read the pdf:
https://www.euchems.eu/newsletters/chemistry-in-europe-2021-3

Major success for Irish Secondary students at the 53rd International Chemistry Olympiad

Cover illustration : IChO flag Ceremony

Report provided by Dr. John O'Donoghue, School of Chemistry, Trinity College

Team Ireland has achieved its best success to date in the International Chemistry Olympiad, which was held from Saturday, July 24 to Monday, August 2, 2021, with all four competing students receiving awards for the first time. Two students, Oisín Ó Feinneadha, from St. Peter's College Secondary School, Wexford and Tong Wu, from Clongowes Wood College, Clane, Co. Kildare got silver medals, placing them in the top 10-30% of Chemistry students in the world. Oscar Despard, from Sandford Park School, Ranelagh, Dublin also received a bronze medal and Aoife Morris, from St. Aloysius' College, Carrigtwohill, Co. Cork completed the extraordinary success of Team Ireland by getting an Honourable Mention award.

Major success of 2nd level students at International Chemistry Olympiad 2021

SILVER MEDAL

Oisín Ó Feinneadha,
St. Peter's College
Secondary School,
Wexford

SILVER MEDAL

Tong Wu,
Clongowes Wood College,
Clane,
Co. Kildare

BRONZE MEDAL

Oscar Despard,
Sandford Park School,
Ranelagh,
Dublin

HONOURABLE MENTION

Aoife Morris,
St. Aloysius' College,
Carrigtwohill,
Co. Cork

IChO 21 was attended by 312 students from 85 countries. Ireland has participated since 1997

Expert training and support was provided by academic staff from 5 Institutions across Ireland:

AIT (Dr. Brian Murphy), **TCD** (Dr. Carl Poree, Dr. John O'Donoghue, Professor Mike Lyons), **UCC** (Dr. Elizabeth Gilchrist, Dr. Tim O'Sullivan), **DCU** (Dr. Pat O'Malley, Dr. Nessan Kerrigan, Dr. Hasim Ibrahim, Dr. Odilla Finlayson) and **GMIT** (Dr. Cormac Quigley)

The International Chemistry Olympiad (IChO) is an annual competition for the world's most talented chemistry students at secondary school level. The International Chemistry Olympiad started in the former Czechoslovakia in 1968. Ireland has participated in the competition since 1997 and has been very successful in the previous 24 years, with a previous bronze medals total of 20, four honourable mentions and two silver medals awarded in 1999 and 2006. However, the phenomenal success of Team Ireland in 2021 surpassed all previous achievements as this is the first year that all four members of the Team achieved awards and the first year that Ireland came away with two silver medals in the same competition, doubling our overall tally from 2 to 4.

The 53rd International Chemistry Olympiad was one of the largest to take place since its inauguration, with 312 student participants from 85 countries competing in 2021. The competition was originally scheduled to take place in Japan but due to the ongoing COVID-19 global pandemic, the IChO2021 Japan Committee and the International Steering Committee decided to conduct the competition remotely to ensure the maximum safety of all student participants and international delegations. The competition involved a highly challenging five-hour theoretical examination paper run remotely consisting of nine problems, involving very complex chemistry topics.

The journey for the four students to IChO2021 Japan commenced in the Spring of 2021 where over 210 Chemistry students from across the island of Ireland participated in Round 1 of the Chemistry Olympiad Ireland competition. This was reduced to about 50 who competed for national metals and the highly commended awards. From this group, Team Ireland was chosen after extensive training during the Easter Holidays and further assessment.

The four members of Team Ireland received extensive training for IChO2021 from an expert team of Chemistry Academic Staff from five Irish colleges – Dr. Carl Poree, Dr. John O'Donoghue and Professor Mike Lyons (TCD), Dr. Elizabeth Gilchrist and Dr. Tim O'Sullivan (UCC), Dr. Brian Murphy (AIT), Dr. Pat O'Malley, Dr. Odilla Finlayson, Dr. Nessan Kerrigan and Dr. Hasim Ibrahim (DCU) and Dr. Cormac Quigley (GMIT).

The Irish international delegation consisted of Dr. Carl Poree (TCD), Dr. John O'Donoghue (TCD and RSC), Dr. Elizabeth Gilchrist (UCC) and Dr. Brian Murphy (AIT), who supported the four Irish students throughout the competition in July and who participated in the International Jury. They commented "We are truly delighted with the performance of Team Ireland in IChO2021 Japan and so proud of these four brilliant young chemists. They represented Ireland at the very highest level on the world stage in chemistry and all of them brought home an award! Great credit is due to these remarkable students. Their success also shows the quality of the chemistry teaching that takes place in many of our schools across the island of Ireland. Their schools and chemistry teachers deserve enormous praise also for ensuring that chemistry is offered to secondary level students and for providing such excellent preparation in the chemical sciences within the school curriculum".

Dr. Poree (TCD) and Dr. Murphy (AIT), current Co-Chairs of the Irish Chemistry Olympiad Committee stated that "The Committee acknowledges greatly the continuous support of the International Cooperation Section of the Department of Education which allows the Committee to hold an all-Ireland Chemistry Olympiad annually and which facilitates the participation of Irish students in the International Chemistry Olympiad. Without this support we would not be in a position to showcase the best of our Irish students in a core STEM subject on the international stage".

Team Ireland Award Winners at IChO2021 Japan

L – R: Aoife, Oisín, Tong and Oscar

See pdf below for more details and names of student winners:

Welcome Message from China ··· IChO2022

We are looking forward to welcoming you from all over the world to participate in the 54th Chemistry Olympiad in 2022, at Nankai University, in Tianjin city. Tianjin, a meaning of the 'emperor's docks,' resides in Northern China, the key junction of transportation and communication for China and its connection with the world.

As the Vice-Chancellor of Nankai University, it is my greatest pleasure to introduce Nankai University as the 54th IChO host. Founded in 1919, Nankai University has played a vital role in Chinese education over the last 100 years. Today Nankai has grown to three modern university campuses, plus a full range of educational institutions. Nankai University is a leading multidisciplinary and research oriented state university, consisting of 24 colleges, covering areas from natural science to humanities, at all levels. As a member of the Global University Leaders Forum, Nankai University strives continuously to deepen its internationalization and globalization process, both in education and research. Not only does Nankai offer opportunities for students to study abroad, but it also provides a growing number of well-supported international studentships and scholar bursary programs each year. These broaden our academic horizons and contribute to building a worldwide academic community and a shared future for humankind.

As a chemist, I have found that Chemistry can start from simple concepts and extend to understand the complexities of the world. Here at Nankai, one is always encouraged to develop social responsibility, practical capabilities, and a creative spirit. This spirit is coincidently shared with the IChO, so we are genuinely looking forward to welcoming the young Olympians to Nankai University, bringing sparks of inspiration and ideas, scientific talent, and starting friendships. Right now, we are working as hard as possible to ensure you will have a safe, and a special IChO in China. We sincerely hope that the pandemic will be over and the world will go back to normal quickly.

Finally, we are looking forward to welcoming you to Tianjin, in 2022!

Prof. Jun Chen

The Chair of the Organizing Committee of IChO2022

The Vice-Chancellor of Nankai University

https://www.icho2021.org/jp/wp-content/uploads/sites/2/2021/08/9_all_0803_final.pdf

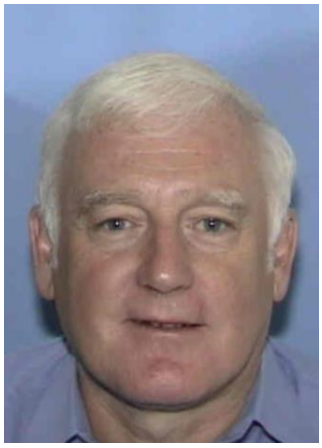
ICI David Brown Award 2021 Recipient

Professor Nicholas P. Farrell

This award was established in 2014 to honor Professor David Brown of University College Dublin in recognition of his enormous contribution to inorganic chemistry both nationally and internationally (https://www.chemistryireland.org/awards-events/#awards)

The ICI David Brown Award recipient is an international leader in this field and delivers their award lecture during the biannual Inorganic Ireland Symposium.

Professor Nicholas P. Farrell is the most recent recipient of this most prestigious award. He very recently delivered his ICI David Brown Award 2021 Lecture: **"Inorganic Drugs - Away from DNA and Back?"** at the Inorganic Ireland Symposium 2021 hosted by NUI Galway on 14th May, 2021.



Professor Nicholas P. Farrell is a graduate of University College Dublin. He obtained his Ph.D. from Sussex University and completed postdoctoral fellowships at Simon Fraser University and The University of British Columbia. He is currently Professor of Chemistry at Virginia Commonwealth University (VCU).

His major research is on platinum-based anticancer agents, on which he is acknowledged as a leading international authority. The first genuinely structurally novel platinum drug to enter human clinical trials in thirty years (Triplatin, BBR3464) arose from his research, and is still the only example of a "non-cisplatin" drug to enter human clinical trials.

In November 2017 VCU designated Prof Farrell as University Professor which recognizes Faculty members who "teach or conduct research that crosses discipline boundaries and have an established prominence in multiple fields of study, with national or international recognition in at least one field of study".

He is a member of VCU Chapter of the National Academy of Inventors (NAI). Prof Farrell has had extensive international collaborations and in 2013 was Elected Corresponding Member of Brazilian Academy of Sciences: "The Corresponding Members shall be foreign researchers with recognized scientific merit, who have provided relevant collaboration to the development of science in Brazil." He was a Jefferson Science Fellow at the US Department of State for the period 2010-2015.

The Institute of Chemistry of Ireland

Irish Young Chemists' Network (IYCN)

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

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

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

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

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

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

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

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

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

The University of Limerick is delighted to host the 72nd Irish Chemistry Research Colloquium on the 17th-18th of June as a Virtual event, hosted by the Department of Chemical Sciences & Bernal Institute.

Thursday 17th June

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

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

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

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

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

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

11h15 Coffee Break

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

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

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

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

12h30 'Thesis in 3' Session 1

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

13h15 Lunch Break

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

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

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

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

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

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

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

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

16h00 Break

16h15 'Thesis in 3' Session 2

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

17h00 Close of Day 1

Friday 18th June

09h30 Keynote Talk Prof Tomislav Friscic, McGill University, Canada

"Promoting Green Chemistry and Sustainability through the Solid State: Sky is the Limit"

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

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

11h15 Coffee Break

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

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

12h30 'Thesis in 3' Session 3

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

13h15 Lunch & Business Meeting

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

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

15h00 'Thesis in 3' Session 4

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

16h00 Prizes & Close of Day 2

The 72nd Irish Chemistry Research Colloquium

UNIVERSITY OF LIMERICK OLLSCOIL LUIMNIGH | Department of Chemical Sciences

MEDICINAL CHEMISTRY IRELAND

Report provided by Prof Isabel Rozas, TCD

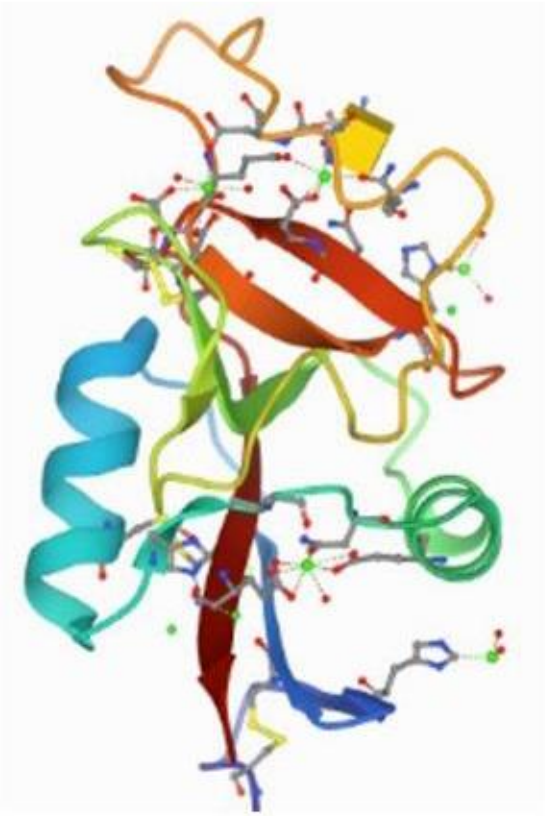
In 2016 a number of Irish based researchers, passionate about Medicinal Chemistry, got together to organise the first Medicinal Chemistry Ireland conference which was held in Trinity College Dublin. Thus, academics from Trinity College Dublin, Maynooth University, The Royal College of Surgeons in Ireland, University College Dublin, Dublin City University, Dublin Institute of Technology, University College Cork, NUI-Galway and Queen's University Belfast were involved in this first adventure. Due to its success (six excellent international and national speakers from academia and industry, sponsorship from the European Federation of Medicinal Chemistry, Royal Society of Chemistry, Catalent and SSPC, and over 200 national and international participants), this meeting crystallised in a bi-annual event. Accordingly, in 2018, this conference took place, at Dublin City University with similar success in participation, quality of academic and industry talks and the support of Almac among other institutions.

This event was to be repeated in 2020 at NUI-Galway; however, due to COVID-19 it was cancelled with the idea of running it on 2021. COVID-19 restrictions changed our plans once again, and instead Paul Murphy (NUI-Galway), Gerd Wagner (decided to run a half-day e-conference that took place this last July 1st. This time the format of the event changed thus hosting not only already established researchers, but also young investigators all from Irish institutions (RCSI, NUI-Galway, TCD, UCD, QUB and Maynooth University). More than 150 attendees registered to the event actively participating in the questions and answers times. Kurt Hoogewijs (NUI-Galway) started the meeting discussing his studies on structure-affinity relationships using microscale thermophoresis found for a series of peptides with potential as treatments for MELAS. Irina Tikhonova (QUB) introduced us in the modelling of allosteric sites for membrane proteins. This presentation was followed by Joanna McGouran (TCD) who talk about her work in probing DNA damage repair. Next, Trinidad Velasco-Torrijos (Maynooth U.) gave an overview on multivalent glycoconjugates as inhibitors of fungal adhesion. Darren Griffith (RCSI) presented his work on targeted delivery and tracking of oxaliplatin a known Pt-based anticancer drug. Finally, Elaine O'Reilly explained her findings on cascading towards new biocatalytic amine shuttling methodology. All these excellent talks were well attended waking up high interest among the participants of the e-conference.

Our Medicinal Chemistry Ireland group is now in the process of establishing a more structured organization aiming to be integrated into the ICI. Hopefully, we will meet again this summer in NUI-Galway in the third Medicinal Chemistry Ireland conference which we are certain that will be a full success as in the previous event. We hope to see all Ireland-based researchers interested in Medicinal Chemistry in Galway this July!

Medicinal Chemistry Ireland

Online Symposium



Speakers

Darren Griffith – RCSI - Dublin
Kurt Hoogewijs – NUI Galway
Joanna McGouran – TCD – Dublin
Elaine O'Reilly – UCD – Dublin
Irina Tikhonova - QUB
Trinidad Velasco-Torrijos – Maynooth

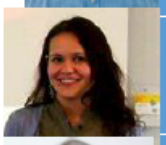
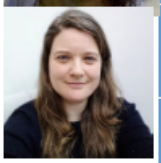
Date – July 1st 2021

Time - 9am-1pm

Registration

Registration is free but those wishing to attend must register at EventBrite (click link or scan the QR code on this page). Details with agenda and titles

Scientific Programme




Time	Title	Speaker	Institution
9.00-9.05	Opening Comments & Chair of Opening Session	Paul Murphy	NUI Galway
9.05-9.35	Structure-affinity relationship study of a potential therapeutic peptide for the treatment of MELAS using Microscale Thermophoresis	Kurt Hoogewijs	NUI Galway
9.35-10.05	Prediction of allosteric sites in membrane proteins	Irina Tikhonova	Queen's University Belfast
10.05-10.35	Probing DNA damage repair	Joanna McGouran	Trinity College Dublin
10.35-11.15	Break		
	Chair of 2nd Session:	Gerd Wagner	QUB
11.15-11.45	The sweet spot: multivalent glycoconjugates as Inhibitors of Fungal Adhesion	Trinidad Velasco Torrijos	Maynooth University
11.45-12.15	Targeted delivery and tracking of the Pt-based chemotherapeutic, Oxaliplatin	Darren Griffith	Royal College of Surgeons in Ireland
12.15-12.45	Cascading towards new biocatalytic amine shuttling methodology	Elaine O'Reilly	University College Dublin
12.45-13:00	Closing comments	Isabel Rozas	Trinity College Dublin

Biographies

Kurt Hoogewijs obtained his M.Sc. (2009) and Ph.D. (2014) at Ghent University in the lab of Prof. Annemieke Madder. After a short postdoctoral stay at Karolinska Institute in Stockholm with Prof. Roger Strömberg (2014), he became a research associate in the lab of Prof. Robert Lightowlers at Newcastle University and Wellcome Trust Centre for Mitochondrial Research, and a visiting research associate in the labs of Dr. Michael Gait (MRC Laboratory of Molecular Biology) and Dr. Michael Murphy (MRC Mitochondrial Biology Unit, 2014–2017). In 2017, he received an FWO [PEGASUS]² Marie Skłodowska-Curie Fellowship to return to Ghent University to work on peptide-RNA interactions. In 2020 he became a Lecturer in Medicinal Chemistry at NUI Galway.

Structure-Affinity Relationship study of a potential therapeutic peptide for the treatment of MELAS using Microscale Thermophoresis.

Abstract: Mitochondrial diseases are a group of rare diseases caused by a multitude of mutations in the nuclear and mitochondrial DNA, with 1/4300 adults affected or at risk, though as many as 1/200 have been estimated to carry a pathogenic mutation. They typically impair oxidative phosphorylation (OXPHOS), resulting in insufficient ATP production. Because of this, high energy demanding tissues (brain, skeletal muscles and heart) are often affected the most. There is currently no treatment for mitochondrial disorders.

One such disorder, MELAS (Mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes), accounts for almost one third of all mitochondrial diseases. It is caused by a mutation in the TRNL1 gene, which encodes the mitochondrial tRNA-Leu(UUR). Recently, it was shown that overexpression of the cognate tRNA synthetase LARS2, its isolated C-terminal domain, or peptides derived thereof can rescue OXPHOS and respiration when overexpressed in cybrid cell lines containing mutations in tRNA-Leu(UUR), tRNA-Lys, and tRNA-Val (Perli et al., Hornig-Do et al.).

Here, we present the first steps towards converting the LARS2 derived peptide beta32_33 into a peptidomimetic drug. A SAfiR study was performed using microscale thermophoresis (MST) to characterize the interaction of synthetic tRNA and in-house synthesized LARS2 beta32_33 peptide analogues. A single MST experiment consumes only 12 pmol of labeled tRNA and 2 nmol of peptide per replicate, making it compatible with small scale chemical synthesis and relatively expensive RNA. The manipulations are relatively straightforward and can be performed with a minimal training, making the technique accessible for researchers of all levels.

Irina Tikhonovais a Reader in Molecular Modelling, working in the School of Pharmacy, Queen's University Belfast. Much of the focus of her research activities over the past 10 years has been to improve and apply computational methods to integrate chemistry, biology and medicine of GPCRs and other targets. She has been working on understanding ligand-protein interactions and activation in the free fatty acid, bioamine, cholecystokinin, gastrin, purine and GIP receptors. Her current research aims are to explore drug selective polypharmacology, functional selectivity and allosteric regulation in GPCRs using computer simulations and chemoinformatics techniques. Prior to moving to the independent research career, Irina had trainings at NIDDIK, the National Institutes of Health, Bethesda, USA and Institute of Molecular Medicine, Toulouse, France. She holds PhD in medicinal chemistry from Moscow State University supported by the presidential studentship.

Title: Prediction of allosteric sites in membrane proteins

Abstract: G protein-coupled receptors (GPCRs) are the most successful druggable targets in the human genome. Targeting GPCRs through allosteric sites offer advantages over orthosteric sites in identifying drugs with increased selectivity and structural novelty. However, the discovery of allosteric drugs has been largely serendipitous, achieved through random screening. The recent crystal structures of GPCRs in complex with allosteric modulators have opened new opportunities to develop computer-aided strategies to identify allosteric sites. In this study, we have developed a probe confined dynamic mapping approach that allows to detect allosteric sites at the GPCR extracellular and intracellular sides, as well as at the receptor-lipid interface. Three case receptors, i.e., the M2 muscarinic, β2adrenergic and P2Y1 purinergic receptors were used to explore our protocol in retrospective and predictive settings. The protocol was next

validated prospectively to locate the binding site of an allosteric modulator at the D2dopamine receptor and subsequent mutagenesis confirmed the prediction. Our computational framework provides fast and efficient prediction of key amino acid residues of allosteric sites in GPCRs and, in general, in membrane proteins, for mutagenesis and aids in the discovery of allosteric drugs for the treatment of GPCR-related diseases.

Prof Joanna McGouranis currently the Schuler Assistant Professor in Translational Organic Chemistry in Trinity College Dublin. Prior to her appointment in 2016 Joanna obtained her degree and PhD in Chemistry from the University of Oxford, where she also gained postdoctoral experience in chemical biology and medicine.
Research in her group focuses on bio-molecule modification to create new tools to study biological systems. The group chemically modify proteins, oligonucleotides, peptides and nucleosides to introduce new functionality and assess the biological effects of this modification. The group currently has a specific focus on DNA damage repair and deubiquitinating enzymes.

Title: Probing DNA damage repair

Abstract: SNM1A is a zinc-dependent nuclease involved in removal of inter strand crosslink lesions from DNA. Inhibition of inter strand crosslink repair enzymes such as SNM1A is a promising strategy for improving the efficacy of crosslinking chemotherapy drugs. Initial studies have demonstrated the feasibility of developing SNM1A inhibitors, but the full potential of this enzyme as a drug target has yet to be explored.
DNA damage repair enzymes play crucial roles in cell maintenance. Key roles of 5'-3' exonucleases include facilitating DNA double-strand break and mismatch repair. SNM1A and related MBL fold containing exonucleases are by far the least characterised in this class, despite their critical roles in DNA repair, immune system development and telomere maintenance.
We have synthesised and evaluated probes for SNM1A, working towards tools which can be used in cellular systems. There is a dearth of tools to study these key enzymes, and indeed any DNA damage repair enzymes, hindering progress in this exciting field of research. Chemical probes which can be used to examine enzymatic activity in a cellular context have proven to be highly useful tools for many classes of enzyme, accelerating drug discovery efforts, and diagnostics as well as biomarker discovery and identifying new enzymatic functions.

Trinidad Velasco Torrijos graduated in Organic Chemistry from Universidad Autonoma de Madrid and received her PhD from University of Bristol in 2002 She then took postdoctoral stays in Ghent University and University College Dublin. Trinidad joined Maynooth University in 2007 where she is currently Associate Professor and coordinator of BSc Pharmaceutical and Biomedical Chemistry. Her research interests include the development of carbohydrate-based modulators of cellular adhesion and supramolecular soft materials

Title: The Sweet Spot: Multivalent Glycoconjugatesas Inhibitors of Fungal Adhesion

Abstract: Chronic fungal infections affect over 150 million individuals. These infections can have a huge impact on people's lives and, in certain circumstances, can also be fatal. The yeast *C albicans*.is an opportunistic fungal pathogen which induces superficial and systemic infections in immunocompromised patients.[1]Adherence to host tissue is critical to its ability to colonise and infect the host. We have evaluated anti-adhesion glycomimetics[2]grafted onto several multivalent scaffolds as inhibitors of *C. albicans* adherence to buccal epithelial cells (BECs, Figure 1).[3], [4]The results showed that scaffold valencyand structure strongly influence anti-adhesion activity, with the best performing glycoconjugate capable of inhibiting over 60% of yeast adhesion to the BECs.

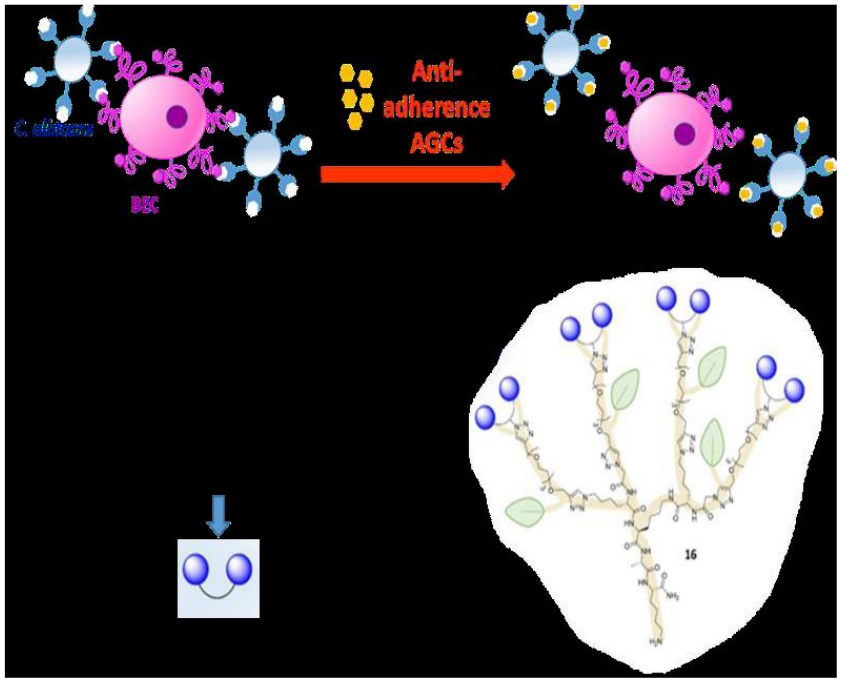


Fig.1. Graphical representation of the anti-adhesion approach, structure of lead compound and example of multivalent glycoconjugate

[1]Martin H; Kavanagh K; Velasco-Torrijos T; (2021) *Future Med. Chem.*13: 313-334.
[2]Martin H; Mc Govern M; Abbey L; Gilroy A; Mullins S; Howell S; Kavanagh K; Velasco-Torrijos T; (2018) *Eur. J. Med. Chem.*160: 82-93.
[3]Martin H; Goyard D; MargalitA; Doherty K; RenaudetO; Kavanagh K; Velasco-Torrijos T; (2021) *BioconjugateChem.*32: 971-982. DOI:10.1021/acs.bioconjchem.1c00115
[4]Martin H; Masterson H; Kavanagh K; Velasco-Torrijos T; (2021) *Pathogens*10: 572.

Darren Griffith graduated with a BSc in Chemistry from University College Dublin in 2000 and later completed a PhD in 2004 in Medicinal Inorganic Chemistry with Dr. Celine Marmion at the Department of Chemistry, Royal College of Surgeons (RCSI) in Ireland. Following a Post-doctoral Research Fellowship in the School of Chemical Sciences, Dublin City University (2004-2005) with Professor Robert Forster and Dr. Tia Keyes, held a temporary lecturing position in chemistry (2005-2006) in RCSI. Appointed a Post-doctoral Research Fellow in chemistry in RCSI in 2006. Appointed as Lecturer in chemistry in RCSI in 2010 and Senior Lecturer in chemistry in 2018. Darren is a funded investigator at The SFI Research Centre for Pharmaceuticals, the SSPC. Research interests lie broadly in medicinal inorganic chemistry and include for example:

- Functionalisation of platinum complexes with (i) active targeting agents and/or (ii) fluorescent reporters to selectively deliver and track platinum anticancer drugs
- Development of novel bismuth and gallium-based antibacterial agents that target multidrug resistant infections
- Development of metal-based complexes that target neglected tropical disease such as leishmaniasis.

Title: Targeted Delivery and Tracking of the Pt-based chemotherapeutic, Oxaliplatin

Abstract: Oxaliplatin is one of three Pt-based drugs approved worldwide as an anticancer agent. Though platinum (Pt) drugs have played a very important and well documented role in treating cancer, the clinical efficacy of Pt drugs is limited by resistance and adverse side effects. Therefore, novel methods are required to deliver cytotoxic Pt drugs more accurately to tumours to enhance efficacy, reduce off-target toxicity and improve the tolerability of the treatment.

The development of (i) platinum(IV) oxaliplatin–peptide conjugates targeting memHsp70+ phenotype in colorectal cancer cells1 and (ii) a single microbubble formulation carrying 5-fluorouridine, irinotecan and oxaliplatin to enable FOLFIRINOX (folinic acid, 5-fluorouracil, irinotecan and oxaliplatin) treatment of pancreatic and colon cancer using ultrasound targeted microbubble destruction2 will be discussed.

Furthermore, it is becoming increasingly clear that the exact mechanisms of action of Pt drugs have not been fully revealed. It has been demonstrated recently for example that oxaliplatin, in contrast to cisplatin and carboplatin, does not primarily kill cancer cells by binding to DNA but by inducing ribosome biogenesis stress. Trackable drugs which incorporate a fluorophore (fluorescent reporter) facilitate real-time imaging of important biological processes in cells and providing vital information concerning the biodistribution, cellular transport, subcellular localization, and mechanisms of action of drugs and mechanisms of resistance to drug treatment. An account of recent work undertaken to develop an oxaliplatin derivative with a click handle will be provided.

References [1.] A. M. McKeon, J. Noonan, M. Devocelle, B. M. Murphy, D. M. Griffith, Chem. Commun. 2017, 53 (82), 11318-11321.

[2] J. Gao, K. A. Logan, H. Nesbitt, B. Callan, T. McKaig, M. Taylor, M. Love, A. P. McHale*, D. M. Griffith*, J. F. Callan*, submitted for publication.

Elaine O'Reilly, University College Dublin, Ireland completed her BSc and PhD at University College Dublin before moving to the Manchester Institute of Biotechnology to work with Prof Nicholas Turner and Prof Sabine Flitsch. She began her independent career in 2014 at Manchester Metropolitan University, and from 2015 2019 her research group was based in the School of Chemistry at the University of Nottingham In 2019 Elaine moved to her current position as Associate Professor of Chemical Biology at University College Dublin, where her group are interested in the development of enzymes and biocatalytic methodology for synthetic applications

Title: Cascading towards new biocatalytic amine shuttling methodology.

Abstract: Catalytically reversible reactions, including alkene metathesis and transfer hydrogenation, have had an enormous impact on the development of synthetic strategies for the synthesis of bioactive compounds and important materials. However, the vast majority of chemically catalysed processes are non-reversible In contrast, many enzyme catalysed processes are freely reversible and displacing the reaction equilibrium towards product formation is often achieved (both in Nature and synthetically) by performing cascade reactions, where the product of one biocatalytic step becomes the substrate/reactant for the next transformation The reversible nature of enzymes means that they can be exploited for mediating reactions in either the forward or reverse direction, and this adds a significant level of flexibility to the development of (chemo)enzymatic routes.

An unexplored aspect of biocatalysis is using enzyme reversibility to 'shuttle' functionality intra or intermolecularly. Such an approach has the advantage of enabling single product isolation from complex mixtures of reactants, and can act to mask reactive functionality My group are exploring the area of 'shuttle biocatalysis using a number of widely used transformations, including the Pictet-Spengler, aza-Michael and Mannich reactions

INORGANIC IRELAND SYMPOSIUM 2021

14th May, 2021

The Inorganic Ireland 2021 took place virtually on 14th May. It was a one-day meeting, which was organised by the NUI Galway. The purpose of the meeting was to strengthen the interaction of inorganic research groups within the island and to foster synergies and opportunities. The symposium attracted many attendees and hosted a series of talks, oral flash presentations, and posters, demonstrating the full breadth, diversity, and high quality of inorganic chemistry in Ireland. The symposium also hosted high profile international speakers with Irish connections, including Prof. Serena Corr, University of Sheffield. Plenary talks featured Dr Alison Parkin (University of York, winner of the 2019 RSC Sir Edward Fellowship), Prof. Nicholas Farrell (Virginia Commonwealth University, ICI David Brown Award 2021) and Drago Prof. George Christou (University of Florida, USA).

Report provided by Prof Celine Marmion, RSCI

1st session; chair: Constantina Papatriantafyllopoulou		
9:00-9:05	Welcome	
9:05-9:40	***Serena Corr***, University of Sheffield	Designing synthetic strategies and in situ monitoring for next generation batteries
9:40-10:05	***Guillaume Lefevre***, CNRS	Key stereoelectronic requirements in Fe-catalyzed cross-coupling involving Fe^{II}/Fe^{III} electron-transfer chemistry : a two-part redox tale.
10:05-10:20	***Amir Abdo***, NUI Galway	The reactivity of Iron(III)-Porphyrin Complexes Against Nitric Oxide
10:20-10:23	***Adrien Szucs***, TCD	New insights into the formation of rare earth carbonates via mineral replacement reactions
10:23-10:26	***Neville Murphy***, NUI Galway	Metallacarboranes as TNBC therapeutics
10:26-10:29	***Sean Hennesey***, NUI Galway	Highly Selective Photocatalytic Oxidation of Useful Organic Substrates
10:29-10:32	***Rosy Polisicchio***, NUI Galway	Rational design of lanthanide-functionalized vitamin B12 probes for targeted tumor bio-imaging
	Poster Session 1 -Coffee break	
2nd session; chair: Luca Ronconi		
11:10-11:55	***Alison Parkin***, University of York	2019 RSC Sir Edward Fellowship Lecture
11:55-12:20	***Joseph Byrne***, NUI Galway	Carbohydrates and metals: antimicrobial and catalytic activity and towards sensor applications
12:20-12:35	***Lorna Doyle***, TCD	Activation of a $Mn^{II}Mn^{III}$-Peroxide with relevance to the catalytic cycle of Ib RNRs.

12:35-12:38	***Hollie Jenkins***, TUD	Cytotoxicity of Copper(II) Complexes in Normoxic and Hypoxic Cells
12:38-12:41	***Erika Mooney***, TUD	Synthesis of Novel Substituted Coumarin-3-Carboxylato-Silver(I)-NHC Complexes: Standard Schlenk Technique Vs. Ion Exchange Route
12:41-12:43	***Clara Evans***, MU	Novel Silver-based Therapeutics: Biological Activity and Stability
	Lunch break	
3rd session; chair: Pau Farras		
13:45-14:10	***Veronica Sofianos***, UCD	Diverse Morphologies of Zinc Oxide Nanoparticles and their Electrocatalytic Performance in Hydrogen Production
14:10-14:25	***Gita Singh***, UCD	Self-supported Ni@MOF cubes on carbon cloth as binder-free architecture for supercapacitor application
14:25-14:40	***Chakadola Panda***, TCD	Lewis Acid Mediated C(sp^3)-H Bond Activation by a μ-Fluorido Diiron(III)
14:40-15:05	***Paul Kavanagh***, QUB	Ferricenium decorated colloidal gold particles: synthesis, characterisation and applications.
	Poster Session 2 -Coffee break	
4th session; chair: Grace Morgan		
15:45-16:20	***George Christou***, UF	Molecular Chemistry as a Route to Ultra-small Nanoparticles of Important Metal Oxides
16:20-16:35	***Nikolaos Tsoureas,*** University of Sussex	Synthesis and Reactivity of Actinide Sandwich Complexes supported by the cyclo-butadienyl ligand.
16:35-16:50	***Karmel Gkika***, DCU	Osmium(II) Bridged Polyarginine Conjugates: From 2D Cell Imaging to in depth Penetration of 3D Multicellular Tumor Spheroid
	Poster Session 3 -Coffee break	
5th session; chair: Celine Marmion		
17:30-18:15	***Nicholas P. Farrell***, Virginia Commonwealth University	ICI David Brown Award 2021 Lecture: "*Inorganic drugs - away from DNA and back ?*"
18:15-18:40	***Luca Ronconi***, NUI Galway	Gold-based dithiocarbamato glycoconjugates: a suitable strategy to target tumor glycolysis?
18:40-19:00	**Presentation Awards, closing remarks**	

Webinar: Good Chemistry – Do Chemists Need Ethics?

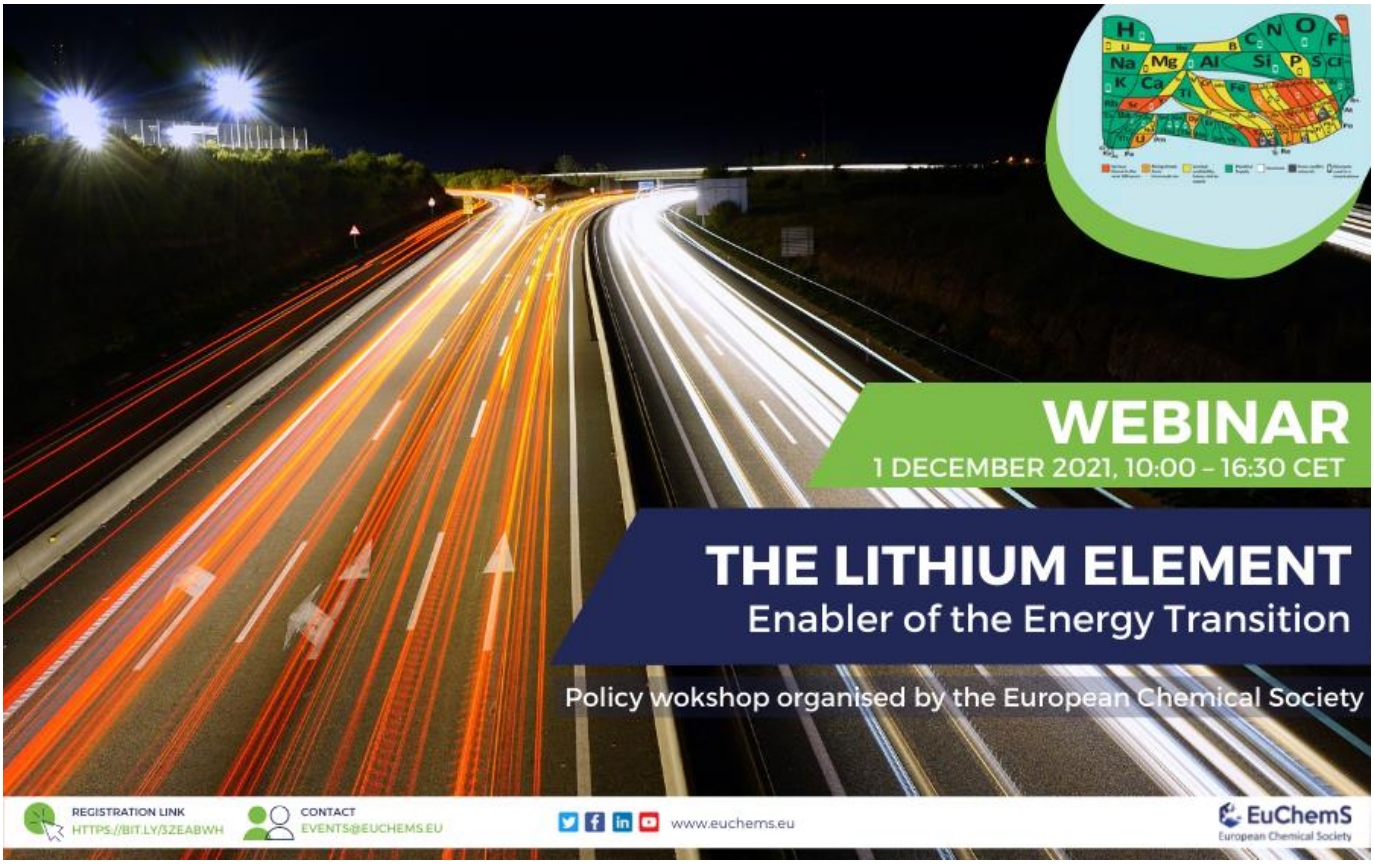
The European Chemical Society, EuChemS, is pleased to invite you to the webinar "Good Chemistry – Do Chemists Need Ethics?" that will be held on Thursday 7 October 2021 (10:00 a.m. CEST).

Register now **CLICK HERE**

Please note that online registration for this event is mandatory.

This online event is organised in collaboration with the EuChemS Working Party on Ethics in Chemistry. This event will be chaired by Dr. Jan Mehlich (recipient of the 2020 EuChemS Award for Service and member of the EuChemS Working Party on Ethics in Chemistry).

For more details go to: https://www.euchems.eu/good-chemistry-webinar



The Lithium Element – Enabler of the Energy Transition

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

Register now **HERE**

Please note that online registration for this event is mandatory.
This online event is an initiative designed by the EuChemS Periodic Table Task Group. The Task Group is chaired by Nicola Armaroli and its members are David Cole-Hamilton, Christophe Copéret, Nineta Hrastelj, Rinaldo Poli, Floris Rutjes, and Alessandra Quadrelli as a guest. The webinar is organised by the EuChemS Secretariat, Laura Jousset being the coordinator.

This webinar echoes the successful workshop on the Carbon Element organised by EuChemS on 22 April 2021 (read more about it here). See Webpage https://www.euchems.eu/lithium-element-webinar

Programme outline

MORNING SESSION

10:00 to 12:00 CET

– Welcome
Floris Rutjes, EuChemS President
– MEP Speech
MEP Speaker

AFTERNOON SESSION

13:30 to 16:30 CET

– Alternatives to Lithium-ion batteries
Philipp Adelhelm, Humboldt-University of Berlin
– Recycling Lithium-ion batteries
Paul Anderson, University of Manchester
– Lithium in ceramics

– Developments of the EuChemS periodic table
David Cole-Hamilton, University of St. Andrews
– Lithium: reserves, resources and geopolitical issues
Fernando Rocha, University of Aveiro
10 MIN BREAK
– Lithium-ion batteries in the automotive sector
Kristina Edstrom, University of Uppsala
– Lithium batteries and the stationary applications
Luigi Lanuzza, Enel X
– **Panel discussion**
led by Katharine Sanderson, Science Journalist and Editor
John C. Cochran, Corning Inc., Lexington, KY, USA
10 MIN BREAK
– The role of Europe in the expanding battery industry
Speaker from EC
– **Panel discussion**
led by Nicola Armaroli, CNR/EuChemS
– Closing
Floris Rutjes, EuChemS President

The European Chemical Society, EuChemS, was pleased to organise the **2019 EuChemS Lecture Awardee Webinar**. The online event was held on **Wednesday 23 June, from 15:00 to 16:30 CEST**. During this event, **David Portehault, EuChemS 2019 Lecturer**, gave a talk on "**From water to molten salts: geoinspired syntheses and reactivity of nanomaterials**".

For more details go to: https://www.euchems.eu/2019-lecture-awardee-webinar

You can watch the even and David's presentation on YouTube:

https://youtu.be/UkMC9Kp1Fjo

EuChemS Lecture Award 2021

Nominations for the EuChemS Lecture Award 2021 are now open. Please fill in the below form to submit a nomination. The deadline for submission is 31 December 2021 at 18:00 CET.

Please carefully read **the guidelines for the EuChemS Lecture Award.**

For application form go to: https://www.euchems.eu/awards/lecture-award

EuChemS Lecture Award - EuChemS Awards Information Session can be viewed here:

https://www.youtube.com/watch?v=oYlY7hoDd6Q or

https://youtu.be/oYlY7hoDd6Q

Jury Nomination - European Chemistry Gold Medal 2021

European Chemistry Gold Medal – Call for Nominations

Every two years, the exceptional achievements of one scientist working in the field of chemistry in Europe will be rewarded.

Nominations for Members of the International Award Committee of European Chemistry Gold Medal (IACM) are now open. Please fill in the below form to submit a nomination. The deadline for submission is 31 December 2021 at 18:00 CET.

Please carefully read **the guidelines for the European Chemistry Gold Medal.**

For Application go to: https://www.euchems.eu/awards/european-chemistry-gold-medal

See European Chemistry Gold Medal - EuChemS Awards Information on YouTube at:

https://youtu.be/pSV9wk5k9cw

Recipients of the European Chemistry Gold Medal

Dame Carol Robinson – 2022

The 2022 European Chemistry Gold Medal has been awarded to **Professor Dame Carol Robinson** for exceptional achievements in the field of chemistry in Europe.

Michele Parrinello – 2020

The 2020 European Chemistry Gold Medal will be awarded to Professor **Michele Parrinello** for exceptional achievements in the field of chemistry in Europe.

Irish University & 3rd Level Chemistry News

Note:

The source material for the following section is taken from the institutions web site, general the news section of the web site for this part of ICN covering Universities and Higher Institutes of Education.

I will be endeavouring to improve this section of ICN by getting timely update feeds from the institutions.

This section is still under development and should be in place for the next Issue hopefully.

Midlands & Mid-West Technological University Status Granted to Athlone and Limerick Institutes of Technology

University College Dublin
Ireland's Global University

Irish University & 3rd Level Chemistry News

Irish University & 3rd Level Chemistry News

NUI Galway
OÉ Gaillimh

RCSI

Irish University & 3rd Level Chemistry News

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

School of Chemistry
Scoil na Ceimic

Irish University & 3rd Level Chemistry News

Maynooth University
National University of Ireland Maynooth

Irish University & 3rd Level Chemistry News

QUEEN'S UNIVERSITY BELFAST

Irish University & 3rd Level Chemistry News

DCU
Ollscoil Chathair Bhaile Átha Cliath
Dublin City University

Irish University & 3rd Level Chemistry News

OLLSCOIL TEICNEOLAÍOCHTA BHAILE ÁTHA CLIATH
DUBLIN
TECHNOLOGICAL UNIVERSITY DUBLIN

Irish University & 3rd Level Chemistry News

Irish University & 3rd Level Chemistry News

Irish University & 3rd Level Chemistry News

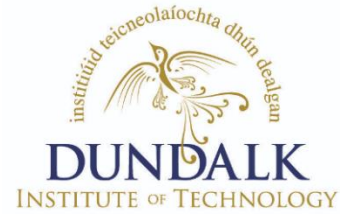
Irish University & 3rd Level Chemistry News

Irish University & 3rd Level Chemistry News

Irish University & 3rd Level Chemistry News

Irish University & 3rd Level Chemistry News

Irish University & 3rd Level Chemistry News



Irish University & 3rd Level Chemistry News

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

Support our Institute by publishing your new research results in the 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

Chemistry and related Science around the World

Chemistry Updates 1st May 2021 ~ 31st August

Scientists Harness Molecules Into Single Quantum State – Could Open New Fields in Quantum Chemistry

1 May 2021
Scientists Harness Molecules Into Single Quantum State – Could Open New Fields in Quantum Chemistry (scitechdaily.com)

Identifying Individual Molecules: How to Build a Better "Nanopore" Biosensor

2 May
Identifying Individual Molecules: How to Build a Better "Nanopore" Biosensor (scitechdaily.com)
https://advances.sciencemag.org/content/7/17/eabf5462

Toward Improved Solar Cells With Active Learning

3 May 2021
Toward Improved Solar Cells With Active Learning (scitechdaily.com)
https://doi.org/10.1038/s41467-021-22611-4

Nuclear power: how might radioactive waste water affect the environment?

30 April
Nuclear power: how might radioactive wastewater affect the environment? (theconversation.com)

Look inside this lab where scientists are recreating the energy of the sun to produce nearly unlimited clean energy

30 April
Photos: Inside TAE Technologies lab and nuclear fusion machine (cnbc.com)

Scientists Discover That the Shape of Light Changes Our Vision

2 May
Scientists Discover That the Shape of Light Changes Our Vision (scitechdaily.com)
https://advances.sciencemag.org/content/7/18/eabe1911

Amorphous thin-film oxide power devices operating beyond bulk single-crystal silicon limit

3 May
Amorphous thin-film oxide power devices operating beyond bulk single-crystal silicon limit | Scientific Reports (nature.com)
https://doi.org/10.1038/s41598-021-88222-7

Physicists Just Found The Lightest Known Form of Uranium, And It Has Unique Behaviors

4 May

Physicists Just Found The Lightest Known Form of Uranium, And It Has Unique Behaviors (sciencealert.com)

A Strange Effect of Aspirin May Help Protect Against Air Pollution, Scientists Say

4 May 2021

A Strange Effect of Aspirin May Help Protect Against Air Pollution, Scientists Say (sciencealert.com)

COVID-19 Test Detects Antibodies in a Drop of Blood

4 May

COVID-19 Test Detects Antibodies in a Drop of Blood | Technology Networks
https://www.pnas.org/content/118/18/e2025289118

Are chemicals shrinking your penis and depleting your sperm? Here's what the evidence really says

3 May

Are chemicals shrinking your penis and depleting your sperm? Here's what the evidence really says (theconversation.com)

Chemical 'nose' sniffs critical differences in DNA structures

4 May

Chemical 'nose' sniffs critical differences in DNA structures (phys.org)

Atomic-scale ion transistor could lead to better brain-computer interfaces – Physics World

4 May

Atomic-scale ion transistor could lead to better brain–computer interfaces – Physics World

Designing and controlling the properties of transition metal oxide quantum materials

3 May

Designing and controlling the properties of transition metal oxide quantum materials | Nature Materials
https://doi.org/10.1038/s41563-021-00989-2

https://scitechdaily.com/alternative-to-conventional-fertilizers-fungi-could-manipulate-bacteria-to-enrich-soil-with-nutrients

4 May

Alternative to Conventional Fertilizers: Fungi Could Manipulate Bacteria to Enrich Soil With Nutrients (scitechdaily.com)
https://doi.org/10.1038/s41396-021-00920-2

Microplastics are everywhere — but are they harmful?

4 May

Microplastics are everywhere — but are they harmful? (nature.com)
https://doi.org/10.1038/d41586-021-01143-3

The DNA Industry Is Going Cell-Free – SynBioBeta

4 May

The DNA Industry Is Going Cell-Free - SynBioBeta

How to detect, resist and counter the flood of fake news

6 May
How scientists are fighting fake news and misinformation | Science News

Good research begins long before papers get written

29 April
Good research begins long before papers get written (nature.com)
https://doi.org/10.1038/d41586-021-01167-9

'It's like the embers in a barbecue pit.' Nuclear reactions are smouldering again at Chernobyl

5 May
'It's like the embers in a barbecue pit.' Nuclear reactions are smoldering again at Chernobyl | Science | AAAS (sciencemag.org)

GridScale: Storing Renewable Energy in Stones Instead of Lithium Batteries

6 May
GridScale: Storing Renewable Energy in Stones Instead of Lithium Batteries (scitechdaily.com)

Nanoscale defects could boost energy storage materials

30 April
Nanoscale defects could boost energy storage materials | Cornell Chronicle

Improving mRNA Packaging for Better Medicines

4 May
Improving mRNA Packaging for Better Medicines | Technology Networks
https://doi.org/10.1016/j.omtn.2021.03.008

"Molecular Glue" Boosts Efficiency and Makes Perovskite Solar Cells Dramatically More Reliable Over Time

6 May
"Molecular Glue" Boosts Efficiency and Makes Perovskite Solar Cells Dramatically More Reliable Over Time (scitechdaily.com)
DOI: 10.1126/science.abf5602

First nanoscale look at a reaction that limits the efficiency of generating clean hydrogen fuel

6 May
First nanoscale look at a reaction that limits the efficiency of generating clean hydrogen fuel (phys.org)
http://dx.doi.org/10.1038/s41586-021-03454-x

Best of Both Worlds: Artificial Intelligence Makes Great Microscopes Better Than Ever

7 May
Best of Both Worlds: Artificial Intelligence Makes Great Microscopes Better Than Ever (scitechdaily.com)
DOI: 10.1038/s41592-021-01136-0

UK REACH continues to evolve for the GB market

8 May
UK REACH continues to evolve for the GB market - Lexology

'The big challenge for pharma in Ireland is ensuring a skilled graduate pipeline'

4 May

‘The big challenge for pharma in Ireland is ensuring a skilled graduate pipeline’ (siliconrepublic.com)

Waste Polyolefins Become Feedstocks

7 May
Waste Polyolefins Become Feedstocks | Chemical Processing

Combating Antibiotic-Resistant Bacteria With “Molecular Tweezers”

10 May
Combating Antibiotic-Resistant Bacteria With “Molecular Tweezers” | Technology Networks
https://doi.org/10.1016/j.chembiol.2021.03.013

Doudna and Arnold Chat “Nobel to Nobel”

10 May
Doudna and Arnold Chat “Nobel to Nobel” (genengnews.com)

COVID Search and Destroy: Scientists Design “Nanotraps” to Catch and Clear Coronavirus From Tissue

10 May
COVID Search and Destroy: Scientists Design “Nanotraps” to Catch and Clear Coronavirus From Tissue (scitechdaily.com)
https://doi.org/10.1016/j.matt.2021.04.005

Scientists Engineer a Better Way to Block Viruses That Cause Childhood Respiratory Infections

10 May
Scientists Engineer a Better Way to Block Viruses That Cause Childhood Respiratory Infections (scitechdaily.com)
https://doi.org/10.1021/jacs.1c01565

Innovative Chemical “Nose” Sniffs Critical Differences in DNA Structures

7 May
Innovative Chemical “Nose” Sniffs Critical Differences in DNA Structures (scitechdaily.com)
https://doi.org/10.1038/s41557-021-00647-9

Citrus Derivative Makes Transparent Wood 100% Renewable

8 May
Citrus Derivative Makes Transparent Wood 100% Renewable (scitechdaily.com)
https://doi.org/10.1002/advs.202100559

Nanotechnology Breakthrough: A Material-Keyboard Made of Graphene

10 May
Nanotechnology Breakthrough: A Material-Keyboard Made of Graphene (scitechdaily.com)
https://doi.org/10.1038/s41565-021-00896-2

Evolving Analytical Technology Unravels Protein Characteristics

2 May
Evolving Analytical Technology Unravels Protein Characteristics (biopharminternational.com)

Manufacturing industrially applicable materials from CO2

7 May
Manufacturing industrially applicable materials from CO2 (innovationnewsnetwork.com)

Chemical targets to deactivate biological and chemical toxins using surfaces and fabrics | Nature Reviews Chemistry

5 May
Chemical targets to deactivate biological and chemical toxins using surfaces and fabrics | Nature Reviews Chemistry
https://doi.org/10.1038/s41570-021-00275-4

Sustainable Food Science: Converting Food Waste Into Useful Products

21 January
Sustainable Food Science: Converting Food Waste Into Useful Products | Technology Networks

You've heard about genome sequencing -- but what's exome sequencing?

10 May
You've heard about genome sequencing -- but what's exome sequencing? (zmescience.com)

Nanoscale defects could boost energy storage materials

111 May
Nanoscale defects could boost energy storage materials (phys.org)
http://dx.doi.org/10.1021/acs.nanolett.1c00315

British Lithium Limited: powering our future with lithium carbonate

11 May
British Lithium Limited: powering our future with lithium carbonate (innovationnewsnetwork.com)

Sixty jobs for Westmeath as Antylia Scientific establishes bioprocessing facility

12 May
Sixty jobs for Westmeath as Antylia Scientific establishes bioprocessing facility - TechCentral.ie

Global renewable energy industry grew at fastest rate since 1999 last year | Renewable energy | The Guardian

11 May
Global renewable energy industry grew at fastest rate since 1999 last year | Renewable energy | The Guardian

Inside Regeneron's Monocolonal Antibody Development

3 May
Inside Regeneron's Monocolonal Antibody Development (appliedclinicaltrialsonline.com)

In Huge Breakthrough, The Largest Offshore Wind Farm in US History Was Just Approved

13 May 2021
In Huge Breakthrough, The Largest Offshore Wind Farm in US History Was Just Approved (sciencealert.com)

No Transgenerational Effects of Chernobyl Radiation Found

22 April
No Transgenerational Effects of Chernobyl Radiation Found | The Scientist Magazine® (the-scientist.com) also
doi:10.1126/science.abg2538, 2021.
doi:10.1126/science.abg2365, 2021.

Scientists Invent New Method for Producing Synthetic DNA

14 May 2021
Scientists Invent New Method for Producing Synthetic DNA (scitechdaily.com)

https://doi.org/10.1038/s41467-021-22945-z

Revolutionary Eco-Friendly Plastic: The Future Looks Bright for Infinitely Recyclable Plastic

13 May
Revolutionary Eco-Friendly Plastic: The Future Looks Bright for Infinitely Recyclable Plastic (scitechdaily.com)
https://advances.sciencemag.org/content/7/15/eabf0187

Handheld “MasSpec Pen” Reveals Meat and Fish Fraud in Seconds

12 May
Handheld "MasSpec Pen" Reveals Meat and Fish Fraud in Seconds (scitechdaily.com)
https://doi.org/10.1021/acs.jafc.0c07830

Open-access publisher PLOS pushes to extend clout beyond biomedicine

14 May
Open-access publisher PLOS pushes to extend clout beyond biomedicine (nature.com)
https://doi.org/10.1038/d41586-020-01907-3

High-entropy materials for catalysis: A new frontier

12 May
High-entropy materials for catalysis: A new frontier | Science Advances (sciencemag.org)
DOI: 10.1126/sciadv.abg1600

Take a Tour of The Tiny, Wonderful World of Microfluidics

15 May
Take a Tour of The Tiny, Wonderful World of Microfluidics (sciencealert.com)

New Evidence for Controversial Theory That the Electron Is Composed of Two Particles

16 May
New Evidence for Controversial Theory That the Electron Is Composed of Two Particles (scitechdaily.com)
https://doi.org/10.1038/s41567-021-01243-x

Clocking Electron Movements Inside an Atom – Shutter Speed of a Millionth of a Billionth of a Second

15 May
Clocking Electron Movements Inside an Atom – Shutter Speed of a Millionth of a Billionth of a Second (scitechdaily.com)
https://doi.org/10.1038/s41567-020-01111-0

A Step Closer to Replacing Chemical Pesticides

17 May
A Step Closer to Replacing Chemical Pesticides | Technology Networks
https://doi.org/10.1038/s41598-021-86560-0

How should chemical mixtures be regulated?

A Mixed Problem
17 May
How should chemical mixtures be regulated? | Feature | Chemistry World

Newly Discovered Glycosylated RNA Is All Over Cells: Study

18 May

Newly Discovered Glycosylated RNA Is All Over Cells: Study | The Scientist Magazine® (the-scientist.com)
doi:10.1016/j.cell.2021.04.023, 2021

Fully Spray-Coated Triple-Cation Perovskite Solar Cells

20 April
Fully Spray-Coated Triple-Cation Perovskite Solar Cells | Scientific Reports (nature.com)
https://doi.org/10.1038/s41598-020-63674-5

Engineered nanoparticle sets record as it outperforms natural enzyme

18 May
Artificial enzyme sets record as it outperforms horseradish counterpart by factor of 12 | Research | Chemistry World
http://dx.doi.org/10.1038/s41929-021-00609-x

First nuclear detonation created 'impossible' quasicrystals

17 May
First nuclear detonation created 'impossible' quasicrystals (nature.com)
https://doi.org/10.1038/d41586-021-01332-0
DOI: 10.1116/6.0001060

World-First Concept for Rechargeable Cement-Based Batteries – Imagine a 20-Story Building That Stores Energy Like a Giant Battery

18 May
World-First Concept for Rechargeable Cement-Based Batteries – Imagine a 20-Story Building That Stores Energy Like a Giant Battery (scitechdaily.com)
https://doi.org/10.3390/buildings11030103

New Propulsion System Could Enable Flying at Speeds Up to Mach 17

17 May
New Propulsion System Could Enable Flying at Speeds Up to Mach 17 (scitechdaily.com)
https://doi.org/10.1073/pnas.2102244118

Molecular Machines: NanoGear – Mechanics of the Infinitely Small

17 May
Molecular Machines: NanoGear – Mechanics of the Infinitely Small (scitechdaily.com)
https://doi.org/10.1016/j.chempr.2021.04.010

Building Molecules Like Tinkertoys? Breakthrough May Transform the Field of Chemical Discovery

17 May
Building Molecules Like Tinkertoys? Breakthrough May Transform the Field of Chemical Discovery (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03448-9

Harvesting Light Like Nature Does: Synthesizing a New Class of Bio-Inspired, Light-Capturing Nanomaterials

18 May
Harvesting Light Like Nature Does: Synthesizing a New Class of Bio-Inspired, Light-Capturing Nanomaterials (scitechdaily.com)
https://advances.sciencemag.org/content/7/20/eabg1448

Europe Targets 50 Bio-Based Technologies

18 May
Europe Targets 50 Bio-Based Technologies | Chemical Processing

Innovating battery technology for industrial and commercial vehicles
18 May
Innovating battery technology for industrial and commercial vehicles (innovationnewsnetwork.com)

Innovative torque vectoring system to enhance electric vehicles
18 May
Innovative torque vectoring system to enhance electric vehicles (innovationnewsnetwork.com)

"Big Surprise!" – Heavy Metal Vapors Unexpectedly Found in Comets throughout Our Solar System – and Beyond
19 May 2021
"Big Surprise!" – Heavy Metal Vapors Unexpectedly Found in Comets Throughout Our Solar System – and Beyond (scitechdaily.com)
DOI: 10.1038/s41586-021-03435-0
DOI: 10.1038/s41586-021-03485-4

A Molecule That Shouldn't Exist – "The Biggest Scientific Shock of My Life"
19 May 2021
A Molecule That Shouldn't Exist – "The Biggest Scientific Shock of My Life" (scitechdaily.com)
https://doi.org/10.1016/j.cell.2021.04.023

Research Indicates Unexpected, Illegal Production of Several Ozone-Depleting Chemicals in Recent Years
19 May
Research Indicates Unexpected, Illegal Production of Several Ozone-Depleting Chemicals in Recent Years (scitechdaily.com)
https://doi.org/10.1038/s41467-021-23229-2

Superfast-charging aluminum-ion batteries outpower lithium-ion
18 May
Superfast-charging aluminum-ion batteries outpower lithium-ion (newatlas.com)

Research for greener batteries
19 May
Editorial in Nature Sustainability
Research for greener batteries | Nature Sustainability

Solving a Natural Riddle of Water Filtration to Create Clean Water While Consuming Less Energy
20 May
Solving a Natural Riddle of Water Filtration to Create Clean Water While Consuming Less Energy (scitechdaily.com)
DOI: 10.1038/s41565-021-00915-2

Strange "Black Swan" Defect Discovered in Soft Matter for First Time
20 May
Strange "Black Swan" Defect Discovered in Soft Matter for First Time (scitechdaily.com)
https://doi.org/10.1073/pnas.2018977118

Ultracold chemical reactions reveal the quantum mechanism of product formation
19 May

Ultracold chemical reactions reveal the quantum mechanism of product formation (nature.com)
https://doi.org/10.1038/d41586-021-01264-9

Name agreed for new Technological University linking LIT and AIT - Tipp FM

20 May
Name agreed for new Technological University linking LIT and AIT - Tipp FM

Unprecedented Nanoscale Look at Reaction That Limits the Efficiency of Generating Clean Hydrogen Fuel

21 May
Unprecedented Nanoscale Look at Reaction That Limits the Efficiency of Generating Clean Hydrogen Fuel (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03454-x

Sandwich Structure Improves Efficiency of Next-Generation Solar Panels

21 May
Sandwich Structure Improves Efficiency of Next-Generation Solar Panels (scitechdaily.com)
https://doi.org/10.1039/D1TC00606A

Harvard team develops long-life Li-metal solid-state battery - Green Car Congress

17 May
Harvard team develops long-life Li-metal solid-state battery - Green Car Congress

New Faster, Cheaper COVID-19 Test Kit Receives Scientific Seal of Approval

2 May
New Faster, Cheaper COVID-19 Test Kit Receives Scientific Seal of Approval (scitechdaily.com)
https://doi.org/10.1016/j.jmoldx.2021.02.009

Incredible Microscope Sees Atoms at Record Resolution

21 May
Incredible Microscope Sees Atoms at Record Resolution (scitechdaily.com)
https://science.sciencemag.org/content/372/6544/826.full

NASA Finds Organic Salts Are Likely Present on Mars – Remnants of Ancient Martian Microbial Life?

21 May
NASA Finds Organic Salts Are Likely Present on Mars – Remnants of Ancient Martian Microbial Life? (scitechdaily.com)
https://doi.org/10.1029/2020JE006803

Science's New Replication Crisis: Research That Is Less Likely to Be True Is Cited More

21 May
Science's New Replication Crisis: Research That Is Less Likely to Be True Is Cited More (scitechdaily.com)
DOI: 10.1126/sciadv.abd1705

Plan to form technological university for the west moves a step closer

21 May
Plan to form technological university for the west moves a step closer (irishtimes.com)

Do Pharmaceuticals Pose a Threat to Aquatic Life? Experts Weigh In

23 May 2021

Do Pharmaceuticals Pose a Threat to Aquatic Life? Experts Weigh In (sciencealert.com)

Invisibility cloaks and a climate dashboard: News from the College

14 May

Invisibility cloaks and a climate dashboard: News from the College | Imperial News | Imperial College London

European Commission Update: The Future REACH Revision and PFAS

21 May

European Commission Update: The Future REACH Revision and PFAS Restriction - Lexology

Breaking the Rules: Two- and Three-Dimensional Chromatography with Four Dimensions of Mass Spectrometry

1 May

Breaking the Rules: Two- and Three-Dimensional Chromatography with Four Dimensions of Mass Spectrometry (chromatographyonline.com)

Soft X-ray Method Promises Nanocarrier Breakthroughs for Smart Medicine and Environmental Clean-Up

25 May

Soft X-ray Method Promises Nanocarrier Breakthroughs for Smart Medicine and Environmental Clean-Up (scitechdaily.com)
https://doi.org/10.1038/s41467-021-23382-8

Carbon Nanotube Breakthrough: Engineering Matter at the Atomic Level

25 May

Carbon Nanotube Breakthrough: Engineering Matter at the Atomic Level (scitechdaily.com)
https://doi.org/10.1038/s41467-021-23413-4

Unusual Property in Hydrogen Fuel Device Discovered – Could Be Ultimate Guide to Self-Improvement

24 May

Unusual Property in Hydrogen Fuel Device Discovered – Could Be Ultimate Guide to Self-Improvement (scitechdaily.com)
https://doi.org/10.1038/s41563-021-00965-w

Dogs Can Sniff Out Coronavirus – With Impressive Accuracy

24 May

Dogs Can Sniff Out Coronavirus – With Impressive Accuracy (scitechdaily.com)
https://doi.org/10.1371/journal.pone.0250158

Distinguishing surface chemistry by touch

26 May

Distinguishing surface chemistry by touch | Research | Chemistry World
http://xlink.rsc.org/?doi=10.1039/d1sm00451d

Striving to bolster the antibiotic pipeline before it becomes the next crisis

26 May

Striving to bolster the antibiotic pipeline before it becomes the next crisis | Business | Chemistry World

Not Graphene: New Type of Atomically Thin Carbon Material Discovered

26 May

Not Graphene: New Type of Atomically Thin Carbon Material Discovered (scitechdaily.com)

https://science.sciencemag.org/content/372/6544/852

22-lb Hydrogen Engine to Replace Traditional Engine | IE

21 May
22-lb Hydrogen Engine to Replace Traditional Engine | IE (interestingengineering.com)

LIT | New Beginning for Midlands and Midwest as Name for Technological University Confirmed

https://lit.ie/en-ie/news/may-2021/midlands-and-midwest-name-for-tu-confirmed

Holograms increase solar energy yield

25 May
Holograms increase solar energy yield (spie.org)
https://www.spiedigitallibrary.org/journals/journal-of-photonics-for-energy/volume-11/issue-02/027002/Holographic-low-concentration-optical-system-increasing-light-collection-efficiency-of/10.1117/1.JPE.11.027002.full?webSyncID=3ab27a87-b6d5-47d2-4816-8d5983dd9e21&sessionGUID=cb0472b5-10ab-2170-a788-0c3b29b32e2a&_ga=2.163816191.138569870.1622153620-674485475.1622153620

Grassland Biodiversity Emerges as Key Factor in Climate Crisis

24 May
Grassland Biodiversity Emerges as Key Factor in Climate Crisis (umn.edu)

Cancer-causing chemical found in 78 sunscreen products

27 May
Cancer-causing chemical found in 78 sunscreen products | Live Science

Aluminium-ion batteries charge ten times faster than similar lithium-ion units – SlashGear

20 May
Aluminum-ion batteries charge ten times faster than similar lithium-ion units - SlashGear

Kinsella couple donate €30m to Trinity College Dublin

27 May
https://www.rte.ie/news/business/2021/0527/1224190-jones-engineering-group

An Attractive Cheap Organic Material for New Generation of Batteries

28 May
An Attractive Cheap Organic Material for New Generation of Batteries (scitechdaily.com)
https://doi.org/10.1021/acsaem.1c00092

Inside the Crucial Protein Channel That Keeps Bacteria Alive

28 May
Inside the Crucial Protein Channel That Keeps Bacteria Alive (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03196-w

New Sunscreen Is Coral-Safe and Provides Highly Effective UVB/UVA Protection

28 May
New Sunscreen Is Coral-Safe and Provides Highly Effective UVB/UVA Protection (scitechdaily.com)
DOI: 10.1038/s41598-021-89970-2

Next-Gen Electric Vehicle Batteries: Questions We Still Need to Answer to Double EV Range

27 May

Next-Gen Electric Vehicle Batteries: Questions We Still Need to Answer to Double EV Range (scitechdaily.com)
https://doi.org/10.1016/j.joule.2021.04.001

Mechanically Imprinting Atoms in Ferroelectric Ceramic

28 May

Mechanically Imprinting Atoms in Ferroelectric Ceramic (scitechdaily.com)
https://science.sciencemag.org/content/372/6545/961

Hydrogen-bond donor and acceptor cooperative catalysis strategy for cyclic dehydration of diols to access O-heterocycles

26 May

Hydrogen-bond donor and acceptor cooperative catalysis strategy for cyclic dehydration of diols to access O-heterocycles | Science Advances (sciencemag.org)
DOI: 10.1126/sciadv.abg0396

New Transparent Electrode Developed That Boosts Solar Cell Efficiency

29 May

New Transparent Electrode Developed That Boosts Solar Cell Efficiency (scitechdaily.com)
https://doi.org/10.1016/j.nanoen.2021.105934

UQ, GMG graphene-enhanced aluminum-ion batteries show very high power-density, long life - Green Car Congress

23 May

UQ, GMG graphene-enhanced aluminum-ion batteries show very high-power density, long life - Green Car Congress
https://dx.doi.org/10.1002/adfm.202010569

Hidden Quantum Fluctuations Discovered: Solving 40-Year Puzzle Behind Iron-Iodide's Mysterious Magnetism

24 May

Hidden Quantum Fluctuations Discovered: Solving 40-Year Puzzle Behind Iron-Iodide's Mysterious Magnetism (scitechdaily.com)
https://doi.org/10.1038/s41567-020-01110-1

Coherent Storage of Light Over One-Hour Achieved – Great Stride Towards the Application of Quantum Memories

23 May

Coherent Storage of Light Over One-Hour Achieved – Great Stride Towards the Application of Quantum Memories (scitechdaily.com)

New study turns our understanding of ice upside down | Live Science

25 May

New study turns our understanding of ice upside down | Live Science

Solid Power Unveils All-Solid-State Platform Technology, Transitions Silicon Cells to Pilot Line

24 May

https://www.prnewswire.com/news-releases/solid-power-unveils-all-solid-state-platform-technology-transitions-silicon-cells-to-pilot-line-301297438.html

University of Michigan researchers lay out hurdles for Li-metal, solid-state batteries - Green Car Congress

29 May
University of Michigan researchers lay out hurdles for Li-metal, solid-state batteries - Green Car Congress
https://dx.doi.org/10.1016/j.joule.2021.04.001

European Commission unveils CLP and REACH revision roadmaps

26 May
European Commission unveils CLP and REACH revision roadmaps | EHS Law Insights

Climate change: six priorities for pulling carbon out of the air

28 May
Climate change: six priorities for pulling carbon out of the air (theconversation.com)

The Ocean Decade: how the next ten years can chart a new course for the blue planet

27 May
The Ocean Decade: how the next ten years can chart a new course for the blue planet (theconversation.com)

Pollen-sized technology protects bees from deadly insecticides

31 May
Tiny Technology Protects Bees from Deadly Insecticides | Lab Manager

Greener Propylene Production Looms

31 May
Greener Propylene Production Looms | Chemical Processing

Scientists Synthesize New Allotrope of Carbon | Chemistry | Sci-News.com

24 May
Scientists Synthesize New Allotrope of Carbon | Chemistry | Sci-News.com

Almac Group invests £325,000 as part of Stage 1 entry into continuous flow manufacturing

25 May
Almac Group invests £325,000 as part of Stage 1 entry into continuous flow manufacturing - Almac

Isolating an Elusive Missing Link in One of the Most Important Reactions on the Planet

31 May
Isolating an Elusive Missing Link in One of the Most Important Reactions on the Planet (scitechdaily.com)
DOI: 10.1038/s41557-021-00702-5

A new issue of Chemistry International is now available

3 April
eTOC 'Chemistry International' – Apr-June 2021 - IUPAC | International Union of Pure and Applied Chemistry

Novel material achieves super-resolution with light microscopes

1 June

Novel material achieves super-resolution with light microscopes (innovationnewsnetwork.com)

Hexagonal Boron Nitride's Incredible Toughness Unmasked – "What We Observed … Is Remarkable!"

2 June
Hexagonal Boron Nitride's Incredible Toughness Unmasked – "What We Observed … Is Remarkable!" (scitechdaily.com)
DOI: 10.1038/s41586-021-03488-1

Catalytic Hydrogenation of CO2 to Methanol: Low Temperature and High Efficiency

2 June
Catalytic Hydrogenation of CO2 to Methanol: Low Temperature and High Efficiency (scitechdaily.com)
https://doi.org/10.1038/s41929-021-00584-3

Mining Nature for New Drugs

3 June
Mining Nature for New Drugs | Technology Networks
https://doi.org/10.1038/s41467-021-23502-4

Potassium's electrons slowly transform into anions under pressure

3 June
Potassium's electrons slowly transform into anions under pressure | Research | Chemistry World
http://dx.doi.org/10.1038/s41567-021-01244-w

Powerful New Underwater Glue Inspired by Barnacles and Mussels

3 June
Powerful New Underwater Glue Inspired by Barnacles and Mussels (scitechdaily.com)

World's first commercial hydrogen fuel cell ferry is "98% complete"

2 June
World's first commercial hydrogen fuel cell ferry is "98% complete" (newatlas.com)

Cheap alloy rivals expensive platinum to boost fuel cells

28 May
Cheap alloy rivals expensive platinum to boost fuel cells (phys.org)

The Powerhouse Future Is Flexoelectric

2 June
The Powerhouse Future Is Flexoelectric - University of Houston (uh.edu)

Lozenge That Can Rebuild Tooth Enamel Set To Begin Clinical Testing

1 June
Lozenge That Can Rebuild Tooth Enamel Set To Begin Clinical Testing | Technology Networks

Cornish Lithium: establishing a sustainable extraction industry in the UK

https://www.innovationnewsnetwork.com/ebook/cornish-lithium-establishing-a-sustainable-extraction-industry-in-the-uk

A Glowing New Weapon in the Fight Against Antibiotic-Resistant Bacteria

6 June
A Glowing New Weapon in the Fight Against Antibiotic-Resistant Bacteria (scitechdaily.com)
https://doi.org/10.1021/jacs.1c00290

Nuclear clocks could outdo atomic clocks as the most precise timepieces
4 June
Nuclear clocks may outdo atomic clocks as the most precise timepieces | Science News

Germany investing €8B+ in 62 large-scale hydrogen projects; “We are making Germany a hydrogen country”
29 May
Germany investing €8B+ in 62 large-scale hydrogen projects; “We are making Germany a hydrogen country” - Green Car Congress

UCC scientists contribute to breakthrough in virus fight
5 June
UCC scientists contribute to breakthrough in virus fight (irishexaminer.com)

3D printed biodegradable battery provides green energy alternative
4 June
3D printed biodegradable battery provides green energy alternative (innovationnewsnetwork.com)

Calorimetry for the development of an improved sodium-ion battery
4 June
Calorimetry for the development of an improved sodium-ion battery (innovationnewsnetwork.com)

Terpen-Tales: The Genetics Mystery Behind the Unique Fragrance of the Lovely Lavender
6 June
Terpen-Tales: The Genetics Mystery Behind the Unique Fragrance of the Lovely Lavender (scitechdaily.com)
https://doi.org/10.1038/s41438-021-00490-6

‘Crystal critters’ self-eject from salty solution
13 May
'Crystal critters' self-eject from salty solution – Physics World

Sandwich strategy makes solid-state lithium battery last longer
27 May
Sandwich strategy makes solid-state lithium battery last longer – Physics World

Creation Without Contact in the Collisions of Lead and Gold Nuclei
2 June
Creation Without Contact in the Collisions of Lead and Gold Nuclei (scitechdaily.com)
https://doi.org/10.1016/j.physletb.2021.136114

Ground-Breaking New Type of Intelligent Material – Many Potential Uses From Drug Delivery to Energy Storage
5 June
Ground-Breaking New Type of Intelligent Material – Many Potential Uses From Drug Delivery to Energy Storage (scitechdaily.com)
https://doi.org/10.1002/adma.202100442

FDA approved a new Alzheimer’s drug despite controversy over whether it works
7 June
FDA has approved a new Alzheimer’s drug despite mixed trial results | Science News

Iodine revealed to be killer species that destroys tin-based perovskites
8 June
Iodine revealed to be killer species that destroys tin-based perovskites | News | Chemistry World

New EU Restrictions on Single-Use Plastic Products to Enter into Force
7 June
New EU Restrictions on Single-Use Plastic Products to Enter into Force | Inside Energy & Environment (insideenergyandenvironment.com)

Stabilizing Gassy Electrolytes Could Make Ultralow Temperature Batteries Safer
7 June
Stabilizing gassy electrolytes could make ultra-low temperature batteries safer (ucsd.edu)

New drug-formulation method may lead to smaller pills
7 June
New drug-formulation method may lead to smaller pills | MIT News | Massachusetts Institute of Technology

Discovery of energy storage mechanism advances rechargeable batteries
8 June
Discovery of energy storage mechanism advances rechargeable batteries (innovationnewsnetwork.com) and

Trapped interfacial redox introduces reversibility in the oxygen reduction reaction in a non-aqueous Ca2+ electrolyte
28 May
Trapped interfacial redox introduces reversibility in the oxygen reduction reaction in a non-aqueous Ca2+ electrolyte - Chemical Science (RSC Publishing)
https://doi.org/10.1039/D0SC06991D

Atmospheric CO2 Just Hit a Peak Not Seen on Earth in 4 Million Years
9 June
Atmospheric CO2 Just Hit a Peak Not Seen on Earth in 4 Million Years (sciencealert.com)

Five ways ‘green’ carbon policies damage forests – and how we can fix the problem
9 June
Five ways 'green' carbon policies damage forests – and how we can fix the problem (theconversation.com)

Supporting The Shift Toward Green Hydrogen
6 June
Supporting The Shift Toward Green Hydrogen (fuelcellsworks.com)

Major Scientific Leap: Quantum Microscope Created That Can See the Impossible
9 June
Major Scientific Leap: Quantum Microscope Created That Can See the Impossible (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03528-w

Chemical targets to deactivate biological and chemical toxins using surfaces and fabrics
5 June
Chemical targets to deactivate biological and chemical toxins using surfaces and fabrics | Nature Reviews Chemistry
https://doi.org/10.1038/s41570-021-00292-3

Nickel-Metal Hydride or Lithium Ion: Which Type of Hybrid Battery Is Better?
8 June
https://www.motorbiscuit.com/nickel-metal-hydride-lithium-ion-type-hybrid-battery-better

Plant-Based “Vegan Spider Silk” Provides Sustainable Alternative to Single-Use Plastics
10 June
Plant-Based "Vegan Spider Silk" Provides Sustainable Alternative to Single-Use Plastics (scitechdaily.com)
https://doi.org/10.1038/s41467-021-23813-6

Climate Protection: Deep Decarbonization by 2050 Is Currently Not Plausible
10 June
Climate Protection: Deep Decarbonization by 2050 Is Currently Not Plausible (scitechdaily.com)
https://doi.org/10.25592/uhhfdm.9104

The Stinky Chemical in Cat Pee Could Fuel the Hydrogen Future
10 June
https://www.thedrive.com/tech/41015/the-stinky-chemical-in-cat-pee-could-fuel-the-hydrogen-future

An atomic look at lithium-rich batteries
10 June
An atomic look at lithium-rich batteries - College of Engineering at Carnegie Mellon University (cmu.edu)

New insight into biosynthesis and architecture of photosynthetic membranes in bacteria
9 June
New insight into biosynthesis and architecture of photosynthetic membranes in bacteria - News - University of Liverpool

What Do Scientists Actually Do When They Research 'Dangerous' Viruses in The Lab?
11 June
What Do Scientists Actually Do When They Research 'Dangerous' Viruses in The Lab? (sciencealert.com)

Studying the Crystalline Shapes of Drug Compounds With a Novel Microfluidic Device
9 June
Studying the Crystalline Shapes of Drug Compounds With a Novel Microfluidic Device | Technology Networks
https://doi.org/10.1039/D1LC00218J

COVID-19 Vaccines and Therapeutic Development
1 June
COVID-19 Vaccines and Therapeutic Development | Technology Networks

New Chemistry for Cleaner Combustion Engines – From New Clues to the Origins of the Universe
10 June
New Chemistry for Cleaner Combustion Engines – From New Clues to the Origins of the Universe (scitechdaily.com)
https://advances.sciencemag.org/content/7/21/eabf0360

New Clues on How Nitrogenase, an Enzyme Critical for Life, Converts Nitrogen Into Ammonia

12 June
New Clues on How Nitrogenase, an Enzyme Critical for Life, Converts Nitrogen Into Ammonia (scitechdaily.com)
https://doi.org/10.1038/s41557-021-00701-6

Building a Better Bulb: New Prototype LED Lightbulb Emits Less of That Troublesome Blue Light

11 June
Building a Better Bulb: New Prototype LED Lightbulb Emits Less of That Troublesome Blue Light (scitechdaily.com)
https://doi.org/10.1021/acsami.1c00909

7 Things You May Not Know About Catalysis

12 June
7 Things You May Not Know About Catalysis (scitechdaily.com)

Powerful Graphene Hybrid Supercapacitors Challenge NiMH Batteries and Other Supercapacitors

1 May
https://passive-components.eu/powerful-graphene-hybrid-material-for-highly-efficient-supercapacitors

Researchers develop tool to aid in development, efficiency of hydrogen-powered cars

9 June
https://phys.org/news/2021-06-tool-aid-efficiency-hydrogen-powered-cars.html

Solid-state battery deployment expected by mid-decade — report - MINING.COM

11 June
https://www.mining.com/solid-state-battery-deployment-expected-to-by-mid-decade-report

China Delivers Crushing Blow To Wind, Solar Power | OilPrice.com

11 June
https://oilprice.com/Energy/Energy-General/China-Delivers-Crushing-Blow-To-Wind-Solar-Power.html

An unfettered energy revolution lies in green hydrogen resources

25 February 2020
https://www.esi-africa.com/industry-sectors/future-energy/an-unfettered-energy-revolution-lies-in-green-hydrogen-resources

Innovative Battery Technology Puts Flying Cars on the Horizon

12 June
Innovative Battery Technology Puts Flying Cars on the Horizon (scitechdaily.com)
https://doi.org/10.1016/j.joule.2021.05.001

Battery Technology Breakthrough: An Atomic Look at Lithium-Rich Batteries

12 June
Battery Technology Breakthrough: An Atomic Look at Lithium-Rich Batteries (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03509-z

Taming Silicon to Interact With Light for Next-Generation Microelectronics

12 June

Taming Silicon to Interact With Light for Next-Generation Microelectronics (scitechdaily.com)
https://doi.org/10.1002/lpor.202000242

New Discovery Shows Human Cells Can Write RNA Sequences Into DNA – Challenges Central Principle in Biology

12 June
New Discovery Shows Human Cells Can Write RNA Sequences Into DNA – Challenges Central Principle in Biology (scitechdaily.com)
https://advances.sciencemag.org/content/7/24/eabf1771

A new method for making cheaper chemicals

23 November 2020
https://phys.org/news/2020-11-method-cheaper-chemicals.html

Egg-unboiling machine takes on fish oil

22 May 2019
Egg-unboiling machine takes on fish oil (phys.org)

Newly Discovered Glycosylated RNA Is All Over Cells: Study

18 May
Newly Discovered Glycosylated RNA Is All Over Cells: Study | The Scientist Magazine® (the-scientist.com)
doi:10.1016/j.cell.2021.04.023, 2021.

Newly Synthesized Chemical Compound Reveals Fundamental Properties of Smallest Carbon Nanotubes

14 June
Newly Synthesized Chemical Compound Reveals Fundamental Properties of Smallest Carbon Nanotubes (scitechdaily.com)
https://doi.org/10.1021/jacs.1c01329

On the permittivity of titanium dioxide

14 June
On the permittivity of titanium dioxide | Scientific Reports (nature.com)
https://doi.org/10.1038/s41598-021-92021-5

Ireland's first publicly owned, not-for-profit energy company launched

15 June
Ireland's first publicly owned, not-for-profit energy company launched - TechCentral.ie

Photoactivatable Metabolic Warheads: Light-Sensitive Drug Acts As Trojan Horse to Kill Cancer Cells

14 June
Photoactivatable Metabolic Warheads: Light-Sensitive Drug Acts As Trojan Horse to Kill Cancer Cells (scitechdaily.com)
https://doi.org/10.1038/s41467-021-22578-2

Journal closure leads to dip in papers' citations

14 June
Journal closure leads to dip in papers' citations (nature.com)
https://doi.org/10.1038/d41586-021-01575-x

The authorship rows that sour scientific collaborations

14 June
The authorship rows that sour scientific collaborations (nature.com)
https://doi.org/10.1038/d41586-021-01574-y

Slashing 186 jobs, Novartis hands off U.S. sales, marketing duties for migraine med Aimovig to Amgen

15 June
Slashing 186 jobs, Novartis hands off U.S. sales, marketing duties for migraine med Aimovig to Amgen | FiercePharma

Application of electrochemical impedance spectroscopy in lithium-ion batteries – Physics World

15 June
Application of electrochemical impedance spectroscopy in lithium-ion batteries – Physics World

Will charging electric cars ever be as fast as pumping gas?

9 June
Will charging electric cars ever be as fast as pumping gas? (nationalgeographic.com)

Let There Be Light! New Tech to Revolutionize Night Vision

15 June
Let There Be Light! New Tech to Revolutionize Night Vision | Lab Manager

G7 announce novel action plan to combat climate change effects

15 June
G7 announce novel action plan to combat climate change effects (innovationnewsnetwork.com)

Johnson Matthey partners to advance lithium-ion batteries

7 June
Society of Chemical Industry | Johnson Matthey partners to advance lithium-ion batteries

Scientists Make a Breakthrough Towards Solving the “Grand Scientific” Structural Mystery of Glass

15 June
Scientists Make a Breakthrough Towards Solving the "Grand Scientific" Structural Mystery of Glass (scitechdaily.com)
https://doi.org/10.1038/s41563-021-01011-5

Artificial Photosynthesis Promises Clean, Sustainable Source of Energy

15 June
Artificial Photosynthesis Promises Clean, Sustainable Source of Energy (scitechdaily.com)
https://doi.org/10.1016/j.checat.2021.03.013

Methane-Eating Microbes in Ocean Play Important Role in Moderating Earth’s Temperature

15 June
Methane-Eating Microbes in Ocean Play Important Role in Moderating Earth's Temperature (scitechdaily.com)
https://doi.org/10.1073/pnas.2006857118

The Chemical Origins of Life: What Is Life? And Will We Find It on Other Planets?

16 June

The Chemical Origins of Life: What Is Life? And Will We Find It on Other Planets? (scitechdaily.com)

This Solid-State Lithium-Ion Battery Recharges Fast, Protects Against Fire - IEEE Spectrum

17 May
This Solid-State Lithium-Ion Battery Recharges Fast, Protects Against Fire - IEEE Spectrum

Chart: Behind the Three-Decade Collapse of Lithium-Ion Battery Costs

26 May
Chart: Behind the Three-Decade Collapse of Lithium-Ion Battery Costs - IEEE Spectrum

World's most powerful magnet begins journey to heart of giant fusion experiment

15 June
World's most powerful magnet begins journey to heart of giant fusion experiment | Live Science

Demand, policies, investment key to green hydrogen development – pv magazine International

16 June
Demand, policies, investment key to green hydrogen development – pv magazine International (pv-magazine.com)

GM batteries and hydrogen fuel cells to be adapted for low-carbon trains

15 June
GM batteries and hydrogen fuel cells to be adapted for low-carbon trains (newatlas.com)

COVID has shown the power of science–industry collaboration

16 June
COVID has shown the power of science–industry collaboration (nature.com)
https://doi.org/10.1038/d41586-021-01580-0

Horizon Therapeutics to buy EirGen plant in Waterford

17 June
Horizon Therapeutics to buy EirGen plant in Waterford (rte.ie)

50MW hydrogen plant under development in Ireland

17 June
50MW hydrogen plant under development in Ireland (h2-view.com)

Clean Power Hydrogen delivers Ireland's first electrolyser

25 November 2021
Clean Power Hydrogen delivers Ireland's first electrolyser (h2-view.com)

From small steps to giant leaps and always staying ahead of the game: The story of ITM Power

14 June
From small steps to giant leaps and always staying ahead of the game: The story of ITM Power (h2-view.com)

To Make Solid Electrolytes, Start With a Liquid - IEEE Spectrum

3 February 2020
To Make Solid Electrolytes, Start With a Liquid - IEEE Spectrum

Inside the battery in 3D: Powerful X-rays watch solid state batteries charging and discharging | Argonne National Laboratory

3 February 2021
Inside the battery in 3D: Powerful X-rays watch solid state batteries charging and discharging | Argonne National Laboratory (anl.gov)

Supply Chain for Lithium and Critical Minerals Is ... Critical – ClearPath

11 June 2020
Supply Chain for Lithium and Critical Minerals Is ... Critical – ClearPath

Hydrogen energy: a green revolution? | Abdul Latif Jameel(R)

18 MayHydrogen energy: a green revolution? | Abdul Latif Jameel® (alj.com)

Lithium metal solid-state batteries double in capacity - Electronic Products & TechnologyElectronic Products & Technology

4 January
Lithium metal solid-state batteries double in capacity - Electronic Products & TechnologyElectronic Products & Technology (ept.ca)

In the future a brisk walk may charge your mobile phones (ICI Winner)

18 June
In the future a brisk walk may charge your mobile phones (irishtimes.com)

Over 1 Million People Died in 2017 From Fossil Fuels Being Burned, Study Finds

19 June
Over 1 Million People Died in 2017 From Fossil Fuels Being Burned, Study Finds (sciencealert.com)

Biologists Raise Alarm: Brain Damage Caused by Even Small Amounts of Plasticizers

19 June
Biologists Raise Alarm: Brain Damage Caused by Even Small Amounts of Plasticizers (scitechdaily.com)

'Ireland must move faster than UK to mitigate Delta variant impact': Public health professor

19 June
'Ireland must move faster than UK to mitigate Delta variant impact': Public health professor (breakingnews.ie)

Japanese tech to slash green hydrogen costs by two thirds - Nikkei Asia

20 June
Japanese tech to slash green hydrogen costs by two thirds - Nikkei Asia

Quantization of Electric Charge: Absorption of an Individual Electron Captured on Film

20 June
Quantization of Electric Charge: Absorption of an Individual Electron Captured on Film (scitechdaily.com)
https://doi.org/10.1038/s41598-021-89714-2

Ultralight graphene oxide/polyvinyl alcohol aerogel for broadband and tuneable acoustic properties | Scientific Reports

19 May
Ultralight graphene oxide/polyvinyl alcohol aerogel for broadband and tuneable acoustic properties | Scientific Reports (nature.com)
https://doi.org/10.1038/s41598-021-90101-0

Covid-19 vaccines ‘highly effective’ in stopping Delta variant hospitalisations

Why the Shipping Industry Is Betting Big on Ammonia - IEEE Spectrum
23 February
Why the Shipping Industry Is Betting Big on Ammonia - IEEE Spectrum

Organic-based EV battery turns to ethanol for a boost in energy density
20 June
Organic-based EV battery turns to ethanol for a boost in energy density (newatlas.com)

Press release: Stronger Together: How Protein Filaments Interact
18 June
Information for the Media - Georg-August-Universität Göttingen (uni-goettingen.de)

Cheaper & Better: This Molecule Is Made From Sugar, Shaped Like a Doughnut, and Formed Using Light
22 June
Cheaper & Better: This Molecule Is Made From Sugar, Shaped Like a Doughnut, and Formed Using Light (scitechdaily.com)
https://doi.org/10.1016/j.chempr.2021.05.013

Source of a Weird Quantum Sense Found in an Actual Migratory Bird For The First Time
23 June
Source of a Weird Quantum Sense Found in an Actual Migratory Bird For The First Time (sciencealert.com)

Magnetic sensitivity of cryptochrome 4 from a migratory songbird
23 June
Magnetic sensitivity of cryptochrome 4 from a migratory songbird | Nature Pay to read full paper.

High-efficiency formamidinium-based perovskite solar cells with operation lifetime over 2000 hours
22 June
High-efficiency formamidinium-based perovskite solar cells with operation lifetime over 2000 hours (phys.org)
http://dx.doi.org/10.1016/j.nanoen.2021.106152

High-efficiency formamidinium-based perovskite solar cells with operation lifetime over 2000 hours
22 June
High-efficiency formamidinium-based perovskite solar cells with operation lifetime over 2000 hours (phys.org)
http://dx.doi.org/10.1016/j.nanoen.2021.106152

Earth's Atmosphere Could Be a Truly Rare Thing, Thanks to One Chemical Process
25 June
Earth's Atmosphere Could Be a Truly Rare Thing, Thanks to One Chemical Process (sciencealert.com)

Someone Leaked The Next IPCC Report. Here's How Experts Are Reacting
25 June
Someone Leaked The Next IPCC Report. Here's How Experts Are Reacting (sciencealert.com)

Designing Large “Ideal” Proteins from Scratch

25 June
Designing Large “Ideal” Proteins from Scratch (genengnews.com)

Secret Workings of Smell Receptors Revealed for First Time
21 June
Secret Workings of Smell Receptors Revealed for First Time | Quanta Magazine

Alien life as we know it may have already discovered Earth
24 June
Alien life as we know it may have already discovered Earth (innovationnewsnetwork.com) and

Past, present and future stars that can see Earth as a transiting exoplanet (Subscription)
23 June
https://doi.org/10.1038/s41586-021-03596-y

Investigation finds troubling level of chemicals in plastics
24 June
Investigation finds troubling level of chemicals in plastics (innovationnewsnetwork.com)

The first observation of the superscattering effect of metamaterials
23 June
The first observation of the superscattering effect of metamaterials (phys.org)

Energy Saving Electronics Breakthrough – Paving Way for a Carbon-Neutral Society
23 June
Energy Saving Electronics Breakthrough – Paving Way for a Carbon-Neutral Society (scitechdaily.com)
https://doi.org/10.1038/s41928-021-00599-5

"Flying bum" airship concept updated with motors powered by fuel cells alongside diesel engines
18 June
"Flying bum" airship updated with electric motors alongside diesel engines (dezeen.com)

Genetically Modified Yeast To Efficiently Make Biofuels From Discarded Plant Matter
25 June
Genetically Modified Yeast To Efficiently Make Biofuels From Discarded Plant Matter (scitechdaily.com)

“Nuclear Batteries” Offer a New Approach to Carbon-Free Energy
25 June
“Nuclear Batteries” Offer a New Approach to Carbon-Free Energy (scitechdaily.com)

Tougher Than Kevlar and Steel: Ultralight Material Withstands Supersonic Microparticle Impacts
26 June
Tougher Than Kevlar and Steel: Ultralight Material Withstands Supersonic Microparticle Impacts (scitechdaily.com)
https://doi.org/10.1038/s41563-021-01033-z

Unexpected Discovery About Zinc Opens a New Way to Regulate Blood Pressure
27 June
Unexpected Discovery About Zinc Opens a New Way to Regulate Blood Pressure (scitechdaily.com)

https://doi.org/10.1038/s41467-021-23198-6

It's Electrifying! How Earth Could Be Entirely Powered by Sustainable Energy

27 June
It's Electrifying! How Earth Could Be Entirely Powered by Sustainable Energy (scitechdaily.com)
https://doi.org/10.3390/en13236160

Glyphosate: EU regulators begin review of renewal assessments

15 June
Glyphosate: EU regulators begin review of renewal assessments - All news - ECHA (europa.eu)

Electrochemical growth mechanism of nanoporous platinum layers

28 June
Electrochemical growth mechanism of nanoporous platinum layers | Communications Chemistry (nature.com)
https://doi.org/10.1038/s42004-021-00535-w

RS Mines' crystalline vein graphite – the 'new oil' for electric batteries

25 June
RS Mines' crystalline vein graphite – the 'new oil' for electric batteries (innovationnewsnetwork.com)

Worrying New Insights Into the Chemicals in Plastics – Significant Risk to People and the Environment

28 June
Worrying New Insights Into the Chemicals in Plastics – Significant Risk to People and the Environment (scitechdaily.com)
https://doi.org/10.1021/acs.est.1c00976

'Fool's Gold' Actually Contains a Newly Discovered Type of Real Gold, Scientists Find

28 June
'Fool's Gold' Actually Contains a Newly Discovered Type of Real Gold, Scientists Find (sciencealert.com)

An Introduction to the Enzyme-Linked Immunosorbent Assay – ELISA Test

25 June
An Introduction to the Enzyme-Linked Immunosorbent Assay – ELISA Test | Technology Networks

Converting Carbon Emissions into Useful Chemicals

24 June
Converting Carbon Emissions into Useful Chemicals (umn.edu)

Korean scientists develop cheap, high-performance anode for sodium-ion batteries - MINING.COM

22 June
Korean scientists develop cheap, high-performance anode for sodium-ion batteries - MINING.COM

Photovoltaic-driven microbial protein production can use land and sunlight more efficiently than conventional crops | PNAS

29 June
Photovoltaic-driven microbial protein production can use land and sunlight more efficiently than conventional crops | PNAS
https://doi.org/10.1073/pnas.2015025118

No Lab Required: New DNA-Based Technology Can Diagnose Infections in Minutes

28 June

No Lab Required: New DNA-Based Technology Can Diagnose Infections in Minutes (scitechdaily.com)
https://doi.org/10.1038/s41557-021-00718-x

Scientists Can Now Design Single Atom Catalysts for Important Chemical Reactions

29 June

Scientists Can Now Design Single Atom Catalysts for Important Chemical Reactions (scitechdaily.com)
https://science.sciencemag.org/content/372/6549/1444

Researchers Slow Down Grape Ripening to Improve Berry Quality for Winemaking

30 June

Researchers Slow Down Grape Ripening to Improve Berry Quality for Winemaking (scitechdaily.com)
DOI: 10.1021/acs.jafc.1c01229

Turning Nature's Virus Fighters Into Powerful Drugs: Synthetic "Peptoids" to Cure Diseases

30 June

Turning Nature's Virus Fighters Into Powerful Drugs: Synthetic "Peptoids" to Cure Diseases (scitechdaily.com)
https://doi.org/10.3390/ph14040304

Exciting times for MTU's historic first intake of first-year students

29 June

Exciting times for MTU's historic first intake of first-year students (irishexaminer.com)

Power systems will struggle if all cars are fully electric, claims Hydrogen Council boss | Recharge

29 June

Power systems will struggle if all cars are fully electric, claims Hydrogen Council boss | Recharge (rechargenews.com)

New perovskite material for 23.5%-efficient solar cell – pv magazine India

29 June

New perovskite material for 23.5%-efficient solar cell – pv magazine India

Producing low-cost hydrogen fuel with the help of magnets | Research Matters

30 June

Producing low-cost hydrogen fuel with the help of magnets | Research Matters

Scientists obtain magnetic nanopowder for 6G technology

28 June

Scientists obtain magnetic nanopowder for 6G technology (phys.org)

Sulphur-based redox flow battery with 15 consecutive hours of runtime – pv magazine International

30 June

Sulphur-based redox flow battery with 15 consecutive hours of runtime – pv magazine International (pv-magazine.com)

Lithium-ion batteries need to be greener and more ethical

29 June

Lithium-ion batteries need to be greener and more ethical (nature.com)
https://doi.org/10.1038/d41586-021-01735-z

Growing 'Metallic Wood' to New Heights

24 June
Growing 'Metallic Wood' to New Heights | Penn Engineering Blog (upenn.edu)

Breakthrough for tracking RNA with fluorescence

30 June
Breakthrough for tracking RNA with fluorescence (phys.org)

Researchers Create 68.9%-efficient PV Cell for Laser energy Transmission

1 July
https://www.saurenergy.com/solar-energy-news/researchers-create-68-9-efficient-pv-cell-for-laser-energy-transmission

Nanoscale Research Paves Way for "Next-Generation" Li-Ion Batteries

1 July
Nanoscale Research Paves Way for "Next-Generation" Li-Ion Batteries (scitechdaily.com)
https://doi.org/10.1021/acsenergylett.1c00324

Molecule Extracted From Chestnut Leaf Neutralizes Drug-Resistant Bacteria

30 June
Molecule Extracted From Chetsnut Leaf Neutralizes Drug-Resistant Bacteria | Technology Networks
https://www.frontiersin.org/articles/10.3389/fphar.2021.640179/full

Comment: Why battery power is the future for HGVs | The Engineer The Engineer

29 June
Comment: Why battery power is the future for HGVs | The Engineer The Engineer

Instant Water Purification Technique Could Revolutionize Clean Water Supplies

2 July
Instant Water Purification Technique Could Revolutionize Clean Water Supplies | Technology Networks
https://doi.org/10.1038/s41929-021-00642-w pay to view

Cultured Meat Replaces Animals With Grass

2 July
Cultured Meat Replaces Animals With Grass | Technology Networks and

Decellularized grass as a sustainable scaffold for skeletal muscle tissue engineering

31 May
Decellularized grass as a sustainable scaffold for skeletal muscle tissue engineering - Allan - - Journal of Biomedical Materials Research Part A - Wiley Online Library
https://doi.org/10.1002/jbm.a.37241

Microbes in cow stomachs can help recycle plastic

2 July
Microbes in cow stomachs can help recycle plastic | Live Science

Europe's largest PEM electrolyser produces its first green hydrogen

2 July
Europe's largest PEM electrolyser produces its first green hydrogen (h2-view.com)

Vanadium flow batteries for a zero-emissions energy system | Energy Storage News
28 June
Vanadium flow batteries for a zero-emissions energy system | Energy Storage News (energy-storage.news)

German hydrogen strategy under fire for sidestepping gas – EURACTIV.com
2 July
German hydrogen strategy under fire for sidestepping gas – EURACTIV.com

A new fuel cell electrolyte
29 June
A new fuel cell electrolyte (phys.org)

Research team publishes groundbreaking methane synthesis discovery
2 July
Research team publishes groundbreaking methane synthesis discovery (phys.org)

A crystal made of electrons
2 July
Research team publishes groundbreaking methane synthesis discovery (phys.org)

Turning Plastic Into Foam to Combat Pollution: New Method to Reuse Previously Nonrecyclable Plastic
3 July
Turning Plastic Into Foam to Combat Pollution: New Method to Reuse Previously Nonrecyclable Plastic

VTT PlasticsCompass: a comprehensive guide to developing sustainable plastics
29 June
VTT PlasticsCompass: a comprehensive guide to sustainable plastics (innovationnewsnetwork.com)

Non-toxic supercapacitors go fully recyclable
30 June
Non-toxic supercapacitors go fully recyclable – Physics World

Scientists intensify electrolysis, utilize carbon dioxide more efficiently with magnets | EurekAlert! Science News
30 June
Scientists intensify electrolysis, utilize carbon dioxide more efficiently with magnets | EurekAlert! Science News

Secret to Guinness's Creamy Cascade Explained
23 June
Secret to Guinness's Creamy Cascade Explained | Technology Networks

Nitrous oxide, a powerful greenhouse gas, is on the rise from ocean dead zones
5 July
Nitrous oxide, a powerful greenhouse gas, is on the rise from ocean dead zones (theconversation.com)

Hydrogen Should Be Focused On Cement And Steel, Not Cars
30 June
https://www.forbes.com/sites/jamesmorris/2021/06/30/hydrogen-should-be-focused-on-cement-and-steel-not-cars

Ingeniously Simple Dental Treatment Could Heal Tooth Cavities Without Any Fillings

5 July
Ingeniously Simple Dental Treatment Could Heal Tooth Cavities Without Any Fillings (sciencealert.com)

Microbes and solar power 'could produce 10 times more food than plants' | Food | The Guardian

21 June
https://www.theguardian.com/environment/2021/jun/21/microbes-and-solar-power-could-produce-10-times-more-food-than-plants

Just how green are electric cars globally ?

5 July
https://www.rte.ie/lifestyle/motors/2021/0705/1233199-just-how-green-are-electric-cars-globally

Podcast: Lessons Learned From The Seveso Environmental Disaster

5 July (Podcast & transcript)
Podcast: Lessons Learned From Seveso | Chemical Processing

New Smart Cement Invented for Building More Durable Roads and Cities

5 July
New Smart Cement Invented for Building More Durable Roads and Cities (scitechdaily.com)
https://doi.org/10.1098/rsta.2020.0288

Space Chemistry Billions of Years Ago: Polymers in Meteorites Provide Clues to Early Solar System

6 July
Space Chemistry Billions of Years Ago: Polymers in Meteorites Provide Clues to Early Solar System (scitechdaily.com)
https://doi.org/10.1063/5.0054860

Bantry Bay green energy facility to be one of largest of type in world

6 July
https://www.irishtimes.com/business/energy-and-resources/bantry-bay-green-energy-facility-to-be-one-of-largest-of-type-in-world-1.4613055?mode=amp

Study provides a unified description of non-radiative voltage losses in organic solar cells

5 July
https://techxplore.com/news/2021-07-description-non-radiative-voltage-losses-solar.html

Mixed up membrane desalinates water with 99.99 percent efficiency

5 July
Mixed up membrane desalinates water with 99.99 percent efficiency (newatlas.com)

Researchers discover unusual competition between charge density wave and superconductivity

5 July
https://phys.org/news/2021-07-unusual-competition-density-superconductivity.html

A nanofiber membrane could help solve the drinking water crisis | Engadget

5 July
https://www.engadget.com/nanofiber-membrane-drinking-water-150039679.html

New game-changing zeolite catalysts synthesized

6 July
New game-changing zeolite catalysts synthesized (phys.org)

Building a better biosensor polymer

4 June
https://discovery.kaust.edu.sa/en/article/1148/building-a-better-biosensor-polymer

Biologist to lead Europe's premier research funder

6 July
Biologist to lead Europe's premier research funder (nature.com)
https://doi.org/10.1038/d41586-021-01843-w

Are thermal batteries an alternative to lithium-ion? | Renewable Energy | Energy Digital

2 July
Are thermal batteries an alternative to lithium-ion? | Renewable Energy | Energy Digital

Lithium-ion batteries need to be greener and more ethical

29 June
Lithium-ion batteries need to be greener and more ethical (nature.com)

Nanoscale Research Paves Way for "Next-Generation" Li-Ion Batteries

1 July
https://scitechdaily.com/nanoscale-research-paves-way-for-next-generation-li-ion-batteries
https://doi.org/10.1021/acsenergylett.1c00324

Heat Pumps: The Next Big Efficiency Hack In Electric Vehicles

30 June
https://www.topspeed.com/cars/heat-pumps-the-next-big-efficiency-hack-in-electric-vehicles-ar192036.html

TCD researchers close to major breakthrough in renewable energy storage

7 June
https://www.irishexaminer.com/news/arid-40331501.html

A tweaked yeast can make ethanol from cornstalks and a harvest's other leftovers

7 July
Genetically modified yeast can make ethanol from cornstalks | Science News

Souped-up supernovas may produce much of the universe's heavy elements

7 July
Souped-up supernovas may make much of the universe's heavy elements | Science News

Why we should use electric rather than hydrogen cars

14 May
https://thedriven.io/2021/05/14/why-we-should-use-electric-rather-than-hydrogen-cars

German report signals agrifood revolution

7 July

German report signals agrifood revolution (irishtimes.com)

Assessing Manufacturing Process Robustness
1 July
Assessing Manufacturing Process Robustness (biopharminternational.com)

Spinel Oxides to Produce Hydrogen from Water
3 August 2020
https://www.azocleantech.com/news.aspx?newsID=27789

Electrode Material Converts Electricity and Water into Hydrogen
22 April 2020
https://www.azocleantech.com/news.aspx?newsID=27187

Titan Hydrogen aiming to accelerate worldwide hydrogen fuel cell adoption with innovative technologies
6 July
https://www.h2-view.com/story/titan-hydrogen-aiming-to-accelerate-worldwide-hydrogen-fuel-cell-adoption-with-innovative-technologies

German coal plant closes after just six years, to produce green hydrogen from wind | RenewEconomy
9 July
https://reneweconomy.com.au/german-coal-plant-closes-after-just-six-years-to-produce-green-hydrogen-from-wind

Efficient and stable inverted perovskite solar cells with very high fill factors via incorporation of star-shaped polymer | Science Advances
7 July
https://advances.sciencemag.org/content/7/28/eabg0633.full
DOI: 10.1126/sciadv.abg0633

As gas boilers are banned from 2025, would a heat pump save YOU money? | This is Money
9 July
As gas boilers are banned from 2025, would a heat pump save YOU money? | This is Money

ECHA Begins Consultation on CLH Proposal for Multi-Walled Carbon Tubes, Including Multi-Walled Carbon Nanotubes
7 July
ECHA Begins Consultation on CLH Proposal for Multi-Walled Carbon Tubes, Including Multi-Walled Carbon Nanotubes | Nano and Other Emerging Chemical Technologies Blog (lawbc.com)

Offshore Wind-to-Hydrogen Project Launched in Ireland | Offshore Wind
9 July
https://www.offshorewind.biz/2021/07/09/offshore-wind-to-hydrogen-project-launched-in-ireland

Stable and selective catalysts for propane dehydrogenation operating at thermodynamic limit
9 July
Stable and selective catalysts for propane dehydrogenation operating at thermodynamic limit | Science (sciencemag.org)

DOI: 10.1126/science.abg7894

A Super New Theory to Explain Superconductivity

10 July
A Super New Theory to Explain Superconductivity (scitechdaily.com)
https://doi.org/10.1007/s10948-021-05905-y

Key to Green Hydrogen: Electrolysers special

9 July with links
Key to Green Hydrogen: Electrolysers special (h2-view.com)

Lithium-Ion Batteries Vs Hydrogen Fuel Cell: Which Is The Technology Of The Future?

10 July
https://www.moneycontrol.com/news/automobile/lithium-ion-batteries-vs-hydrogen-fuel-cell-which-is-the-technology-of-the-future-7153481.html

Nanoparticles Simplify Desalination: Simultaneously Removing Toxic Metals and Salt to Produce Clean Water

9 July
https://scitechdaily.com/nanoparticles-simplify-desalination-simultaneously-removing-toxic-metals-and-salt-to-produce-clean-water
https://science.sciencemag.org/content/372/6539/296

PowerCell technology to power hydrogen flights

9 July
https://www.h2-view.com/story/powercell-technology-to-power-hydrogen-flights

A shadowy birthplace may explain Jupiter's strange chemistry

6 July
A shadowy birthplace may explain Jupiter's strange chemistry | Science News

Cutting Through Noise to Improve Solar Cell Efficiency

11 July
https://scitechdaily.com/cutting-through-noise-to-improve-solar-cell-efficiency

Exposure to Pollutants Damages Our DNA and Tissues – May Speed Up Aging for the Entire Body

10 July
Exposure to Pollutants Damages Our DNA and Tissues – May Speed Up Aging for the Entire Body (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03547-7

The Bitumen Puzzle: Investigating Bitumen Surfaces Using Physicochemical Analysis

11 July
The Bitumen Puzzle: Investigating Bitumen Surfaces Using Physicochemical Analysis (scitechdaily.com)
https://doi.org/10.1038/s41598-021-92835-3 and
https://doi.org/10.1016/j.colsurfa.2021.126856

Improving Power Densities in Solid Oxide Fuel Cells with Nanoengineering

5 July
https://www.electropages.com/blog/2021/07/improving-power-densities-solid-oxide-fuel-cells-nanoengineering

German National Hydrogen Council release 80-point action plan to ramp up hydrogen economy

6 July
German National Hydrogen Council release 80-point action plan to ramp up hydrogen economy (h2-view.com)

Team Isolates Natural Catalysts for Better Drug Synthesis

7 July
Team Isolates Natural Catalysts for Better Drug Synthesis | Technology Networks
https://doi.org/10.1038/s41467-021-24421-0

Shell starts up Europe's largest PEM 'green' hydrogen electrolyser

12 July
Shell starts up Europe's largest PEM 'green' hydrogen electrolyser - News - The Chemical Engineer

Works commence on new University of Limerick City Centre campus | UL - University of Limerick

12 July
Works commence on new University of Limerick City Centre campus | UL - University of Limerick

Visible light enables catalytic formation of weak chemical bonds with molecular hydrogen | Nature Chemistry

12 July (Subscription required)
https://www.nature.com/articles/s41557-021-00732-z
https://doi.org/10.1038/s41557-021-00732-z

Siemens begins work on 8.75MW green hydrogen plant in Germany

12 July
https://www.power-technology.com/news/siemens-begins-work-on-8-75mw-green-hydrogen-plant-in-germany/

Accidental Discovery Uncovers a Way to Clear Bacterial Superbugs

13 July
Accidental Discovery Uncovers a Way to Clear Bacterial Superbugs (genengnews.com)

Enzyme Structure Provides a Promising Pathway to New Cancer Treatments

13 July
Enzyme Structure Provides a Promising Pathway to New Cancer Treatments (scitechdaily.com)
https://doi.org/10.1016/j.str.2021.03.008

Developing Food Testing Techniques To Combat Emerging Contaminants

2 July
Developing Food Testing Techniques To Combat Emerging Contaminants | Technology Networks

Preventing Oxygen Release Leads to Safer High-Energy-Density Lithium-Ion Batteries

13 July
Preventing Oxygen Release Leads to Safer High-Energy-Density Lithium-Ion Batteries (scitechdaily.com)
https://doi.org/10.1002/aenm.202101005

Wärtsilä tests 100 pct hydrogen plants to back 11,000GW of wind and solar

14 July
Wärtsilä tests 100 pct hydrogen plants to back 11,000GW of wind and solar | RenewEconomy

Unexpected Chemistry Discovery Could Help in Environmental Micropollutant Removal

15 July
Unexpected Chemistry Discovery Could Help in Environmental Micropollutant Removal | Technology Networks
https://doi.org/10.1038/s41467-021-24590-y

Future of High Efficiency Perovskite Solar Cells Shines a Little Brighter

15 July
More Vaccinated People Are Dying of COVID in England Than Unvaccinated – Here's Why (scitechdaily.com)
https://doi.org/10.1016/j.nanoen.2021.106152

Long-awaited ICH continuous manufacturing guideline coming soon

15 July
Long-awaited ICH continuous manufacturing guideline coming soon | RAPS

Statkraft begins work on Ireland's 'largest' solar farm - Agriland.ie

15 July
Statkraft begins work on Ireland's 'largest' solar farm - Agriland.ie

For The First Time, Scientists Have Connected a Superconductor to a Semiconductor

8 July
https://www.sciencealert.com/scientists-just-overcame-a-major-hurdle-to-conducting-electricity-with-zero-resistance

Bord na Móna planning 885 new jobs in the midlands

15 July
https://www.irishtimes.com/news/environment/bord-na-m%C3%B3na-planning-885-new-jobs-in-the-midlands-1.4621402?mode=amp

Obtaining Crystal Structures of Drug Compounds With Microcrystal Electron Diffraction

14 July
Obtaining Crystal Structures of Drug Compounds With Microcrystal Electron Diffraction | Technology Networks
https://doi.org/10.3389/fmolb.2021.648603

DeepMind's AI for protein structure is coming to the masses

15 July
DeepMind's AI for protein structure is coming to the masses (nature.com)
https://doi.org/10.1038/d41586-021-01968-y

Machine Learning Using Collective Knowledge to Crack the Oxidation States of Crystal Structures

11 July
Machine Learning Using Collective Knowledge to Crack the Oxidation States of Crystal Structures (scitechdaily.com)
https://doi.org/10.1038/s41557-021-00717-y

A new facet of fuel cell chemistry

16 July
A new facet of fuel cell chemistry (phys.org)
http://dx.doi.org/10.1002/adma.202100977

The Virus Trap: Hollow Nano-Objects Made of DNA Could Trap Viruses and Render Them Harmless

17 July

The Virus Trap: Hollow Nano-Objects Made of DNA Could Trap Viruses and Render Them Harmless (scitechdaily.com)
https://doi.org/10.1038/s41563-021-01020-4

The UK Battery Industrialisation Centre has been opened this week

16 July

The UK Battery Industrialisation Centre has been opened this week (innovationnewsnetwork.com)

Removing micropollutants from the environment with chemistry discovery

16 July

Removing micropollutants from the environment with chemistry discovery (innovationnewsnetwork.com)

Chemical reactions break free from energy barriers using flyby trajectories

16 July

Chemical reactions break free from energy barriers using flyby trajectories | Illinois

International team of scientists turns methane into methanol at room temperature

15 July

International team of scientists turns methane into methanol at room temperature | Energy (stanford.edu)

Multiomics Clinical Trial Compares Fermented and High-Fiber Diets

19 July

Multiomics Clinical Trial Compares Fermented and High-Fiber Diets (genengnews.com)

Specific Gut Bacteria Metabolize Compounds in Plant-Based Diet to Protect against MS in Mice

19 July

Specific Gut Bacteria Metabolize Compounds in Plant-Based Diet to Protect against MS in Mice (genengnews.com)

The lurking threat to solar power's growth

14 July

https://www.technologyreview.com/2021/07/14/1028461/solar-value-deflation-california-climate-change

Massive DNA 'Borg' structures perplex scientists

16 July

Massive DNA 'Borg' structures perplex scientists (nature.com)

Researchers At Trinity College Dublin (TCD) Close To Hydrogen Breakthrough (fuelcellsworks.com)

18 July

https://fuelcellsworks.com/news/researchers-at-trinity-college-dublin-tcd-close-to-hydrogen-breakthrough/

International team of scientists turns methane into methanol at room temperature

15 July

International team of scientists turns methane into methanol at room temperature | Energy (stanford.edu)

Newly Discovered Inorganic Material Has The Lowest Thermal Conductivity Yet

20 July

Newly Discovered Inorganic Material Has The Lowest Thermal Conductivity Yet (sciencealert.com)

Richard C. Lewontin (1929–2021)

13 July
https://www.nature.com/articles/d41586-021-01936-6
https://doi.org/10.1038/d41586-021-01936-6

China launches world's largest carbon market: but is it ambitious enough?

20 July
China launches world's largest carbon market: but is it ambitious enough? (nature.com)
https://doi.org/10.1038/d41586-021-01989-7

Could China's molten salt nuclear reactor be a clean, safe source of power?

19 July
https://www.scmp.com/news/china/science/article/3141581/could-chinas-molten-salt-nuclear-reactor-be-clean-safe-source

Putting women at the forefront of deep tech with Women TechEU

19 July
Putting women at the forefront of deep tech with Women TechEU (innovationnewsnetwork.com)

Glacier ice archives nearly 15,000-year-old microbes and phages

20 July
Glacier ice archives nearly 15,000-year-old microbes and phages | Microbiome | Full Text (biomedcentral.com)
https://doi.org/10.1186/s40168-021-01106-w

Tunable room-temperature ferromagnetism in Co-doped two-dimensional van der Waals ZnO

25 June
Tunable room-temperature ferromagnetism in Co-doped two-dimensional van der Waals ZnO | Nature Communications
https://doi.org/10.1038/s41467-021-24247-w

Amplify your Viral Vaccine Production with CRISPR/Cas9-Engineered Host Cells

11 March (downloadable presentation)
Amplify your Viral Vaccine Production with CRISPR/Cas9-Engineered Host Cells | ATCC

The parenting penalties faced by scientist mothers

20 July
The parenting penalties faced by scientist mothers (nature.com)
https://doi.org/10.1038/d41586-021-01993-x

Recent Developments in X-ray Analysis

23 June
Recent Developments in X-ray Analysis (spectroscopyonline.com)

mRNA Gets Its Close Up, Painting a New Picture of the Transcription Process

15 July
mRNA Gets Its Close Up, Painting a New Picture of the Transcription Process | Technology Networks

RUDN University chemists obtained an unusual planar nickel complex exhibiting magnetic properties

15 July

RUDN University chemists obtained an unusual planar nickel complex exhibiting magnetic properties | EurekAlert! Science News

Geneticists Reveal How Mutation Causes a Devastating Childhood Cancer – Use Drug To Reverse Its Effects

22 July
Geneticists Reveal How Mutation Causes a Devastating Childhood Cancer – Use Drug To Reverse Its Effects (scitechdaily.com)

Breakthrough in Detection of SARS-CoV-2 Variant in Wastewater (TCD)

22 July
Breakthrough in Detection of SARS-CoV-2 Variant in Wastewater | Technology Networks
https://doi.org/10.1038/s41588-021-00897-w

Solar-to-Hydrogen Water Splitter Outlasts Next Best Tech By 14x

21 July
https://spectrum.ieee.org/energywise/energy/batteries-storage/solar-hydrogen-converter-outlasts-next-best-by-14x

New molten salt battery for grid-scale storage runs at low temp and cost

21 July
https://newatlas.com/energy/molten-salt-battery-grid-scale-storage-low-temp and

A high-voltage, low-temperature molten sodium battery enabled by metal halide catholyte chemistry

21 July
A high-voltage, low-temperature molten sodium battery enabled by metal halide catholyte chemistry - ScienceDirect
https://doi.org/10.1016/j.xcrp.2021.100489

The sunlight that powers solar panels also damages them. 'Gallium doping' is providing a solution

22 July
The sunlight that powers solar panels also damages them. 'Gallium doping' is providing a solution (theconversation.com)

Transforming the landscape of hydrogen energy production

21 July
Transforming the landscape of hydrogen energy production (innovationnewsnetwork.com)

Boosting Drug Delivery With Ultrasound

21 July
Boosting Drug Delivery With Ultrasound | Technology Networks and

Using ultrasound to improve drug delivery

21 October 2015
Using ultrasound to improve drug delivery | MIT News | Massachusetts Institute of Technology

Tiny Device Quickly "Sniffs Out" Bad Breath

23 July
Tiny Device Quickly "Sniffs Out" Bad Breath | Technology Networks
https://doi.org/10.1021/acsnano.1c01350

Glass Sponges Have Properties for the Design of Ships, Planes, and Skyscrapers

22 July
Glass Sponges Have Properties for the Design of Ships, Planes, and Skyscrapers | Lab Manager and

Glass sponges, research published on Nature reveals important properties

22 July
Glass sponges, research published on Nature reveals important properties - iiTalk

New study confirms relationship between toxic pollution, climate risks to human health

21 July
New study confirms relationship between toxic pollution, climate risks to human health | News | Notre Dame News | University of Notre Dame (nd.edu) and

Global distribution and coincidence of pollution, climate impacts, and health risk in the Anthropocene

21 July
Global distribution and coincidence of pollution, climate impacts, and health risk in the Anthropocene (plos.org)
https://doi.org/10.1371/journal.pone.0254060

DeepMind's AI predicts structures for a vast trove of proteins

22 July
DeepMind's AI predicts structures for a vast trove of proteins (nature.com)
https://doi.org/10.1038/d41586-021-02025-4

DeepMind Releases Accurate Picture of the Human Proteome – "The Most Significant Contribution AI Has Made to Advancing Scientific Knowledge to Date"

25 July
DeepMind Releases Accurate Picture of the Human Proteome – "The Most Significant Contribution AI Has Made to Advancing Scientific Knowledge to Date" (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03819-2 and
https://doi.org/10.1038/d41586-021-02025-4

Recreating chemistry from the origin of life

22 July
https://www.irishtimes.com/news/science/recreating-chemistry-from-the-origin-of-life-1.4620382

New Solar Cell Innovation Provides 1,000 Times More Power

22 July
https://interestingengineering.com/new-solar-cell-innovation-provides-1000-times-more-power

Nanostructures enable record high-harmonic generation

21 July
Nanostructures enable record high-harmonic generation (phys.org)

Solar cells: Layer of three crystals produces a thousand times more power

20 July
https://techxplore.com/news/2021-07-solar-cells-layer-crystals-thousand.html

A novel microscope reveals the miracle of molecular oxygen

22 July
https://phys.org/news/2021-07-microscope-reveals-miracle-molecular-oxygen.html

Stanford Device Enables Thousands of Synthetic DNA Enzyme Experiments To Run Simultaneously

23 July
Stanford Device Enables Thousands of Synthetic DNA Enzyme Experiments To Run Simultaneously (scitechdaily.com)
https://science.sciencemag.org/content/373/6553/eabf8761 and

Researchers develop tool to drastically speed up the study of enzymes

Researchers develop tool to drastically speed up the study of enzymes (phys.org)

A new theory to explain the transparency of metallic oxides

23 July
https://phys.org/news/2021-07-theory-transparency-metallic-oxides.html

Clean Energy Breakthrough: Making Hydrogen Is Hard, but Researchers Just Solved a Major Hurdle

25 July
Clean Energy Breakthrough: Making Hydrogen Is Hard, but Researchers Just Solved a Major Hurdle (scitechdaily.com)
https://doi.org/10.1038/s41467-021-24229-y

Revealing enzyme functional architecture via high-throughput microfluidic enzyme kinetics | Science

23 July
https://science.sciencemag.org/content/373/6553/eabf8761.full
DOI: 10.1126/science.abf8761

DNA Has Four Bases. Some Viruses Swap in a Fifth

12 July
DNA Has Four Bases. Some Viruses Swap in a Fifth. | Quanta Magazine

Disruptive iron-air grid-scale battery is 10% the cost of lithium

26 July
https://newatlas.com/energy/form-energy-iron-air-battery-bezos

Low-cost, sustainable plasma technology could replace one of world's rarest materials - MINING.COM

19 July
Low-cost, sustainable plasma technology could replace one of world's rarest materials - MINING.COM

Incredible Fibers Produced by Engineered Bacteria: Stronger Than Steel, Tougher Than Kevlar

26 June
Incredible Fibers Produced by Engineered Bacteria: Stronger Than Steel, Tougher Than Kevlar (scitechdaily.com)
https://doi.org/10.1021/acsnano.1c02944

Ireland's biggest solar energy farm to open in Kinsale

26 July
https://www.rte.ie/news/regional/2021/0726/1237231-solar-farm-kinsale

Using Silicone Wristbands To Measure Air Quality

23 July

https://today.tamu.edu/2021/07/23/using-silicone-wristbands-to-measure-air-quality

Solving the Plastic Shortage With an Efficient New Chemical Catalyst

26 July
Solving the Plastic Shortage With an Efficient New Chemical Catalyst (scitechdaily.com)
https://science.sciencemag.org/content/373/6551/217

Getting a Handle on Asymmetry in Drug Synthesis

28 July
https://www.technologynetworks.com/drug-discovery/news/getting-a-handle-on-asymmetry-in-drug-synthesis-351352?utm_campaign=NEWSLETTER_TN_Breaking%20Science%20News&utm_medium=email&_hsmi=144403958&_hsenc=p2ANqtz-9Jv9mkzUAjOgOOrKmth9Cz2Eonst-VvApVtS2VgZLd02EIeq-33M5HcTKqaRc869xXY0ZBUDQx_S3bJDCRBHImdGtzWw&utm_content=144403958&utm_source=hs_email
https://doi.org/10.1002/anie.202107267

"Atom Swapping" Could Lead to Low-Cost, Ultra-Bright, Flexible Next Generation LED Lighting and Displays

27 July
"Atom Swapping" Could Lead to Low-Cost, Ultra-Bright, Flexible Next Generation LED Lighting and Displays (scitechdaily.com)
https://doi.org/10.1021/jacs.1c01567

One Dead, Dozens Injured At Germany's Chempark

27 July
One Dead, Dozens Injured At Germany's Chempark | Chemical Processing

New Strategy for Drug Design: Keeping Copper Atoms Closer to Keep Bacteria Away

26 July
Media | Tokyo University of Science (tus.ac.jp)
https://onlinelibrary.wiley.com/doi/10.1002/marc.202100274

Water transformed into shiny, golden metal

28 July
Water transformed into shiny, golden metal (nature.com)
https://doi.org/10.1038/d41586-021-02065-w

How to get media coverage and boost your science's impact

28 July
How to get media coverage and boost your science's impact (nature.com)
https://doi.org/10.1038/d41586-021-02067-8

Direct installation of boron groups offers boost to medicinal chemistry

26 July
https://www.nature.com/articles/d41586-021-02007-6
https://doi.org/10.1038/d41586-021-02007-6

Aussie startup invents breakthrough non-toxic battery electrolyte that's cheaper 'by factor of 100' – pv magazine Australia

28 July
https://www.pv-magazine-australia.com/2021/07/28/aussie-startup-invents-breakthrough-non-toxic-battery-electrolyte-thats-cheaper-by-factor-of-100

How much does it cost to replace the batteries in electric vehicles?
23 July
https://thedriven.io/2021/07/23/how-much-are-replacement-batteries-for-electric-vehicles-in-australia

The enzyme that changed the world | MSUToday | Michigan State University
26 July
https://natsci.msu.edu/news/the-enzyme-that-changed-the-world-and-an-msu-professors-career

CRISPR breaks ground as a one-shot treatment for a rare disease | Popular Science
28 July
CRISPR breaks ground as a one-shot treatment for a rare disease | Popular Science (popsci.com)

Johnson Matthey and the GAIA consortium develop fuel cell with a power density increase of 20%
27 July
https://www.h2-view.com/story/johnson-matthey-and-the-gaia-consortium-develop-fuel-cell-with-a-power-density-increase-of-20

Alternating magnetic field-responsive nano-platform developed for controlled pesticide release
29 July
https://phys.org/news/2021-07-alternating-magnetic-field-responsive-nano-platform-pesticide.html

CATL Unveils Its Latest Breakthrough Technology by Releasing Its First Generation of Sodium-ion Batteries
29 July
https://www.catl.com/en/news/665.html

First High-Resolution View of Viruses in a Liquid Environment
30 July
First High-Resolution View of Viruses in a Liquid Environment | Technology Networks
https://doi.org/10.1002/adma.202103221

"Atom Swapping" Could Lead to Low-Cost, Ultra-Bright, Flexible Next Generation LED Lighting and Displays
27 July
"Atom Swapping" Could Lead to Low-Cost, Ultra-Bright, Flexible Next Generation LED Lighting and Displays (scitechdaily.com)
https://doi.org/10.1021/jacs.1c01567

A different kind of solar technology is poised to go big | Grist
26 July
A different kind of solar technology is poised to go big | Grist

Molecular insights on confined water in the nanochannels of self-assembled ionic liquid crystal
28 July
Molecular insights on confined water in the nanochannels of self-assembled ionic liquid crystal | Science Advances (sciencemag.org)
DOI: 10.1126/sciadv.abf0669

Extending Human Lifespans: Using Artificial Intelligence To Find Anti-Aging Chemical Compounds

24 July
Extending Human Lifespans: Using Artificial Intelligence To Find Anti-Aging Chemical Compounds (scitechdaily.com)
https://doi.org/10.1038/s41598-021-93070-6

How Many Solar Panels Do I Need to Power my Home? – EcoWatch

(Note based o0n US data. Solar panels will not meet all your energy needs with current efficiencies)
28 July
https://www.ecowatch.com/how-many-solar-panels-do-i-need-2653890470.html

First 'Time Crystal' Built Using Google's Quantum Computer | Quanta Magazine

30 July
https://www.quantamagazine.org/first-time-crystal-built-using-googles-quantum-computer-20210730

Tracking the movement of a single nanoparticle

27 July
https://phys.org/news/2021-07-tracking-movement-nanoparticle.html
http://dx.doi.org/10.1021/acsnano.1c02556

Imparting multi-functionality to covalent organic framework nanoparticles by the dual-ligand assistant encapsulation strategy | Nature Communications

27 July
https://www.nature.com/articles/s41467-021-24838-7
https://doi.org/10.1038/s41467-021-24838-7

Single-phase covalent organic frameworks membranes make CO2-selective separation possible

29 July
https://phys.org/news/2021-07-single-phase-covalent-frameworks-membranes-co2-selective.html
http://dx.doi.org/10.1002/anie.202106346

A Soil-Science Revolution Upends Plans to Fight Climate Change | Quanta Magazine

27 July
https://www.quantamagazine.org/a-soil-science-revolution-upends-plans-to-fight-climate-change-20210727

Pine sap–based plastic: A potential game changer for future of sustainable materials

28 July
Pine sap–based plastic: A potential gamechanger for future of sustainable materials (phys.org)

Site-specific Umpolung amidation of carboxylic acids via triplet synergistic catalysis | Nature Communications

30 July
https://www.nature.com/articles/s41467-021-24908-w
https://doi.org/10.1038/s41467-021-24908-w

Double-strand RNA exhibits traits different from single-stranded RNA

28 July
Double-strand RNA exhibits traits different from single-stranded RNA (phys.org)

http://dx.doi.org/10.1021/acs.est.1c01255

Metabolic engineering strategies to enable microbial utilization of C1 feedstocks | Nature Chemical Biology

26 July (Pay to view)
https://www.nature.com/articles/s41589-021-00836-0
https://doi.org/10.1038/s41589-021-00836-0

Electrochemistry-based and -coupled characterization of energy storage materials

2 August

Electrochemistry-based and -coupled characterization of energy storage materials – Physics World

Chemists discover a key to greener food production

30 July
Chemists discover a key to greener food production (phys.org)
http://dx.doi.org/10.1038/s41557-021-00732-z

Research Shows Common Insecticide Is Harmful to Bees in Any Amount

2 August
https://scitechdaily.com/research-shows-common-insecticide-is-harmful-to-bees-in-any-amount
https://doi.org/10.1098/rspb.2021.1287

Scientists Catch Shape-Shifting Coronavirus Protein Complex in the Act

3 August
Scientists Catch Shape-Shifting Coronavirus Protein Complex in the Act (scitechdaily.com)
https://doi.org/10.1021/acs.jpclett.1c00831

Extraordinary New Material Converts Waste Heat Into Energy

3 August
https://scitechdaily.com/extraordinary-new-material-converts-waste-heat-into-energy
https://doi.org/10.1038/s41563-021-01064-6

Birnessite Study Offers Insights For Electrochemistry, Energy Storage

2 August
Birnessite Study Offers Insights For Electrochemistry, Energy Storage | NC State News (ncsu.edu)

A More Comprehensive Understanding of the SARS-CoV-2 Spike Protein

30 June
A More Comprehensive Understanding of the SARS-CoV-2 Spike Protein | Technology Networks
https://doi.org/10.1016/j.jbc.2021.10090

Heavy-atom quantum tunnelling catalysed with Lewis acids

4 August
Heavy-atom quantum tunnelling catalysed with Lewis acids | Research | Chemistry World
http://xlink.rsc.org/?doi=10.1039/d1sc02853g

Crystal arrangement results in 1,000x more power from ferroelectric solar cells

4 August
Crystal arrangement results in 1,000x more power from ferroelectric solar cells – pv magazine International (pv-magazine.com)

Consciousness: how the brain chemical ‘dopamine’ plays a key role – new research
4 August
Consciousness: how the brain chemical 'dopamine' plays a key role – new research (theconversation.com)

Pesticides: interactions between agrochemicals increase their harm to bees
4 August
Pesticides: interactions between agrochemicals increase their harm to bees (theconversation.com)

Giant crystal lattice is mesoporous but not a MOF
5 August
Giant crystal lattice is mesoporous but not a MOF | Research | Chemistry World
http://xlink.rsc.org/?doi=10.1039/d1sc02497c

Breakthrough in Supercharging Reactions for Clean Energy Fuel Cells
5 August
Breakthrough in Supercharging Reactions for Clean Energy Fuel Cells (scitechdaily.com)
https://doi.org/10.1038/s41929-021-00650-w

Two dead, many injured in Chempark explosion
28 July
Two dead, many injured in Chempark explosion | Speciality Chemicals Magazine (specchemonline.com)

Plasma Eases Carbon Dioxide Conversion | Chemical Processing
6 August
Plasma Eases Carbon Dioxide Conversion | Chemical Processing

Investigation Into the Origin of Elements in the Universe Yields New Insights
5 August
Investigation Into the Origin of Elements in the Universe Yields New Insights (scitechdaily.com)

Sandia researchers develop new grid-scale energy storage battery – pv magazine International
5 August
https://www.pv-magazine.com/2021/08/05/sandia-researchers-develop-new-grid-scale-energy-storage-battery

Small modular reactors: The dawn of a new nuclear era - The Financial Express
4 August
https://www.financialexpress.com/defence/small-modular-reactors-the-dawn-of-a-new-nuclear-era/2304153

Chemists Find an Effective Remedy for “Aged” Brain Diseases Such As Alzheimer’s and Parkinson’s
8 August
Chemists Find an Effective Remedy for “Aged” Brain Diseases Such As Alzheimer’s and Parkinson’s (scitechdaily.com)
https://doi.org/10.1016/j.ejmech.2021.113577

Key Findings You MUST Know From Just-Released IPCC Climate Change Report
9 August
Key Findings You MUST Know From Just-Released IPCC Climate Change Report (sciencealert.com)

Using Graphene Foam To Filter Uranium and Other Heavy Metals From Drinking Water

9 August
Using Graphene Foam To Filter Uranium and Other Heavy Metals From Drinking Water (scitechdaily.com)
https://doi.org/10.1002/adma.202102633

Novel Molecular Imaging Technique to Examine Complex Coordination Molecules

9 August
Novel Molecular Imaging Technique to Examine Complex Coordination Molecules | Lab Manager

Tens of Thousands of Unique Molecules Detected in Global Beers

10 August
Tens of Thousands of Unique Molecules Detected in Global Beers | Technology Networks
https://doi.org/10.3389/fchem.2021.715372

Metals Hitch a Ride on Microplastic Pollutants

10 August
Metals Hitch a Ride on Microplastic Pollutants | Technology Networks
https://www.sciencedirect.com/science/article/pii/S266691102100023X?via%3Dihub#sec0010

Scientists Turn Harmful Methane Into Methanol at Room Temperature

9 August
Scientists Turn Harmful Methane Into Methanol at Room Temperature (scitechdaily.com)
https://science.sciencemag.org/content/373/6552/327

Exploring new opportunities in nucleon structure measurements

10 August
Exploring new opportunities in nucleon structure measurements (innovationnewsnetwork.com)

Enzyme Identified for Making Key Industrial Chemical in Plants

11 August
Enzyme Identified for Making Key Industrial Chemical in Plants (scitechdaily.com)
https://doi.org/10.1038/s41477-021-00975-1

More Sustainable Conversion of Sunlight and Luminescent Materials With Manganese

11 August
More Sustainable Conversion of Sunlight and Luminescent Materials With Manganese (scitechdaily.com)
DOI: 10.1038/s41557-021-00744-9

New Theory Proposed To Explain the Transparency of Metallic Oxides

10 August
New Theory Proposed To Explain the Transparency of Metallic Oxides (scitechdaily.com)
https://doi.org/10.1002/advs.202004207

Lipid nanoparticles for mRNA delivery | Nature Reviews Materials

10 August
https://www.nature.com/articles/s41578-021-00358-0
https://doi.org/10.1038/s41578-021-00358-0

mRNA Disruptor Goes Public in $1.5 Billion SPAC Deal | BioSpace

10 August
https://www.biospace.com/article/greenlight-floors-it-to-hit-the-nasdaq-with-1-5b-spac-deal-/

Pope names Nobel laureate Jennifer Doudna to Pontifical Academy

11 August

Pope names Nobel laureate Jennifer Doudna to Pontifical Academy - Vatican News

Microplastics Can Deform Cell Membranes and Impact Function

6 August

Microplastics Can Deform Cell Membranes and Impact Function | Technology Networks
https://doi.org/10.1073/pnas.2104610118

Novel Technique Seamlessly Converts Ammonia to 'Green' Hydrogen

5 August

Novel Technique Seamlessly Converts Ammonia to Green HydrogenUNIST News Center | UNIST News Center

"Clean" Blue Hydrogen May Be More Environmentally Harmful Than Gas or Coal

13 August

"Clean" Blue Hydrogen May Be More Environmentally Harmful Than Gas or Coal | Technology Networks
https://doi.org/10.1002/ese3.956

Scientists Discover How to Make Glass So Hard, It Can Even Scratch Diamond

13 August

Scientists Discover How to Make Glass So Hard, It Can Even Scratch Diamond (sciencealert.com) and nwab140.pdf (silverchair.com)
https://doi.org/10.1093/nsr/nwab140

Programmable capillary action controls fluid flows

30 June

Programmable capillary action controls fluid flows (nature.com)
https://doi.org/10.1038/d41586-021-01708-2

A two-step strategy for delivering particles to targets hidden within microfabricated porous media

13 August

A two-step strategy for delivering particles to targets hidden within microfabricated porous media | Science Advances (sciencemag.org)
DOI: 10.1126/sciadv.abh0638

Harnessing sunlight to fuel the future through covalent organic frameworks

12 August

Harnessing sunlight to fuel the future through covalent organic frameworks (phys.org)

Warmth from the earth and air: could heat pumps replace our gas boilers?

14 August

Warmth from the earth and air: could heat pumps replace our gas boilers? | Energy industry | The Guardian

Creating Metallic Water – While Avoiding an Explosion From Violent Chemistry

14 August

Creating Metallic Water – While Avoiding an Explosion From Violent Chemistry (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03646-5

The Waste Product That Could Help Mitigate Climate Change – Locking Carbon in the Soil "For Hundreds to Thousands of Years"

14 August

The Waste Product That Could Help Mitigate Climate Change – Locking Carbon in the Soil "For Hundreds to Thousands of Years" (scitechdaily.com)
https://doi.org/10.1111/gcbb.12885

SPECIAL REPORT: IPCC Climate Change and Land
https://www.ipcc.ch/srccl

IPCC climate report: Earth is warmer than it's been in 125,000 years
9 August
IPCC climate report: Earth is warmer than it's been in 125,000 years (nature.com)
https://doi.org/10.1038/d41586-021-02179-1

The Wendelstein 7-X Nuclear Fusion Device Concept Proves Its Efficiency
15 August
The Wendelstein 7-X Nuclear Fusion Device Concept Proves Its Efficiency (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03687-w

World's largest battery manufacturer bets big on sodium-ion batteries
12 August
https://www.zmescience.com/science/news-science/worlds-largest-battery-manufacturer-bets-big-on-sodium-ion-batteries

Agora CO2 Redox Battery Wins Global Deeptech Competitions & Has 1 Year ROI | CleanTechnica
14 August
Agora CO2 Redox Battery Wins Global Deeptech Competitions & Has 1 Year ROI | CleanTechnica

Using aluminum and water to make clean hydrogen fuel
12 August
https://phys.org/news/2021-08-aluminum-hydrogen-fuel.html

Climate Change Can Be Stopped, Scientists Say. Computer Models Show How : NPR
14 August
https://www.npr.org/2021/08/14/1027370891/climate-change-solutions-global-warming-computer-models-paris

Graphite and battery research on the road to net zero
13 August
Graphite and battery research on the road to net zero (innovationnewsnetwork.com)

Next generation materials for energy technology (Part 1)
3 August
Next generation materials for energy technology (soci.org)

Hurdle Race To Hydrogen - PhD Student Discovers A New Type Of H2O Splitting At LIKAT
15 August
https://fuelcellsworks.com/news/hurdle-race-to-hydrogen-phd-student-discovers-a-new-type-of-h2o-splitting-at-likat

How nitrogen-doped fluorescent carbon dots are aiding the fight against disease
16 August
How nitrogen-doped fluorescent carbon dots are aiding the fight against disease (phys.org)

New Study: Renewables Much Cheaper Than Fossils — Levelized Cost of Electricity (LCOE) Study

13 August
https://cleantechnica.com/2021/08/13/new-study-renewables-much-cheaper-than-fossils-levelized-cost-of-electricity-lcoe-study

Electric cars and batteries: how will the world produce enough?

17 August
Electric cars and batteries: how will the world produce enough? (nature.com)
https://doi.org/10.1038/d41586-021-02222-1

Nanocluster Catalyst Discovery Will Protect Precious Metals

17 August
Nanocluster Catalyst Discovery Will Protect Precious Metals (scitechdaily.com)
DOI: 10.1038/s41467-021-25263-6

Capturing Atmospheric Carbon Dioxide and Transforming It Into Industrially Useful Materials

17 August
Capturing Atmospheric Carbon Dioxide and Transforming It Into Industrially Useful Materials (scitechdaily.com)
https://doi.org/10.1039/D1RA00954K

Physicists in California Achieve 'Historic' Nuclear Fusion Breakthrough

18 August
Physicists in California Achieve 'Historic' Nuclear Fusion Breakthrough (sciencealert.com)

Athlone Institute of Technology set for major upgrade

18 August
https://www.rte.ie/news/business/2021/0818/1241475-athlone-institute-of-technology-set-for-major-upgrade

Solar power supply in EU hits record high

18 August
https://www.rte.ie/news/business/2021/0818/1241432-solar-power-supply-at-record-high-in-eu

Cuprate superconductors contain a strange component

17 August
Cuprate superconductors contain a strange component – Physics World

Australian researchers develop bifacial solar cell with 96.3% bifacial factor – pv magazine International

19 August
https://www.pv-magazine.com/2021/08/19/australian-researchers-develop-bifacial-solar-cell-with-96-3-bifacial-factor

2D 'Supersolid' That Flows Without Friction Has Been Made For The First Time

19 August
https://www.sciencealert.com/2d-supersolid-has-been-produced-for-the-first-time-and-it-s-incredibly-weird

Click Chemistry Generates Vast Libraries of New Polymers

17 August
Click Chemistry Generates Vast Libraries of New Polymers | Technology Networks

https://doi.org/10.1038/s41557-021-00726-x

Research Shows Extensive Damage Caused by Common Teeth-Whitening Products

19 August
Research Shows Extensive Damage Caused by Common Teeth-Whitening Products (scitechdaily.com)
https://doi.org/10.1038/s41598-021-94745-w

New Bioprocess Efficiently Converts Plant Materials Into Biofuel and Valuable Chemicals

21 August
New Bioprocess Efficiently Converts Plant Materials Into Biofuel and Valuable Chemicals (scitechdaily.com)
https://doi.org/10.1038/s41467-021-25241-y

Scientists Detect Tens of Thousands of Different Molecules in Beer – 80% Not Yet Described in Chemical Databases

21 August
Scientists Detect Tens of Thousands of Different Molecules in Beer – 80% Not Yet Described in Chemical Databases (scitechdaily.com)
https://doi.org/10.3389/fchem.2021.715372

More Sustainable Conversion of Sunlight and Luminescent Materials With Manganese

18 August
More Sustainable Conversion of Sunlight and Luminescent Materials With Manganese (scitechdaily.com)
DOI: 10.1038/s41557-021-00744-9

Polymer scientist helps develop new technique for large-scale energy storage

8 February 2021
Polymer scientist helps develop new technique for large-scale energy storage | The University Akron News | Ohio (uakron.edu)

The First Delivery of 'Green Steel' Suggests Its Future Is Not Far Off

22 August
The First Delivery of 'Green Steel' Suggests Its Future Is Not Far Off (sciencealert.com)

The mutation that helps Delta spread like wildfire

20 August
The mutation that helps Delta spread like wildfire (nature.com)
https://doi.org/10.1038/d41586-021-02275-2

Sugars From Human Breast Milk Could Help Treat and Prevent Infections in Newborns

23 August
Sugars From Human Breast Milk Could Help Treat and Prevent Infections in Newborns (scitechdaily.com)

Flavonoid-Rich Foods – Such As Apples, Berries, Dark Chocolate and Wine – Improve Blood Pressure Levels

23 August
Flavonoid-Rich Foods – Such As Apples, Berries, Dark Chocolate and Wine – Improve Blood Pressure Levels (scitechdaily.com)
DOI: 10.1161/HYPERTENSIONAHA.121.17441

Novel Technique Seamlessly Converts Ammonia to Green Hydrogen
5 August
Novel Technique Seamlessly Converts Ammonia to Green HydrogenUNIST News Center | UNIST News Center

Nuclear fusion test approaches successful ignition | Popular Science
19 August
https://www.popsci.com/science/nuclear-fusion-successful-ignition

Scientists Identify Compounds That Give Coffee Its Distinctive "Mouthfeel"
24 August
Scientists Identify Compounds That Give Coffee Its Distinctive "Mouthfeel" (scitechdaily.com)
https://www.acs.org/acsfall2021briefings

How Does Sunscreen Work? Does It Really Prevent Wrinkles and Cancer?
25 August
How Does Sunscreen Work? Does It Really Prevent Wrinkles and Cancer? (scitechdaily.com)

Platinum-based API line running
16 August
Platinum-based API line running | Speciality Chemicals Magazine (specchemonline.com)

Lithium Power International: Pioneering the lithium supply chain
25 August
Lithium Power International: Pioneering the lithium supply chain (innovationnewsnetwork.com)

Janus graphene opens doors to sustainable sodium-ion batteries
25 August
https://phys.org/news/2021-08-janus-graphene-doors-sustainable-sodium-ion.html

German bank to lend €36m to Irish energy group to build solar power projects
25 August
German bank to lend €36m to Irish energy group to build solar power projects (irishtimes.com)

Climate benefits vs. burdens: Which products are best suited for emerging carbon capture technologies?
24 August
Climate benefits vs. burdens: Which products are best suited for emerging carbon capture technologies? | University of Michigan News (umich.edu)

'Nanojars' capture dissolved carbon dioxide, toxic ions from water
25 August
'Nanojars' capture dissolved carbon dioxide, toxic ions from water (phys.org)

Researchers Make Rechargeable Batteries That Store Six Times More Charge
25 August
Researchers make alkali metal-chlorine batteries rechargeable | Stanford News

Fructose contributes to obesity by changing cells
24 August
Fructose contributes to obesity by changing cells | Cornell Chronicle

Paving the Way for Green Chemistry
20 August
Paving the Way for Green Chemistry | Technology Networks
https://doi.org/10.1038/s41557-021-00763-6

RNA Structures Predicted with Uncanny Accuracy by Unbiased AI
26 August
RNA Structures Predicted with Uncanny Accuracy by Unbiased AI (genengnews.com)

Chemistry Breakthrough: Faster and Cheaper Ethanol-to-Jet-Fuel on the Horizon
28 August
Chemistry Breakthrough: Faster and Cheaper Ethanol-to-Jet-Fuel on the Horizon (scitechdaily.com)

DCU spin-out Ambisense nets €3m growth equity investment
27 August
https://www.siliconrepublic.com/start-ups/ambisense-growth-capital-bgf-environmental-sensor-monitoring

Covalent Organic Frameworks: Harnessing Sunlight To Fuel the Future
28 August
Covalent Organic Frameworks: Harnessing Sunlight To Fuel the Future (scitechdaily.com)
https://doi.org/10.1016/j.ccr.2021.214117

Putting a Super Cork on the Coronavirus: New Hope in the Battle Against COVID-19
27 August
Putting a Super Cork on the Coronavirus: New Hope in the Battle Against COVID-19 (scitechdaily.com)
https://doi.org/10.1038/s41564-021-00954-4

Experimental Confirmation of the Fundamental Principle of Wave-Particle Duality
29 August
Experimental Confirmation of the Fundamental Principle of Wave-Particle Duality (scitechdaily.com)
https://advances.sciencemag.org/content/7/34/eabi9268

Ultrafast electron microscopy leads to pivotal discovery
16 August
Ultrafast electron microscopy leads to pivotal discovery (phys.org)

Making 1 Simple Substitution For Table Salt Could Save Millions of Lives, Study Shows
30 August
Making 1 Simple Substitution For Table Salt Could Save Millions of Lives, Study Shows (sciencealert.com)

Kinsale field offshore Ireland under review for green hydrogen storage | Offshore
23 August
Kinsale field offshore Ireland under review for green hydrogen storage | Offshore (offshore-mag.com)

Breaking ammonia: A new catalyst to generate hydrogen from ammonia at low temperatures
30 August
Breaking ammonia: A new catalyst to generate hydrogen from ammonia at low temperatures (phys.org)
30 August

New form of carbon tantalises with prospects for electronics
26 August
https://phys.org/news/2021-08-carbon-tantalises-prospects-electronics.html

Scientists get photons to interact with pairs of atoms for the first time
26 August
https://phys.org/news/2021-08-scientists-photons-interact-pairs-atoms.html

Common pesticide may contribute to global obesity crisis
27 August
Common pesticide may contribute to global obesity crisis – Brighter World (mcmaster.ca)

Food Authenticity: Testing To Keep One Step Ahead
23 August
Food Authenticity: Testing To Keep One Step Ahead | Technology Networks

Neonicotinoids: Nerve Agents in Our Food Chain
30 July
Neonicotinoids: Nerve Agents in Our Food Chain | Technology Networks

How Flowers Form Within a Limited Time Frame
31 August
How Flowers Form Within a Limited Time Frame | Technology Networks
https://www.pnas.org/content/118/36/e2102826118/tab-article-info

New Insulation Material Enables More Efficient Electricity Distribution
30 August
New Insulation Material Enables More Efficient Electricity Distribution (scitechdaily.com)
https://doi.org/10.1002/adma.202100714

First president appointed to Shannon Midlands Midwest Technological University | Shannonside.ie
31 August
First president appointed to Shannon Midlands Midwest Technological University | Shannonside.ie

Closing the Gate on Manganese Could Open Doors to New Drugs to Treat Pneumonia
30 August
Closing the gate on manganese could open doors to new drugs to treat pneumonia | SLAC National Accelerator Laboratory (stanford.edu)

Biologists Just Got Closer to The DNA Secrets That Stop Species From Interbreeding
1 September
Biologists Just Got Closer to The DNA Secrets That Stop Species From Interbreeding (sciencealert.com)

New Electronic Material: Engineers Create Double Layer of Borophene for First Time
1 September
New Electronic Material: Engineers Create Double Layer of Borophene for First Time (scitechdaily.com)
https://doi.org/10.1038/s41563-021-01084-2

The ReLiB project: optimising material management of lithium-ion batteries
2 September
The ReLiB project: optimising material management of lithium-ion batteries (innovationnewsnetwork.com)

The new E10 petrol: will it bring benefits?
1 September
https://theconversation.com/the-new-e10-petrol-will-it-bring-benefits-167095

Australian researchers set new efficiency record in quest for low-cost solar hydrogen | RenewEconomy
3 September
https://reneweconomy.com.au/australian-researchers-set-new-efficiency-record-in-quest-for-low-cost-solar-hydrogen

A Key Challenge to Harvesting Fusion Energy on Earth
3 September
https://scitechdaily.com/a-key-challenge-to-harvesting-fusion-energy-on-earth
https://doi.org/10.1063/5.0043672

The Hydrogen Stream: New solar-powered hydrogen tech from Japan – pv magazine International
3 September
https://www.pv-magazine.com/2021/09/03/the-hydrogen-stream-new-solar-powered-hydrogen-tech-from-japan

Long-Lasting Disinfectant Protects Against Viruses for Up to 7 Days – Promises To Help Fight Pandemics
3 September
Long-Lasting Disinfectant Protects Against Viruses for Up to 7 Days – Promises To Help Fight Pandemics (scitechdaily.com)
https://doi.org/10.1021/acsnano.1c04142

Carbon Capture Gets Cheaper: Making Methane From CO2
5 September
Carbon Capture Gets Cheaper: Making Methane From CO2 (scitechdaily.com)
https://doi.org/10.1002/cssc.202101590

Nano “Camera” – Held Together With Molecular Glue – Allows Real-Time Monitoring of Chemical Reactions
5 September
Nano “Camera” – Held Together With Molecular Glue – Allows Real-Time Monitoring of Chemical Reactions (scitechdaily.com)
https://doi.org/10.1038/s41565-021-00949-6

Novel Metal Discovered Where Electrons Flow in the Same Way Water Flows in a Pipe
6 September
Novel Metal Discovered Where Electrons Flow in the Same Way Water Flows in a Pipe (scitechdaily.com)
DOI: 10.1038/s41467-021-25547-x

Novel approach for thermophotovoltaics promises higher efficiencies – pv magazine International

31 August
https://www.pv-magazine.com/2021/08/31/novel-approach-for-thermophotovoltaics-promises-higher-efficiencies

Structural basis of RNA processing by human mitochondrial RNase P | Nature Structural & Molecular Biology

6 September
Structural basis of RNA processing by human mitochondrial RNase P | Nature Structural & Molecular Biology
https://doi.org/10.1038/s41594-021-00637-y

Messenger RNA: how it works in nature and in making vaccines

6 September
Messenger RNA: how it works in nature and in making vaccines (theconversation.com)

A Decade Of Wind, Solar, & Nuclear In China Shows Clear Scalability Winners | CleanTechnica

5 September
A Decade Of Wind, Solar, & Nuclear In China Shows Clear Scalability Winners | CleanTechnica

Scientists Find Key to Perfectly Smooth Chocolate

1 September
Scientists Find Key to Perfectly Smooth Chocolate | Technology Networks

Viruses From Plants/Bacteria Key Ingredient for New COVID-19 Vaccine Candidates

7 September
Viruses From Plants/Bacteria Key Ingredient for New COVID-19 Vaccine Candidates (scitechdaily.com)

Direct solar hydrogen generation tech powered by 24.3%-efficient tandem perovskite-silicon solar cell – pv magazine International

7 September
https://www.pv-magazine.com/2021/09/07/direct-solar-hydrogen-generation-tech-powered-by-24-3-efficient-tandem-perovskite-silicon-solar-cell

Scientists Created a New Kind of Metal Where Electrons Flow Like a Fluid

8 September
Scientists Created a New Kind of Metal Where Electrons Flow Like a Fluid (sciencealert.com)

Hard Water Film on Your Tea Improves Flavor

8 September
Hard Water Film on Your Tea Improves Flavor | Technology Networks
https://doi.org/10.1063/5.0059760

Stretching the Capacity of Flexible Energy Storage

8 September
Stretching the Capacity of Flexible Energy Storage | Lab Manager
https://doi.org/10.1021/acs.nanolett.1c02071

The World's Largest Carbon-Sucking Plant Just Became Operational

9 September
The World's Largest Carbon-Sucking Plant Just Became Operational (sciencealert.com)

2 scientists win $3 million 'Breakthrough Prize' for mRNA tech behind COVID-19 vaccines

9 September
2 scientists win $3 million 'Breakthrough Prize' for mRNA tech behind COVID-19 vaccines | Live Science

China prepares to test thorium-fuelled nuclear reactor

9 September
China prepares to test thorium-fuelled nuclear reactor (nature.com)
https://doi.org/10.1038/d41586-021-02459-w

Pivotal Discovery of Nanomaterial for LEDs: New Low-Cost, Energy-Efficient Light Source

9 September
Pivotal Discovery of Nanomaterial for LEDs: New Low-Cost, Energy-Efficient Light Source (scitechdaily.com)
https://doi.org/10.1038/s41566-021-00857-0

Realization of Omnipotent Catalysts Expected After Breakthrough Creation of Super Multi-Element Catalyst

8 September
Realization of Omnipotent Catalysts Expected After Breakthrough Creation of Super Multi-Element Catalyst (scitechdaily.com)
https://doi.org/10.1039/D1SC01981C

Increasing the Efficiency of Chemical Reactions To Help Decarbonize Fuels and Chemicals

9 September
Increasing the Efficiency of Chemical Reactions To Help Decarbonize Fuels and Chemicals (scitechdaily.com)
https://doi.org/10.1038/s41929-021-00668-0

Bacteria Engineered To Make Key Chemical Offers a Renewable Source of Synthetic Rubber

8 September
Bacteria Engineered To Make Key Chemical Offers a Renewable Source of Synthetic Rubber (scitechdaily.com)
https://doi.org/10.1038/s41467-021-22504-6

Cheaper Hydrogen Peroxide Production Beckons

8 September
Cheaper Hydrogen Peroxide Production Beckons | Chemical Processing

NREL scientists test back-contact architecture on perovskite solar cells – pv magazine International

9 September
https://www.pv-magazine.com/2021/09/09/nrel-scientists-test-back-contact-architecture-on-perovskite-solar-cells

Small molecule plays outsize role in controlling nanoparticle

13 July 2021
Small molecule plays outsize role in controlling nanoparticle | Cornell Chronicle

GaN-on-Diamond Semiconductor Material That Can Take the Heat- 1,000℃ to be exact

9 September
GaN-on-diamond semiconductor material that can take the heat - 1,000°C to be exact — Osaka City University (osaka-cu.ac.jp)
https://doi.org/10.1002/adma.202104564

Conformational and Colloidal Stability Studies to Predict the Best Biopharmaceutical Formulation

2 September
Conformational and Colloidal Stability Studies to Predict the Best Biopharmaceutical Formulation (biopharminternational.com)

Increasing the Efficiency of Chemical Reactions To Help Decarbonize Fuels and Chemicals

9 September
Increasing the Efficiency of Chemical Reactions To Help Decarbonize Fuels and Chemicals (scitechdaily.com)
https://doi.org/10.1038/s41929-021-00668-0

Macquarie buys rights to develop €1bn wind farm off Connemara coast - Independent.ie

9 September
https://www.independent.ie/business/irish/macquarie-buys-rights-to-develop-1bn-wind-farm-off-connemara-coast-40833050.html

"Chemical Looping" – Scientists Find a Way To Transform Toxic Sewer Gas Into Clean Hydrogen Fuel

10 September
"Chemical Looping" – Scientists Find a Way To Transform Toxic Sewer Gas Into Clean Hydrogen Fuel (scitechdaily.com)
https://doi.org/10.1021/acssuschemeng.1c03410

Cooling PV panels with water and cotton mesh – pv magazine International

10 September
https://www.pv-magazine.com/2021/09/10/cooling-pv-panels-with-water-and-cotton-mesh/

Sunlight Can Bake Plastic Waste Into a Soup of Tens of Thousands of Organic Molecules

12 September
Sunlight Can Bake Plastic Waste Into a Soup of Tens of Thousands of Organic Molecules (sciencealert.com)

Three-Part Catalyst Helps Transform Excess CO2 Into Usable Ethanol

12 September
Three-Part Catalyst Helps Transform Excess CO2 Into Usable Ethanol (scitechdaily.com)
https://doi.org/10.1021/jacs.1c03940

Scientists Uncover New Opportunities for Light-Powered Battery and Fuel Cell Design

11 September
Scientists Uncover New Opportunities for Light-Powered Battery and Fuel Cell Design (scitechdaily.com)
https://doi.org/10.1016/j.apmt.2021.101167

Australian startup sets 25.54% efficiency record for silicon cell – pv magazine International

10 September
Australian startup sets 25.54% efficiency record for silicon cell – pv magazine International (pv-magazine.com)

Solar-Powered Electrochemical Reaction Uses Wastewater To Make the World's No. 2 Chemical

12 September
Solar-Powered Electrochemical Reaction Uses Wastewater To Make the World's No. 2 Chemical (scitechdaily.com)
https://doi.org/10.1039/D1EE01879E

Catalyst Study Advances Carbon-Dioxide-to-Ethanol Conversion

10 September
Catalyst Study Advances Carbon-Dioxide-to-Ethanol Conversion | BNL Newsroom

Banishing bias in research metrics

13 September
Banishing bias in research metrics – News (flinders.edu.au)
http://doi.org/10.1371/journal.pone.0257141 and

A fairer way to compare researchers at any career stage and in any discipline using open-access citation data

10 September
A fairer way to compare researchers at any career stage and in any discipline using open-access citation data (plos.org)
https://doi.org/10.1371/journal.pone.0257141

Scientists Just Revealed How High The Emissions From Animal Farming Really Are

14 September
Scientists Just Revealed How High The Emissions From Animal Farming Really Are (sciencealert.com)

The tangled history of mRNA vaccines

14 September
The tangled history of mRNA vaccines (nature.com)
https://doi.org/10.1038/d41586-021-02483-w

New Nanomaterial Produces Clean Energy Hydrogen Fuel From Seawater

14 September
New Nanomaterial Produces Clean Energy Hydrogen Fuel From Seawater (scitechdaily.com)
https://doi.org/10.1002/adma.202101425

The European Unified Patent Court - is it Finally within Reach?

8 September
https://www.lexology.com/r.ashx?l=9K7G3WJ

Solar Paint Transforms Your Entire House Into a Source of Clean Energy

13 September
https://interestingengineering.com/solar-paint-transforms-your-entire-house-into-a-source-of-clean-energy

Technion researchers discover cheap way to extract hydrogen fuel from H2O

14 September (Note there are a lot of ads with this publication)

https://www.israelhayom.com/2021/09/14/technion-researchers-discover-cheap-way-to-extract-hydrogen-fuel-from-h2o

RIA, IRC report shows how research can inform public policy

16 September
RIA, IRC report shows how research can inform public policy - TechCentral.ie
Full Report: research-for-public-policy-outline-map.pdf

New Nanomaterial Produces Clean Energy Hydrogen Fuel From Seawater

14 September
New Nanomaterial Produces Clean Energy Hydrogen Fuel From Seawater (scitechdaily.com)
https://doi.org/10.1002/adma.202101425

Superconductivity Breakthrough: Stepping Stones to "Goldilocks" Superconductors

15 September
Superconductivity Breakthrough: Stepping Stones to "Goldilocks" Superconductors (scitechdaily.com)
https://doi.org/10.1103/PhysRevLett.127.117001

MIT Superconducting Magnet Breaks Records - Major Advance Toward Fusion Energy

15 September
MIT Superconducting Magnet Breaks Records - Major Advance Toward Fusion Energy (scitechdaily.com)

Hydrogen Demand: Hydrogen Is Not A Growth Market, It's A Diminishing One (Part 1 of 3) | CleanTechnica

16 September
https://cleantechnica.com/2021/09/16/hydrogen-demand-1-3-hydrogen-is-not-a-growth-market-its-a-diminishing-one

Hydrogen Demand: There Is Only One Growth Hotspot Through 2100 (Part 2 Of 3) | CleanTechnica

17 September
Hydrogen Demand: There Is Only One Growth Hotspot Through 2100 (Part 2 Of 3) | CleanTechnica

Hydrogen Demand: And Now The Contentious Disappointments (Part 3 of 3) CleanTechnica

19 September
https://cleantechnica.com/2021/09/19/hydrogen-demand-and-now-the-contentious-disappointments

BT Young Scientist winners to represent Ireland at European Union Contest

17 September
BT Young Scientist winners to represent Ireland at European Union Contest - TechCentral.ie

Semi-transparent organic solar cell for window applications

16 September
Semi-transparent organic solar cell for window applications – pv magazine International (pv-magazine.com)

When Organoids Meet Coronaviruses: Assessing Potential COVID Drug Targets

17 September
When Organoids Meet Coronaviruses: Assessing Potential COVID Drug Targets (scitechdaily.com)

Game-changer for clean hydrogen production
17 September
Game-changer for clean hydrogen production (phys.org)
http://dx.doi.org/10.1016/j.nanoen.2021.106463

Antidote Developed for Nerve Agent Poisoning
21 September
Antidote Developed for Nerve Agent Poisoning (scitechdaily.com)
https://doi.org/10.1038/s41598-021-94963-2

Building Blocks For Life Have Been Found Within Planet-Forming Dust Clouds
17 September
Building Blocks For Life Have Been Found Within Planet-Forming Dust Clouds (sciencealert.com)

The First Delivery of 'Green Steel' Suggests Its Future Is Not Far Off
22 August
The First Delivery of 'Green Steel' Suggests Its Future Is Not Far Off (sciencealert.com)

Extensive Chemical Composition Mapping Reveals Carbon-Rich, Organic Birth Environments of Planets
18 September
Extensive Chemical Composition Mapping Reveals Carbon-Rich, Organic Birth Environments of Planets (scitechdaily.com)

Chemical discovery gets reluctant seeds to sprout
17 September
Chemical discovery gets reluctant seeds to sprout | News (ucr.edu)

A New Role for "Feel-Good" Hormone Dopamine
20 September
A New Role for "Feel-Good" Hormone Dopamine | Technology Networks
https://doi.org/10.1016/j.cub.2021.08.052

Cocoa's Flavor Profile Determined Quickly and Precisely
20 September
Cocoa's Flavor Profile Determined Quickly and Precisely | Technology Networks
https://doi.org/10.1021/acs.jafc.1c01987

Two Cork teens win first prize in EU science awards
19 September
https://www.rte.ie/news/regional/2021/0919/1247682-young-scientist-eu

COP15：Planning positive change for global biodiversity
2 September
COP15：Planning positive change for global biodiversity (nature.com) (links to multiple articles)

Hate Broccoli? Your Oral Microbiome Might Be the Reason
22 September
Hate Broccoli? Your Oral Microbiome Might Be the Reason | Technology Networks
http://pubs.acs.org/doi/abs/10.1021/acs.jafc.1c03889

Harnessing the Power of the Sun on Earth: Major Advance in Stellarator Performance for Fusion Energy

23 September
https://scitechdaily.com/harnessing-the-power-of-the-sun-on-earth-major-advance-in-stellarator-performance-for-fusion-energy

Seed-inspired spinners ride the wind and monitor the atmosphere

22 September (Nature video & Paper)
https://doi.org/10.1038/d41586-021-02588-2 and
Three-dimensional electronic microfliers inspired by wind-dispersed seeds | Nature (subscription)

A New Approach for Recycling Plastics

23 September
A New Approach for Recycling Plastics (scitechdaily.com)
DOI: 10.1002/adma.202104581

18 tonnes of liquid hydrogen could get an A320 plane from Stuttgart to Melbourne, f-cell hears

15 September
18 tonnes of liquid hydrogen could get an A320 plane from Stuttgart to Melbourne, f-cell hears (h2-view.com)

Sneak peek: Airbus seeing a convergence towards hydrogen

20 September
Sneak peek: Airbus seeing a convergence towards hydrogen (h2-view.com)

Single-cell proteomics takes centre stage

20 September
Single-cell proteomics takes centre stage (nature.com)
https://doi.org/10.1038/d41586-021-02530-6

A hop, a SCIP, and a jump: New EU database gives consumers access to information on hazardous chemicals in products

23 September
A hop, a SCIP, and a jump: New EU database gives consumers access to information on hazardous chemicals in products - Lexology

Novel technique to prevent fires in lithium-ion batteries – pv magazine International

22 September
https://www.pv-magazine.com/2021/09/22/novel-technique-to-prevent-fires-in-lithium-ion-batteries

Everyday Exposure to Obesity-Promoting Chemicals Represents a Significant Risk to Public Health

24 September
Everyday Exposure to Obesity-Promoting Chemicals Represents a Significant Risk to Public Health (scitechdaily.com)

New High-Performance Solid-State Battery Surprises the Engineers Who Created It

24 September
New High-Performance Solid-State Battery Surprises the Engineers Who Created It (scitechdaily.com)
https://doi.org/10.1126/science.abg7217

Carbon Dioxide Reactor Synthesizes Martian Fuel
25 September
Carbon Dioxide Reactor Synthesizes Martian Fuel (scitechdaily.com)
https://doi.org/10.1038/s41467-021-25640-1

New cancer research centre for University of Limerick
23 September
New cancer research centre for University of Limerick (rte.ie)

Extremely Efficient New Method for Removing Heavy-Metal Contaminants From Drinking Water
27 September
Extremely Efficient New Method for Removing Heavy-Metal Contaminants From Drinking Water (scitechdaily.com)
https://doi.org/10.1021/acsestwater.1c00234

New all-solid-state battery is safe, long-lasting, and energy-dense - Inceptive Mind
25 September
New all-solid-state battery is safe, long-lasting, and energy-dense - Inceptive Mind

New all-solid-state battery holds promise for grid storage and EVs
26 September
New all-solid-state battery holds promise for grid storage and EVs (newatlas.com)

Structure of 3He
23 September
Structure of 3He | Scientific Reports (nature.com)

Unified Physics Theory Explains How Materials Transform From Solids to Liquids
29 September
Unified Physics Theory Explains How Materials Transform From Solids to Liquids (scitechdaily.com)
https://doi.org/10.1103/PhysRevLett.126.218002

UCSD, LG team creates solid-state battery with all-silicon anode - Green Car Congress
24 September
UCSD, LG team creates solid-state battery with all-silicon anode - Green Car Congress

New electric vehicle battery technology can charge ‘quicker than refuelling an IC car’ - Electric & Hybrid Vehicle Technology International
22 July
New electric vehicle battery technology can charge ‘quicker than refuelling an IC car’ - Electric & Hybrid Vehicle Technology International (electrichybridvehicletechnology.com)

Social inclusion of women by male colleagues in STEM fields can improve their workplace experience | Waterloo News | University of Waterloo
29 September
Social inclusion of women by male colleagues in STEM fields can improve their workplace experience | Waterloo News | University of Waterloo (uwaterloo.ca)

Renewables vs. Nuclear: 256-0 – pv magazine International
28 September

https://www.pv-magazine.com/2021/09/28/renewables-vs-nuclear-256-0

A Tool To Interrogate a New Class of Reactive Electrophile Drugs

30 September
A Tool To Interrogate a New Class of Reactive Electrophile Drugs (scitechdaily.com)
https://doi.org/10.1038/s41467-021-25466-x

This is what a solid made of electrons looks like

29 September
This is what a solid made of electrons looks like (nature.com)
https://doi.org/10.1038/d41586-021-02657-6 and
Imaging two-dimensional generalized Wigner crystals | Nature

Ammonia decomposition for hydrogen economy, improvement in hydrogen extraction efficiency

6 April 2021
Ammonia decomposition for hydrogen economy, improvement in hydrogen extraction efficiency (phys.org)

Storing hydrogen with silicon-carbide nanotubes – pv magazine International

30 September
https://www.pv-magazine.com/2021/09/30/storing-hydrogen-with-silicon-carbide-nanotubes

Solar Cells: Three Crystal Layer Produces Thousand Times More Power | Off Grid Energy Independence

21 July 2021
Solar Cells: Three Crystal Layer Produces Thousand Times More Power | Off Grid Energy Independence

Hydrogen should be key part of sustainable energy system, says leading academic

30 September
https://www.irishexaminer.com/news/arid-40709567.html

Researchers identify and clear efficiency hurdle for organic solar cells

29 September
Researchers identify and clear efficiency hurdle for organic solar cells (techxplore.com)

Ireland's newest university formally established

1 October
Ireland's newest university formally established (irishtimes.com)

World-first artificial synthesis of starch from CO2 outperforms nature

27 September
World-first artificial synthesis of starch from CO2 outperforms nature (newatlas.com)

The race to replace persistent chemicals in our homes

28 September
The race to replace persistent chemicals in our homes - BBC News

Ministers Harris and Foley announce new partnership to support education and public engagement in science, technology, engineering and maths

18 May 2021

Minister for Further and Higher Education, Research, Innovation and Science Simon Harris TD and Minister for Education Norma Foley TD have today announced details of a new partnership between Science Foundation Ireland and the Department of Education to support education and public engagement projects in science, technology, engineering and maths (STEM) across the country.

The Department of Education will contribute up to €500,000 towards successful projects under the SFI Discover Programme, with the aim of supporting effective interventions in the early years STEM education continuum.

Speaking about the programme Minister Harris said: “This is a very welcome partnership between Science Foundation Ireland and the Department of Education. STEM education is critical to our future growth in talent and for economic development. Young people are our scientists and researchers of the future. I am sure that this will benefit many young learners across the country and encourage them to engage with science subjects, and hopefully consider a career in STEM in the future. I look forward to hearing about the projects funded under this SFI Discover programme call in the coming months.”

Minister Foley said: “This partnership works towards some of the ambitious goals and actions required to achieve and improve the STEM education experience and outcomes for all learners, from early years to post-primary level, which are set out in my Department’s STEM Education Policy Statement 2017-2026. The areas we are funding through SFI’s Discover Call are designed to tackle important issues such as diversity, gender balance in education, developing creativity, problem-solving skills through STEM and the Arts, knowledge sharing and equity of access to meaningful information and tools for all regions and community groups. We welcome your ideas.”

The new areas in the SFI Discover Programme Call highlighted for consideration under the partnership are:

STEM careers awareness and role-model based programmes that address underrepresented communities and challenge stereotypes in STEM

Proposals that support building county/regional networks for actors delivering STEM engagement activity. The purpose is to build knowledge sharing networks at a regional/county level that will address equity of access for schools/communities in that area.

Proposals based on STEM and the Arts approaches that support learners to participate in cross-curricular learning and make connections between STEM concepts and solving problems in new and exciting ways.

The partnership is aligned with the Department of Education's STEM Education Policy Statement 2017-2026 and SFI's new strategy, Shaping Our Future, which has a pillar focused on building a cohesive ecosystem. This new initiative focuses on supporting a joined-up approach to effective interventions in the early years STEM education continuum. The STEM Education Policy Statement 2017-2026 covers all learners from early years to post-primary level.

#BelieveInScience
Three Park Place, Hatch Street Upper,
Dublin 2, Ireland
D02 FX65
+353 (0)1 607 3200

info@sfi.ie

Minister Harris announces €23 million investment in Ireland's top post-doctoral researchers

7th May 2021

Minister for Further and Higher Education, Research, Innovation and Science Simon Harris TD has today announced €23 million in funding for a programme for post-doctoral researchers to become research leaders.

The investment, which is a joint initiative between Science Foundation Ireland (SFI) and the Irish Research Council (IRC), will see some 40 early career researchers, across all disciplines, supported to develop cutting-edge projects through awards of up to €550,000 over a four-year period.

The focus will be promoting women researchers in academia, in support of equality, diversity and inclusion across the higher education sector.

Speaking today, Minister Harris said: "I'm delighted to announce this new initiative to help early-career researchers to lead a research project and develop the essential skills and experience necessary to become research leaders of the future. This investment will focus on addressing gender imbalance in academia and we really want to encourage applications from women researchers."

The new joint programme between SFI and IRC and will help ensure greater cohesion across our research performing institutions.

The funding was provided as part of Budget 2021.

Minister Harris added: "As we seek to rebuild after COVID-19, the work of researchers and scientists will be key to helping the economy recover.

"We have begun to address the shortfall in funding for research but we have much more to do."

Earlier this year, Minister Harris announced the Irish Research Council was to receive additional funding of €3.2 million per annum to support close to 1,300 early-career researchers.

The additional investment saw the IRC post-graduate stipend increased from €16,000 to €18,500 per annum and funding for its post-doctoral researchers also increased.

"I'm pleased to see this new joint programme between SFI and IRC contributing to my department's objective of fostering enhanced collaboration across our research ecosystem. This builds on previous investment into the sector including the additional funding for PhD IRC Stipends."

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.

Climate Neutral farm to be blueprint for sustainable dairy industry

30 June

Minister for Further and Higher Education, Research, Innovation and Science Simon Harris today awarded the SFI Future Innovator Prize to a project that will help a dairy farm achieve net-zero emissions by 2027.

Winner Professor Kevin O'Connor and his Farm Zero C team at University College Dublin (UCD) have been awarded €2 million to help deliver the climate-neutral farm in Cork, with plans to extend the strategy to a further 5,000 farms within five years.

As part of the SFI Future Innovator Prize Zero Emissions Challenge, Farm Zero C, in partnership with dairy producer Carbery Group, studied how planting different types of grasses and clovers on pastures and supporting hedgerows can boost biodiversity and soil health, how using renewable energy that reduces greenhouse gas emissions and how changing what we feed livestock affects how much methane gas they produce.

Farm Zero C is using Shinagh Farm near Bandon, Co. Cork, owned by the farmers of four West Cork Co-ops, as a demonstrator for this project, with the goal that Shinagh will achieve net-zero emissions by 2027. Wider deployment will be achieved through a mobile app. This will integrate farm and satellite data, habitat mapping and natural capital accounting, to provide users with information on the carbon footprint of their activities and to develop strategies to mitigate these.

Speaking today, **Minister Harris** said: "Congratulations to Professor Kevin O'Connor and the Farm Zero C team. Innovative and disruptive ideas like the Farm Zero C project will become increasingly important as we deliver against the Government's ambitious Climate Action Plan and significantly reduce our carbon emissions. My Department's support for projects like this one, that have real world impacts, really gives me not only pride, but confidence, as we strive to reduce our carbon emissions by 50% over the next decade."

Minister of State with special responsibility for Agri-Food Research and Development, the Bioeconomy, Farm Safety and New Market Development Martin Heydon added: "Congratulations to the Carbery Group and the Farm Zero C team for developing this pioneering and holistic approach to reducing greenhouse gas emissions and increasing the health and resilience of a working farm. This is the Irish bioeconomy in action safeguarding farmer's livelihoods whilst protecting our climate and environment."

Director of the SFI BiOrbic Research Centre in UCD Professor Kevin O'Connor, who collected the award on behalf of his team, said: "Agriculture is a critically important sector for Ireland socially and economically and dairy farms have huge potential to help Ireland to address two existential challenges, climate change and biodiversity loss. Farm Zero C is building a holistic plan to progressively bring farm emissions to net zero, enhance biodiversity, and integrate natural capital and digitalisation into the farm business. We have brought the very best national and international partners together to address the challenge. From the outset Carbery group and the Shinagh farm in West Cork have been incredible societal champions and we look forward to working together to roll out the findings to as many farmers as possible."

CEO Carbery Group, Jason Hawkins added: "Sustainability is one of our core business priorities at Carbery and, as a co-op, has always been intrinsic to how we operate. We work in partnership with our community to solve problems, and our relationship with BiOrbic is a good example of business and academia working together with farmers to create a sustainable future for dairy farming. With Farm Zero C, our emphasis is on the practical – the solutions we find have to be implementable on the typical Irish family farm. With this project, our partners and the support from Science Foundation Ireland, we are confident that we can achieve this aim."

Professor Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland, said: "The SFI Future Innovator Prize is part of an approach to cultivate challenge-based funding in Ireland to accelerate and validate excellent and innovative solutions to critical societal and global issues. The Farm Zero C project, led by Professor Kevin O'Connor, epitomises this ethos as it provides a solution that can enable Ireland's important dairy farming industry to become carbon neutral."

As part of the SFI Zero Emissions Challenge, a special prize of €500,000 was awarded to Dr Tony Keene and his team at LiCoRICE, University College Dublin (UCD), in recognition of the potential impact of their project to bring lithium cobalt batteries into the circular economy to decarbonise road transport. Dr David McCloskey's team at Trinity College Dublin (TCD) were also awarded a special prize of €500,000 for their SolarCool project, which is a cost-effective technology that improves efficiency of existing and future solar PV technologies.

Science Foundation Ireland sfi For what's next

CREATING OUR FUTURE

A National Conversation on Research in Ireland

Tell us your idea for what researchers in Ireland should explore to create a better future

What is it?

Creating Our Future is an opportunity for everyone in Ireland to give ideas on how to make our country better for all. From science, the environment, health and education to poverty, the arts, diversity and inclusion - all ideas are welcome that can inspire researchers to help make a better future for Ireland.

Why are we doing it?

The COVID-19 pandemic has shown the importance and value of research and innovation in our lives. As a forward-thinking country, we must ask how research can help meet the opportunities and challenges facing our society over the coming years. Creating our Future opens up this question to all. Your ideas will inspire research projects that make a positive impact on our wellbeing.

What is the process?

July 2021

Creating our Future is launched inviting people to tell us their ideas.

End of November 2021

All ideas need to be submitted before this deadline.

December 2021

Our panels of research experts review all ideas submitted and begin to prepare a report for Government.

March 2022

A report is submitted to Government with your ideas to inspire future research in Ireland.

Submit your Idea:

https://creatingourfuture.ie/submit

The SDG Challenge
SFI Future Innovator Prize 2021

DEADLINE

Open
6th October 2021, 13:00 Dublin Local Time

CONTACT

Dr Darragh O'Neill, Challenge Lead

challenges@sfi.ie

The **UN Sustainable Development Goals (SDGs)** are a call to action for all countries, in partnership, to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice.

Achieving the SDGs lies at the heart of Ireland's international development policy, *A Better World*, as well as being part of SFI's new strategy, *Shaping our Future*, to deliver tangible benefits for society. With these common goals, **Irish Aid** (Department of Foreign Affairs) are partnering with SFI to the launch the SDG Challenge.

The SDG Challenge seeks to support diverse, transdisciplinary teams to develop transformative, sustainable solutions that will contribute to addressing development challenges under the UN SDGs in countries where Irish Aid works.

Funding is available for collaborative research teams based in eligible research institutions in Ireland and partner countries. Successful teams will be awarded up to €300k and will work through a series of phases to develop their idea. An overall prize award of €1M will be available to the team that demonstrates the highest potential for transformative impact.

In this initial call, SFI and Irish Aid are seeking solutions that contribute to **SDG 3: Ensure healthy lives and promote well-being for all at all ages**, and related goals and targets. Solutions must demonstrate context-specific impact in one of the eligible partner

countries, but applicants are also encouraged to consider shared challenges where solutions may have wider impact.

Please refer to the call document for details on the Challenge Theme and Eligible Partner Countries.

What is Challenge Funding?

Challenge Theme

What are the objectives of the SDG Challenge?

Who can apply?

Phase Funding & Duration

Call documentation and how to apply?

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

SFI Strategic Partnership Programme

Supporting strategic collaborations

DEADLINE

Open: Rolling

DURATION

1-5 years

CONTACT: partnerships@sfi.ie

The Strategic Partnership Programme is a flexible mechanism for academic researchers to build strategic collaborations with key stakeholders such as industry, other funding agencies, charities, philanthropic organisations, higher education institutes (HEIs), or a combination of any of these. The scheme aims to support stand-alone research initiatives of scale with strong potential for delivering economic and societal impact to Ireland, in partnership with key stakeholders.

The Strategic Partnership Programme is one strand available to build collaborations with key partners, funding excellent science that benefits society and the economy. If your potential partnership does not appear to fit with the requirements of this programme, please contact partnerships@sfi.ie to discuss whether there may be other opportunities available.

Funding

Programme Objectives

Programme Remit

Eligibility Criteria

How to Apply

Applications for second-term funding

Downloads

Information on Industry Collaborations: https://www.sfi.ie/funding/industry-collaboration

Also See: SFI Strategic Partnership Programme

Tel: +353 (0)1 6073200

Email: info@sfi.ie

www.sfi.ie

Royal Society announces University Research Fellowships for 2021

The Royal Society has announced 37 successful University Research Fellowship (URF) candidates for 2021, three of which are being supported as a Royal Society Science Foundation Ireland (SFI) University Research Fellow The researchers will take up their new posts at institutions across the UK and Ireland from the start of October.

Dame Linda Partridge, Biological Secretary and Vice President of the Royal Society said, "The URF scheme honours high calibre early career scientists throughout the UK and Ireland. The COVID-19 pandemic has significantly impacted the research community, and so it is essential that long-term, flexible funding schemes like this are in place to continue to support the careers of researchers pursuing novel and ground-breaking research.

The scheme is central to the Society's commitment to fostering excellence in science by supporting early career researchers who are fundamental to the future of global science. It is gratifying to see the URF scheme expand this year to support the biomedical sciences, a discipline that was vital in the response to the pandemic. This will ensure we continue to support a wide breadth of science through the scheme."

The newly appointed research fellows will be working on research projects spanning the physical, mathematical, chemical and biological sciences. 17 universities across the UK and Ireland will host the University Research Fellows, with 32% of the appointments made to women. The three Royal Society-SFI University Research Fellows are:

Dr Michelle Browne, Trinity College Dublin (TCD), was funded for a project titled: 'New Catalysts for the Oxygen Evolution Reaction'. Dr Browne will design and scale-up new active and inexpensive materials for water electrolysers to allow for the large-scale implementation of this renewable energy route.

Dr Christiana Pantelidou, University College Dublin (UCD), was funded for a project titled: 'Gravitational turbulence in the era of gravitational waves'. Dr Pantelidou will investigate the key concepts and quantities involved in gravitational turbulence and model its consequences on black hole collisions in the universe, which recently became accessible experimentally. The results of this work will deepen understanding of how gravity

and thus our universe work and will also allow a more complete picture from experimental gravitational measurements.

Dr Michael Gibbons, Trinity College Dublin (TCD), was funded for a project titled: 'Loop heat pipe for waste heat recovery in data centres'. Dr Gibbons will harness data centre waste heat to produce usable energy that will reduce data centre energy requirements and carbon emissions. Data centres enable social networking, banking, and online shopping to function, but they also consume 1.1–1.5% of the world's total energy and have one of the fastest-growing carbon footprints. This project will develop innovative waste heat transportation technology by combining numerical simulation, novel material science approaches, and previously unconnected technologies.

The complete list of 2021 appointments can be found at Royal Society announces University Research Fellowships for 2021 | Royal Society.

The University Research Fellowship scheme was established to identify outstanding early career scientists who have the potential to become leaders in their fields and provide them with the opportunity to build an independent research career. After completion, many alumni are offered tenure positions, and receive national or international recognition for their work.

Applications for the URF 2022 round opened on 13 July 2021. **The Royal Society - Science Foundation Ireland University Research Fellowship 2022 call will open shortly to applicants based in Ireland and will be announced in due course with an extended deadline**. The URF scheme has expanded to include the biomedical sciences, and scientists from the biomedical sciences are encouraged to apply.

For more information visit https://royalsociety.org/grants-schemes-awards/grants/university-research/.

Tel: +353 (0)1 6073200

Email: info@sfi.ie

www.sfi.ie

SFI St. Patrick's Day Science Medal Award 2022

9 September 2021

Call for nominations now open

The **SFI St. Patrick's Day Science Medal** is awarded annually to a distinguished scientist, engineer or technology leader living and working in the USA with strong Irish connections.

Nominations must be submitted by 5pm (Dublin local time) on **Friday 5th November 2021**. More information is available here:

The Award

The **SFI St Patrick's Day Science Medal** is awarded annually to a distinguished scientist, engineer or technology leader living and working in the USA with strong Irish connections. Running since 2014, the competition was further developed in 2016 to include a specific award for an industry leader.

Both the industry and academic medals recognize individuals who are not only outstanding in their fields of expertise but who also have demonstrably assisted researchers in Ireland in either academia or industry – via mentorship, supervision, collaboration, industrial development, entrepreneurship or who have made significant contributions to developing the research ecosystem in Ireland.

Prof Mark Ferguson explains how a St Patricks Day Medal recipient is considered for the prestigious award:

See St Patrick's Day Science Medal flyer: SFI-SPD-Medal-Competition-Flyer-2022.pdf and more details at:

https://www.sfi.ie/funding/funding-calls/sfi-st-patricks-day-science/#:~:text=Nominations,Previous%20Recipients

DEADLINE

Open
5th November 2021

CONTACT

sciencemedal@sfi.ie

#BelieveInScience
Three Park Place, Hatch Street
Upper,
Dublin 2, Ireland
D02 FX65
+353 (0)1 607 3200
info@sfi.ie

SARS CoV-2 Virus Updates and Developments

Covid 19 Updates from May 1st to August 31st 2021

COVID-19 Is a Vascular Disease: Coronavirus' Spike Protein Attacks Vascular System on a Cellular Level

2 May

COVID-19 Is a Vascular Disease: Coronavirus' Spike Protein Attacks Vascular System on a Cellular Level (scitechdaily.com)

https://doi.org/10.1161/CIRCRESAHA.121.318902

New Cell Atlas of COVID Lungs Reveals Why SARS-CoV-2 Is Different and Deadly

2 May

New Cell Atlas of COVID Lungs Reveals Why SARS-CoV-2 Is Different and Deadly (scitechdaily.com)

https://doi.org/10.1038/s41586-021-03569-1

Human Organ Chips Shift Amodiaquine from Old Antimalarial to Promising COVID-19 Treatment

3 May

Human Organ Chips Shift Amodiaquine from Old Antimalarial to Promising COVID-19 Treatment (genengnews.com)

China's COVID vaccines are going global — but questions remain

4 May 2021

China's COVID vaccines are going global — but questions remain (nature.com)

4 May 2021

China's COVID vaccines are going global — but questions remain (nature.com)

https://doi.org/10.1038/d41586-021-01146-0

Tracing COVID Back to Origin: Many Variant Strains Were Already Present Before the First Known Cases Identified in China

4 May 2021

Tracing COVID Back to Origin: Many Variant Strains Were Already Present Before the First Known Cases Identified in China (scitechdaily.com)

and going back

COVID-19 Patient Zero: Data Analysis Identifies the "Mother" of All SARS-CoV-2 Genomes

November 7, 2020

COVID-19 Patient Zero: Data Analysis Identifies the "Mother" of All SARS-CoV-2 Genomes (scitechdaily.com)

https://doi.org/10.1101/2020.09.24.311845

Researchers describe possible immune escape mechanism for South African variant of novel coronavirus

5 May

Researchers describe possible immune escape mechanism for South African variant of novel coronavirus | AGÊNCIA FAPESP

Scientists set out to connect the dots on long COVID

28 April

Scientists set out to connect the dots on long COVID | Nature Methods

https://doi.org/10.1038/s41592-021-01145-z

Can scientists predict all of the ways the coronavirus will evolve?

5 May
Can scientists predict all of the ways the coronavirus will evolve? (theconversation.com)

Our Immune Systems Blanket the SARS-CoV-2 Spike Protein with Antibodies

6 May
Our Immune Systems Blanket the SARS-CoV-2 Spike Protein with Antibodies - UT News (utexas.edu)

Experimental Booster Protects Against New Coronavirus Variants, Early Trial Suggests

6 May
Experimental Booster Protects Against New Coronavirus Variants, Early Trial Suggests (sciencealert.com)

Novel Genetic Biomarker Linked to Hair Loss Can Determine COVID Severity in Men

6 May
https://scitechdaily.com/novel-genetic-biomarker-linked-to-hair-loss-can-determine-covid-severity-in-men

How Moderna Helped Launch a Vaccine Revolution

7 May
How Moderna Helped Launch a Vaccine Revolution (scitechdaily.com)

The Statistical Secrets of Covid-19 Vaccines

6 May
The Statistical Secrets of Covid-19 Vaccines | WIRED

Surfaces Can Be Designed with Antiviral Properties to Mitigate COVID-19

4 May
Surfaces Can Be Designed with Antiviral Properties to Mitigate COVID-19 - AIP Publishing LLC

Real-World Data Suggests Two Doses of Pfizer Vaccine Provides Over 95% Protection

6 May
Real-World Data Suggests Two Doses of Pfizer Vaccine Provides Over 95% Protection | Technology Networks
https://doi.org/10.1016/S0140-6736(21)00947-8 and
Pfizer COVID vaccine protects against worrying coronavirus variants (nature.com)
6 May
https://doi.org/10.1038/d41586-021-01222-5

Protein “Signature” of Severe COVID-19 Cases Identified

7 May
Protein “Signature” of Severe COVID-19 Cases Identified | Technology Networks
https://www.cell.com/cell-reports-medicine/fulltext/S2666-3791(21)00115-4

Novavax Vaccine Trial Indicates 100% Protection Against Severe COVID-19 Due to South African Variant

6 May
Novavax Vaccine Trial Indicates 100% Protection Against Severe COVID-19 Due to South African Variant (scitechdaily.com)
https://www.nejm.org/doi/10.1056/NEJMoa2103055

We reviewed three at-home Covid tests. The results were mixed.

4 May
We reviewed three at-home covid-19 tests. Here's what happened | MIT Technology Review

Meet three moderators fighting disinformation on Reddit's largest coronavirus forum

4 May
Meet three Reddit moderators fighting disinformation on r/Coronavirus | Science News

How to detect, resist and counter the flood of fake news

6 May
How scientists are fighting fake news and misinformation | Science News

Germany opens up AstraZeneca vaccines for all adults

6 May
Coronavirus: Germany opens up AstraZeneca COVID vaccines for all adults | News | DW | 06.05.2021

Speeding Up COVID Research: Worldwide Network Develops SARS-CoV-2 Protocols for Research Laboratories

9 May
Speeding Up COVID Research: Worldwide Network Develops SARS-CoV-2 Protocols for Research Laboratories (scitechdaily.com)

Coronapod: Waiving vaccine patents and coronavirus genome data disputes

7 May
Coronapod: Waiving vaccine patents and coronavirus genome data disputes (nature.com)
https://doi.org/10.1038/d41586-021-01239-w
Includes "Overcoming Vaccine Development Challenges"

Mounting evidence suggests COVID vaccines do reduce transmission. How does this work?

10 May
Mounting evidence suggests COVID vaccines do reduce transmission. How does this work? (theconversation.com)

'A false reassurance': Health officials caution against widespread use of rapid antigen tests

11 May 2021
'A false reassurance': Health officials caution against widespread use of rapid antigen tests (thejournal.ie)

SARS-CoV-2 Genome Study Uncovers Full Set of Protein-Coding Genes

11 May
SARS-CoV-2 Genome Study Uncovers Full Set of Protein-Coding Genes (genengnews.com) and
SARS-CoV-2 gene content and COVID-19 mutation impact by comparing 44 Sarbecovirus genomes | Nature Communications
https://doi.org/10.1038/s41467-021-22905-7

Overcoming Vaccine Development Challenges

2 May
Overcoming Vaccine Development Challenges (biopharminternational.com)

The "Key" to COVID-19 Vaccine Development Lies in the Way the Virus Binds to Human Cells

10 May

The “Key” to COVID-19 Vaccine Development Lies in the Way the Virus Binds to Human Cells | Technology Networks
https://www.frontiersin.org/articles/10.3389/fimmu.2021.647934/full

SARS-CoV-2 spike protein induces inflammation via TLR2-dependent activation of the NF-κB pathway
17 March
https://www.biorxiv.org/content/10.1101/2021.03.16.435700v1
doi: https://doi.org/10.1101/2021.03.16.435700

EU: A common list of COVID-19 rapid antigen tests, including those of which their test results are mutually recognised, and a common standardised set of data to be included in COVID-19 test result certificates
10 May 2021
https://ec.europa.eu/health/sites/default/files/ _response/docs/covid-19_rat_common-list_en.pdf

Study maps immune system genes involved in resistance to SARS-CoV-2
12 May
Study maps immune system genes involved in resistance to SARS-CoV-2 | AGÊNCIA FAPESP
https://www.medrxiv.org/content/10.1101/2021.04.21.21255872v1

Strongest Evidence Yet Shows SARS-CoV-2 May Insert Itself Into The Human Genome
12 May
Strongest Evidence Yet Shows SARS-CoV-2 May Insert Itself Into The Human Genome (sciencealert.com) and
Reverse-transcribed SARS-CoV-2 RNA can integrate into the genome of cultured human cells and can be expressed in patient-derived tissues
Reverse-transcribed SARS-CoV-2 RNA can integrate into the genome of cultured human cells and can be expressed in patient-derived tissues | PNAS
https://doi.org/10.1073/pnas.2105968118

Rapid health technology assessment (HTA) of alternatives to laboratory based real-time RT-PCR to diagnose current infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
7 October 2020
https://www.hiqa.ie/sites/default/files/2020-10/Rapid-HTA-of-alternative-diagnostic-tests.pdf

What's the Best Type of Covid-19 Test for Travel: PCR, Antibody, or Antigen?
No date
https://www.frommers.com/tips/health-and-travel-insurance/whats-the-best-type-of-covid-19-test-for-travel-pcr-antibody-or-antigen

https://www.frommers.com/tips/health-and-travel-insurance/whats-the-best-type-of-covid-19-test-for-travel-pcr-antibody-or-antigen
24 March 2021
https://www.cochrane.org/news/featured-review-rapid-point-care-antigen-and-molecular-based-tests-diagnosis-sars-cov-2 and full report
https://doi.org/10.1002/14651858.CD013705.pub2
24 March 2021

How accurate are rapid tests for diagnosing COVID-19?

24 March
https://www.cochrane.org/CD013705/INFECTN_how-accurate-are-rapid-tests-diagnosing-covid-19

Covid-19: Lateral flow tests are better at identifying people with symptoms, finds Cochrane review

25 March 2021
https://www.bmj.com/content/372/bmj.n823
https://doi.org/10.1136/bmj.n823

Comparison of seven commercial SARS-CoV-2 rapid point-of-care antigen tests: a single-centre laboratory evaluation study

7 April 2021
https://www.thelancet.com/journals/lanmic/article/PIIS2666-5247(21)00056-2/fulltext
https://doi.org/10.1016/S2666-5247(21)00056-2

Mixing COVID-19 Vaccines Increases Side Effects, Preliminary Data Suggests

12 May
Mixing COVID-19 Vaccines Increases Side Effects, Preliminary Data Suggests | Technology Networks
https://doi.org/10.1016/S0140-6736(21)01115-6

SSPC, NIBRT lead conference on the future of pharmaceutical manufacturing

13 May
SSPC, NIBRT lead conference on the future of pharmaceutical manufacturing - TechCentral.ie

Eminent MIT Scientists Defend Controversial SARS-CoV-2 Genome Integration Results

13 May
Eminent MIT Scientists Defend Controversial SARS-CoV-2 Genome Integration Results (genengnews.com)

Accidental Release From a Lab or Zoonotic Spillover? Scientists Call for Investigation Into the Origins of COVID-19

13 May
Accidental Release From a Lab or Zoonotic Spillover? Scientists Call for Investigation Into the Origins of COVID-19 (scitechdaily.com)
https://science.sciencemag.org/lookup/doi/10.1126/science.abj0016

New Research Shows COVID-19 Alters Gray Matter Volume in the Brain

12 May
New Research Shows COVID-19 Alters Gray Matter Volume in the Brain (scitechdaily.com)
https://doi.org/10.1016/j.ynstr.2021.100326

Supercomputer Simulations Reveal How Dominant COVID-19 Strain Binds to Host, Succumbs to Antibodies

13 May
Supercomputer Simulations Reveal How Dominant COVID-19 Strain Binds to Host, Succumbs to Antibodies (scitechdaily.com)
https://advances.sciencemag.org/content/7/16/eabf3671

Researchers Identify Genes Associated With Significant Increase in COVID-19 Risk

14 May
Researchers Identify Genes Associated With Significant Increase in COVID-19 Risk (scitechdaily.com)

Delaying a COVID vaccine's second dose boosts immune response

13 May

Delaying a COVID vaccine's second dose boosts immune response (nature.com)
https://doi.org/10.1038/d41586-021-01299-y

This chain reaction could explain rare blood clots linked to some COVID-19 vaccines

14 May

This chain reaction could explain rare blood clots linked to some COVID-19 vaccines | Live Science

Hormone Drugs May Disarm Coronavirus Spike Protein and Stop COVID-19 Disease Progression

14 May

Hormone Drugs May Disarm Coronavirus Spike Protein and Stop COVID-19 Disease Progression (scitechdaily.com)
https://doi.org/10.1016/j.isci.2021.102254

Antibody Binding-Site Conserved Across COVID-19 Virus Variants – Big Implications for Future Vaccines

16 May

Antibody Binding-Site Conserved Across COVID-19 Virus Variants – Big Implications for Future Vaccines (scitechdaily.com)
https://doi.org/10.1039/D1NR00388G

Rapid COVID-19 Testing From a Suitcase

15 May

Rapid COVID-19 Testing From a Suitcase (scitechdaily.com)
https://doi.org/10.1021/acs.analchem.0c04779

The 60-Year-Old Scientific Screwup That Helped Covid Kill

13 May

The 60-Year-Old Scientific Screwup That Helped Covid Kill | WIRED

Most of this article missing but see:

COVID-19 rarely spreads through surfaces. So why are we still deep cleaning?

29 January

COVID-19 rarely spreads through surfaces. So why are we still deep cleaning? (nature.com)
https://doi.org/10.1038/d41586-021-00251-4

COVID vaccines: some fully vaccinated people will still get infected – here's why

17 May

COVID vaccines: some fully vaccinated people will still get infected – here's why (theconversation.com)

Can scientists predict all of the ways the coronavirus will evolve?

5 May

Can scientists predict all of the ways the coronavirus will evolve? (theconversation.com)

Sanofi and GSK Report Strong Immune Response with COVID-19 Vaccine Candidate

18 May

Sanofi and GSK Report Strong Immune Response with COVID-19 Vaccine Candidate (pharmtech.com)

COVID vaccines can block variant hitting Asia, lab study finds

17 May
COVID vaccines can block variant hitting Asia, lab study finds (nature.com)
https://doi.org/10.1038/d41586-021-01329-9

Superfast, Portable COVID-19 Testing Method Gives Results Within One Second

18 May
Superfast, Portable COVID-19 Testing Method Gives Results Within One Second (scitechdaily.com)

New COVID-19 Saliva Test Invented: Portable, Affordable, Accurate, and Fast

18 May
New COVID-19 Saliva Test Invented: Portable, Affordable, Accurate, and Fast (scitechdaily.com)
DOI: 10.1038/s41467-021-23185-x

UK vaccine booster Q&A: what will be given and when, explained by public health expert

18 May
UK vaccine booster Q&A: what will be given and when, explained by public health expert (theconversation.com)

Catalent Acquires Additional Facility at its Gosselies, Belgium Campus for Commercial-Scale Plasmid DNA Manufacturing

6 May
Catalent Acquires Additional Facility at its Gosselies, Belgium Campus for Commercial-Scale Plasmid DNA Manufacturing

Scientists Find New Way of Predicting COVID-19 Vaccine Efficacy

17 May
Scientists find new way of predicting COVID-19 vaccine efficacy | Kirby Institute (unsw.edu.au)

Coronavirus Mutations Could Muddle COVID-19 PCR Tests

17 May
Coronavirus Mutations Could Muddle COVID-19 PCR Tests | The Scientist Magazine® (the-scientist.com)
doi:10.1128/JCM.00075-21, 2021.

SARS-CoV-2 Gets a STING From Diaminobenzimidazoles

19 May
SARS-CoV-2 Gets a STING From Diaminobenzimidazoles (genengnews.com)
https://doi.org/10.1038/s41893-021-00727-1

COVID is surging in the world's most vaccinated country. Why?

19 May
COVID is surging in the world's most vaccinated country. Why? (theconversation.com)

The Case for Rolling Out Widespread Antigen Testing | Newstalk

19 May
https://www.newstalk.com/podcasts/highlights-from-the-pat-kenny-show/the-case-for-rolling-out-widespread-antigen-testing

Cleaning indoor air may prevent COVID-19's spread. But it's harder than it looks

18 May
Cleaning indoor air may prevent COVID-19's spread. But it's harder than it looks | Science News

Environmental sequencing for COVID-19: an introduction

19 May
Environmental sequencing for COVID-19: an introduction - BioTechniques

SARS-CoV-2 May May Not Insert Genetic Material Into Human DNA

20 May
SARS-CoV-2 May May Not Insert Genetic Material Into Human DNA | Technology Networks
https://jvi.asm.org/content/early/2021/05/07/JVI.00294-21

SARS-CoV-2: Experimental Antiviral Therapy Could Reduce Viral Load by 99.9% 20 May 2021

SARS-CoV-2: Experimental Antiviral Therapy Could Reduce Viral Load by 99.9% | Technology Networks
https://doi.org/10.1016/j.ymthe.2021.05.004

Mix-and-match COVID vaccines trigger potent immune response

19 May
Mix-and-match COVID vaccines trigger potent immune response (nature.com)
https://doi.org/10.1038/d41586-021-01359-3

New Research Shows Alarming Risk of COVID-19 From Aerosols to Healthcare Workers

20 May
New Research Shows Alarming Risk of COVID-19 From Aerosols to Healthcare Workers (scitechdaily.com)
https://doi.org/10.1111/anae.15475

Scientists zero in on long-sought marker of COVID-vaccine efficacy

21 May
Scientists zero in on long-sought marker of COVID-vaccine efficacy (nature.com)
https://doi.org/10.1038/d41586-021-01372-6

COVID-19 testing turns to T cells

12 May
COVID-19 testing turns to T cells | Nature Biotechnology
https://doi.org/10.1038/s41587-021-00920-9

Dogs Can Detect Over 90% of COVID-19 Cases, Even Asymptomatic Ones

24 May 2021
Dogs Can Detect Over 90% of COVID-19 Cases, Even Asymptomatic Ones (sciencealert.com)

'It's a minefield': COVID vaccine safety poses unique communication challenge

21 May
'It's a minefield': COVID vaccine safety poses unique communication challenge (nature.com)
https://doi.org/10.1038/d41586-021-01257-8

Vaccines highly effective against B.1.617.2 variant after 2 doses

22 May
Vaccines highly effective against B.1.617.2 variant after 2 doses - GOV.UK (www.gov.uk)

Coronavirus: so many variants, but vaccines are still effective

24 May
Coronavirus: so many variants, but vaccines are still effective (theconversation.com)

What scientists know about new, fast-spreading coronavirus variants

24 May
What scientists know about new, fast-spreading coronavirus variants (nature.com)
https://doi.org/10.1038/d41586-021-01390-4

Only Have Your First Vaccine Dose So Far? Here's The Data on How Protected You Are

25 May
Only Have Your First Vaccine Dose So Far? Here's The Data on How Protected You Are (sciencealert.com)

Harnessing Next Generation Sequencing to Detect SARS-CoV-2 …and Prepare for the Next Pandemic

25 May 2021
Harnessing Next Generation Sequencing to Detect SARS-CoV-2 …and Prepare for the Next Pandemic (scitechdaily.com)
https://doi.org/10.1038/s41467-021-22664-5

National Survey of Frontline Health Care Workers During COVID-19 Pandemic Finds Fear, Unsafe Working Conditions

25 May
National Survey of Frontline Health Care Workers During COVID-19 Pandemic Finds Fear, Unsafe Working Conditions (scitechdaily.com)

Prof. Luke O'Neill Discusses The Indian Variant And Antibodies After One Jab | Newstalk

24 May
Prof. Luke O'Neill Discusses The Indian Variant And Antibodies After One Jab | Newstalk

COVID-19 test results: what you need to know to understand them

25 May
COVID-19 test results: what you need to know to understand them (theconversation.com) and

False-negative results of initial RT-PCR assays for COVID-19: A systematic review

10 December 2020
False-negative results of initial RT-PCR assays for COVID-19: A systematic review (nih.gov)
https://dx.doi.org/10.1371%2Fjournal.pone.0242958

Can people vaccinated against COVID-19 still spread the coronavirus?

25 May
Can people vaccinated against COVID-19 still spread the coronavirus? (theconversation.com)

New Clues on Why More Men Than Women Develop Severe COVID-19

26 May
New Clues on Why More Men Than Women Develop Severe COVID-19 | Technology Networks
https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2780135?resultClick=3

Large Study of SARS-CoV-2 Viral Loads Yields Insights into Infectiousness

26 May
Large Study of SARS-CoV-2 Viral Loads Yields Insights into Infectiousness (genengnews.com) and

Estimating infectiousness throughout SARS-CoV-2 infection course

25 May
Estimating infectiousness throughout SARS-CoV-2 infection course | Science (sciencemag.org)
DOI: 10.1126/science.abi5273

Real-World Flight Data Shows Continued Need for Social Distancing, Despite COVID-19 Vaccination Programs

26 May
Real-World Flight Data Shows Continued Need for Social Distancing, Despite COVID-19 Vaccination Programs (scitechdaily.com)
https://doi.org/10.1038/s41598-021-90539-2

"Super Carriers" – 2% of People Carry 90% of COVID-19 Virus

25 May
"Super Carriers" – 2% of People Carry 90% of COVID-19 Virus (scitechdaily.com)

B16172 variant: the UK needs to brace for more cases, despite vaccine effectiveness

26 May
B16172 variant: the UK needs to brace for more cases, despite vaccine effectiveness (theconversation.com)

COVID-19 Vaccine Storage and Stability

25 May
COVID-19 Vaccine Storage and Stability | Technology Networks

A New Way of Predicting COVID-19 Vaccine Efficacy

19 May
A New Way of Predicting COVID-19 Vaccine Efficacy | Technology Networks
https://www.nature.com/articles/s41591-021-01377-8.

A Comprehensive Portrait of SARS-CoV-2 Variant

27 May
A Comprehensive Portrait of SARS-CoV-2 Variant | Technology Networks

New COVID-19 Rapid Test Kit Developed

24 May
New COVID-19 Rapid Test Kit Developed | Technology Networks

The Antibody Test That Quantifies COVID-19 Vaccine Protection

25 May
The Antibody Test That Quantifies COVID-19 Vaccine Protection | Technology Networks

Had COVID? You'll probably make antibodies for a lifetime

27 May
Had COVID? You'll probably make antibodies for a lifetime (nature.com)
https://doi.org/10.1038/d41586-021-01442-9

DNA Vaccines for COVID-19 Shown Effective in Hamsters – Quicker Production and Lower Cost Than mRNA Vaccines

27 May
DNA Vaccines for COVID-19 Shown Effective in Hamsters – Quicker Production and Lower Cost Than mRNA Vaccines (scitechdaily.com)
DOI: 10.1371/journal.pntd.0009374

Mix-and-match COVID vaccines trigger potent immune response

19 May
https://www.nature.com/articles/d41586-021-01359-3
https://doi.org/10.1038/d41586-021-01359-3 and

Double-dipping? Mix and match? What future may hold for COVID-19 vaccinations.
24 May
Double-dipping? Mix and match? What future may hold for COVID-19 vaccinations | The Seattle Times

Is it safe to 'mix and match' Covid-19 vaccines? Here's what early research shows.
19 May
Is it safe to 'mix and match' Covid-19 vaccines? Here's what early research shows. (advisory.com)

New Biosensor Technology Makes Coronavirus Testing Quick and Easy
28 May
New Biosensor Technology Makes Coronavirus Testing Quick and Easy (scitechdaily.com)
https://doi.org/10.1038/s41551-021-00734-9

Faster Air Exchange in Buildings Is Not Always Beneficial for Coronavirus Levels
27 May
Faster Air Exchange in Buildings Is Not Always Beneficial for Coronavirus Levels (scitechdaily.com)
https://doi.org/10.1016/j.buildenv.2021.107633

Inhalable Nanobody (PiN-21) prevents and treats SARS-CoV-2 infections in Syrian hamsters at ultra-low doses
26 May
Inhalable Nanobody (PiN-21) prevents and treats SARS-CoV-2 infections in Syrian hamsters at ultra-low doses | Science Advances (sciencemag.org)
DOI: 10.1126/sciadv.abh0319

COVID Long Haulers' Brain Fog Similar to Chronic Fatigue Syndrome's Cognitive Symptoms
29 May
COVID Long Haulers' Brain Fog Similar to Chronic Fatigue Syndrome's Cognitive Symptoms (sciencealert.com)

Penn Researchers Discover Drug that Blocks Multiple SARS-CoV-2 Variants in Mice
28 May
Penn Researchers Discover Drug that Blocks Multiple SARS-CoV-2 Variants in Mice - Penn Medicine

Here’s what we know about the risks of serious side effects from COVID-19 vaccines
1 June
How risky are side effects from COVD-19 vaccines? Not very | Science News

We Finally Have a Simple System For Naming All The Concerning COVID-19 Variants
1 June
We Finally Have a Simple System For Naming All The Concerning COVID-19 Variants (sciencealert.com) and

Tracking SARS-CoV-2 variants
Tracking SARS-CoV-2 variants (who.int)

Second dose of AstraZeneca COVID-19 vaccine: FAQs about blood clots, safety, risks and symptoms
31 May
Second dose of AstraZeneca COVID-19 vaccine: FAQs about blood clots, safety, risks and symptoms (theconversation.com)

Stop Using Lepu Medical Technology SARS-CoV-2 Antigen and Leccurate Antibody Tests: FDA Safety Communication

28 May

Stop Using Lepu Medical Technology SARS-CoV-2 Antigen and Leccurate Antibody Tests: FDA Safety Communication | FDA

Vaccines highly effective against B.1.617.2 variant after 2 doses

22 May

https://www.gov.uk/government/news/vaccines-highly-effective-against-b-1-617-2-variant-after-2-doses and

Covid-19: Single vaccine dose is 33% effective against variant from India, data show

25 May

https://www.bmj.com/content/373/bmj.n1346

https://doi.org/10.1136/bmj.n1346 and

expert reaction to preprint from PHE on vaccine effectiveness against the B.1.617.2 'Indian' variant

23 May

https://www.sciencemediacentre.org/expert-reaction-to-preprint-from-phe-on-vaccine-effectiveness-against-the-b-1-617-2-indian-variant

The Preprint: Effectiveness of COVID-19 vaccines against the B.1.617.2 variant

https://khub.net/documents/135939561/430986542/Effectiveness+of+COVID-19+vaccines+against+the+B.1.617.2+variant.pdf/204c11a4-e02e-11f2-db19-b3664107ac42

Contrary to Earlier Research, Vitamin D May Not Protect Against COVID-19

1 June

Contrary to Earlier Research, Vitamin D May Not Protect Against COVID-19 (scitechdaily.com)

DOI: 10.1371/journal.pmed.1003605

COVID-19 Vaccine Booster Shot Trials Kicked Off by NIH

2 June

COVID-19 Vaccine Booster Shot Trials Kicked Off by NIH (genengnews.com)

Extensive Study Identifies Over a Dozen Existing Drugs As Potential Treatments for COVID-19

3 June

Extensive Study Identifies Over a Dozen Existing Drugs As Potential Treatments for COVID-19 (scitechdaily.com)

DOI: 10.1038/s41467-021-23328-0

COVID-19 Antiviral Candidate Hobbles RNA Replicase

3 June

COVID-19 Antiviral Candidate Hobbles RNA Replicase (genengnews.com)

China's Stemirna raises funds for variant-fighting vaccine

3 June

China's Stemirna raises about $200 mln to fund COVID-19 vaccine development | Reuters

Genetic Link Discovered Explaining Why Some People Who Catch COVID-19 Don't Become Sick

4 June

Genetic Link Discovered Explaining Why Some People Who Catch COVID-19 Don't Become Sick (scitechdaily.com)

https://doi.org/10.1111/tan.14284

WHO approval of Chinese CoronaVac COVID vaccine will be crucial to curbing pandemic

4 June

WHO approval of Chinese CoronaVac COVID vaccine will be crucial to curbing pandemic (nature.com)
https://doi.org/10.1038/d41586-021-01497-8

'The perfect storm': lax social distancing fuelled a coronavirus variant's Brazilian surge

3 June

'The perfect storm': lax social distancing fuelled a coronavirus variant's Brazilian surge (nature.com)
https://doi.org/10.1038/d41586-021-01480-3

Antibody-laden nasal spray could provide COVID protection — and treatment

4 June

Antibody-laden nasal spray could provide COVID protection — and treatment (nature.com)
https://doi.org/10.1038/d41586-021-01481-2

Analysis: Irish medical experts split down the middle over use of antigen testing

4 June

Analysis: Irish medical experts split down the middle over use of antigen testing (irishtimes.com)

Low Testosterone Means High Risk of Severe COVID-19 for Men

5 June

Low Testosterone Means High Risk of Severe COVID-19 for Men (scitechdaily.com)
https://doi.org/10.1001/jamanetworkopen.2021.11398

In the Blood: Antibodies Identified That Best Neutralize the Coronavirus in COVID-19 Patients

5 June

In the Blood: Antibodies Identified That Best Neutralize the Coronavirus in COVID-19 Patients (scitechdaily.com)
https://doi.org/10.4049/jimmunol.2001369

Here's what we know about the risks of serious side effects from COVID-19 vaccines

1 June

How risky are side effects from COVD-19 vaccines? Not very | Science News

Pfizer-BioNTech COVID Vaccine Recipients Have Lower Antibody Levels Targeting the India (Delta / B.1.617.2) Variant

5 June

Pfizer-BioNTech COVID Vaccine Recipients Have Lower Antibody Levels Targeting the India (Delta / B.1.617.2) Variant (scitechdaily.com)
https://doi.org/10.1016/S0140-6736(21)01290-3

New Discovery Helps Explain How COVID-19 Overpowers the Immune System

6 June

New Discovery Helps Explain How COVID-19 Overpowers the Immune System (scitechdaily.com)
https://doi.org/10.1038/s41598-020-79552-z

There's a Mystery Affecting Up to 30% of COVID Patients. Here's What We Know So Far

7 June

There's a Mystery Affecting Up to 30% of COVID Patients. Here's What We Know So Far (sciencealert.com)

Six months of COVID vaccines: what 1.7 billion doses have taught scientists

4 June

Six months of COVID vaccines: what 1.7 billion doses have taught scientists (nature.com)
https://doi.org/10.1038/d41586-021-01505-x

COVID-19: Gene Found Three Times As Often in People Who Are Asymptomatic

7 June

COVID-19: Gene Found Three Times As Often in People Who Are Asymptomatic | Technology Networks
https://onlinelibrary.wiley.com/doi/full/10.1111/tan.14284

Is the COVID-19 vaccine causing rare myocarditis cases?

5 June

Is the COVID-19 vaccine causing rare myocarditis cases? | Live Science

AGC Biologics to Supply More Plasmid DNA for Pfizer-BioNTech COVID-19 Vaccine

8 June

AGC Biologics to Supply More Plasmid DNA for Pfizer-BioNTech COVID-19 Vaccine (pharmtech.com)

COVID Vaccine Linked to Low Blood Platelet Count – Idiopathic Thrombocytopenic Purpura

9 June

COVID Vaccine Linked to Low Blood Platelet Count – Idiopathic Thrombocytopenic Purpura (scitechdaily.com)
https://doi.org/10.1038/s41591-021-01408-4

Why big pharma had a responsibility to profit from the pandemic

9 June

Why big pharma had a responsibility to profit from the pandemic (theconversation.com)

Holohan's views on antigen tests 'inaccurate', Harvard professor says

9 June

Holohan's views on antigen tests 'inaccurate', Harvard professor says (irishtimes.com)

Six months of COVID vaccines: what 1.7 billion doses have taught scientists

4 June

Six months of COVID vaccines: what 1.7 billion doses have taught scientists (nature.com)
https://doi.org/10.1038/d41586-021-01505-x

The COVID vaccine pioneer behind southeast Asia's first mRNA shot

26 May

The COVID vaccine pioneer behind southeast Asia's first mRNA shot (nature.com)
https://doi.org/10.1038/d41586-021-01426-9

WHO approval of Chinese CoronaVac COVID vaccine will be crucial to curbing pandemic

4 June

WHO approval of Chinese CoronaVac COVID vaccine will be crucial to curbing pandemic (nature.com)
https://doi.org/10.1038/d41586-021-01497-8

J&J's COVID-19 Vaccine Found to be Effective Against Variants of Concern

10 June
J&J's COVID-19 Vaccine Found to be Effective Against Variants of Concern (genengnews.com)

Janssen COVID-19 Vaccine Generates Immune Response Against Variants

10 June
Janssen COVID-19 Vaccine Generates Immune Response Against Variants | Technology Networks
https://doi.org/10.1038/s41586-021-03681-2

APC investing €25m to develop Covid vaccines Female scientific researcher

Expanded Cherrywood manufacturing facility to create 120 jobs
10 June
APC investing €25m to develop Covid vaccines - TechCentral.ie

Coronavirus Mutations Could Muddle COVID-19 PCR Tests

17 May
Coronavirus Mutations Could Muddle COVID-19 PCR Tests | The Scientist Magazine® (the-scientist.com)

Coronavirus variants can evade antibodies by spreading via super-cells – new research

10 June
Coronavirus variants can evade antibodies by spreading via super-cells – new research (theconversation.com)

Examining Risk–Benefit Profiles for Vaccines

9 June
Examining Risk–Benefit Profiles for Vaccines | Technology Networks
doi: 10.1021/acscentsci.0c00644

SARS-CoV-2 Protease Cuts Human Proteins

10 June
SARS-CoV-2 Protease Cuts Human Proteins | Technology Networks
https://doi.org/10.1021/acsinfecdis.0c00866

New discovery could help take down drug-resistant bacteria

10 June
New discovery could help take down drug-resistant bacteria | Live Science

COVID nails: these changes to your fingernails may show you've had coronavirus

7 June
COVID nails: these changes to your fingernails may show you've had coronavirus (theconversation.com)

Scientists Uncover New Details of SARS-CoV-2 Coronavirus Interactions with Human Cells

10 June
Scientists Uncover New Details of SARS-CoV-2 Coronavirus Interactions with Human Cells (scitechdaily.com)

Here's what you should know about COVID-19 vaccine booster shots

11 June
Here's what you should know about COVID-19 vaccine booster shots | Science News

COVID: did a delayed second dose give the delta variant an evolutionary helping hand?

11 June
COVID: did a delayed second dose give the delta variant an evolutionary helping hand? (theconversation.com)

Top EMA official suggests ditching AstraZeneca Covid-19 vaccine where others are available

13 June
https://www.scmp.com/news/world/europe/article/3137150/top-ema-official-suggests-ditching-astrazeneca-covid-19-vaccine

How well do first and second vaccine doses work against Covid-19?

14 June (Question and Answer format)
https://www.gavi.org/vaccineswork/how-well-do-first-and-second-vaccine-doses-work-against-covid-19

Spanish study finds AstraZeneca vaccine followed by Pfizer dose is safe and effective

18 May
https://www.reuters.com/business/healthcare-pharmaceuticals/spanish-study-finds-astrazeneca-vaccine-followed-by-pfizer-dose-is-safe-2021-05-18
and also see

Mix-and-match COVID vaccines trigger potent immune response

19 May
https://www.nature.com/articles/d41586-021-01359-3
https://doi.org/10.1038/d41586-021-01359-3
and

Covid-19: Vaccine brands can be mixed in “extremely rare occasions,” says Public Health England

4 January
https://www.bmj.com/content/372/bmj.n12
https://doi.org/10.1136/bmj.n12
but

Evidence mounts in favour of mixing Covid vaccines

31 May
https://www.irishexaminer.com/news/arid-40302455.html
and

Mixing COVID-19 vaccines appears to boost immune responses

9 June
https://www.sciencemag.org/news/2021/06/mixing-covid-19-vaccines-appears-boost-immune-responses
1 June
https://www.nih.gov/news-events/news-releases/nih-clinical-trial-evaluating-mixed-covid-19-vaccine-schedules-begins
and

Want To Mix 2 Different COVID-19 Vaccines? Canada Is Fine With That

4 June
https://www.npr.org/sections/coronavirus-live-updates/2021/06/04/1002975563/want-to-mix-2-different-covid-19-vaccines-canada-is-fine-with-that
and

Is it safe to 'mix and match' Covid-19 vaccines? Here's what early research shows.

19 May
https://www.advisory.com/en/daily-briefing/2021/05/19/mixing-vaccines

COVID vaccines grow on leaves

15 June
https://rdcu.be/cmx1F

https://doi.org/10.1038/s41587-021-00961-0

Structural basis for broad coronavirus neutralization

12 May

Structural basis for broad coronavirus neutralization | Nature Structural & Molecular Biology
https://doi.org/10.1038/s41594-021-00596-4

Pfizer's COVID-19 Vaccine Protects Against SARS-CoV-2 Variants

14 June

Pfizer's COVID-19 Vaccine Protects Against SARS-CoV-2 Variants (genengnews.com)

Novavax Reports on Two Vaccine Efficacy Studies

15 June

Novavax Reports on Two Vaccine Efficacy Studies (biopharminternational.com)

Many COVID-19 Patients Produce Immune Responses Attacking Their Body's Own Tissues and Organs

13 July 2020

Many COVID-19 Patients Produce Immune Responses Attacking Their Body's Own Tissues and Organs (scitechdaily.com)
https://doi.org/10.1111/cei.13623

New COVID-19 "Mexican Variant" Identified: Increasingly Spreading Across North America

13 July

New COVID-19 "Mexican Variant" Identified: Increasingly Spreading Across North America (scitechdaily.com)
https://doi.org/10.1002/jmv.27062

Why Do We Continue to See COVID-19 Outbreaks in Fully Vaccinated Care Homes?

June 14

Why Do We Continue to See COVID-19 Outbreaks in Fully Vaccinated Care Homes? (scitechdaily.com)
https://wwwnc.cdc.gov/eid/article/27/8/21-0887_article and
https://wwwnc.cdc.gov/eid/article/27/8/21-1145_article

Powerful new COVID-19 vaccine shows 90% efficacy, could boost world's supply

14 June

Powerful new COVID-19 vaccine shows 90% efficacy, could boost world's supply | Science | AAAS (sciencemag.org)
And
Novavax COVID-19 Vaccine Demonstrates 90% Overall Efficacy and 100% Protection Against Moderate and Severe Disease in PREVENT-19 Phase 3 Trial | Novavax Inc. - IR Site

A white-knuckle ride of open COVID drug discovery

14 June

A white-knuckle ride of open COVID drug discovery (nature.com)
https://doi.org/10.1038/d41586-021-01571-1

The sprint to solve coronavirus protein structures — and disarm them with drugs

19 May

The sprint to solve coronavirus protein structures — and disarm them with drugs (nature.com)
https://doi.org/10.1038/d41586-020-01444-z

Here's what you should know about COVID-19 vaccine booster shots

11 June
Here's what you should know about COVID-19 vaccine booster shots | Science News

"Game-Changing" COVID-19 Antibody Tests Developed
16 June
"Game-Changing" COVID-19 Antibody Tests Developed | Technology Networks

Spike Protein Deletions Linked to COVID-19 Surges: Preprint
15 June
Spike Protein Deletions Linked to COVID-19 Surges: Preprint | The Scientist Magazine® (the-scientist.com)

Blood Samples Reveal SARS-CoV-2 Infections in the U.S. in Late 2019
16 June
Blood Samples Reveal SARS-CoV-2 Infections in the U.S. in Late 2019 (genengnews.com)

"Wonder Material" Can Be Used to Detect COVID-19 Virus Quickly and Accurately
16 June
"Wonder Material" Can Be Used to Detect COVID-19 Virus Quickly and Accurately (scitechdaily.com)
https://doi.org/10.1021/acsnano.1c02549

Rapid antigen tests open to manipulation, immunologist warns
16 June
Rapid antigen tests open to manipulation, immunologist warns (irishtimes.com)

Novavax COVID-19 Vaccine Demonstrates an Overall Efficacy of 90.4%
16 June
Novavax COVID-19 Vaccine Demonstrates an Overall Efficacy of 90.4% | Technology Networks

New COVID-19 Vaccines May Reach Out to T Cells, Not Just B Cells
16 June
New COVID-19 Vaccines May Reach Out to T Cells, Not Just B Cells (genengnews.com)

Recipe Revealed for Even More Powerful COVID-19 Vaccines – Better Protection Against Coronavirus Variants
17 June
Recipe Revealed for Even More Powerful COVID-19 Vaccines – Better Protection Against Coronavirus Variants (scitechdaily.com)
https://doi.org/10.1016/j.cell.2021.05.046

80% of Delta variant cases found in Dublin - Dublin's FM104
18 June
80% of Delta variant cases found in Dublin - Dublin's FM104

Rapid antigen tests open to manipulation, immunologist warns
16 June
Rapid antigen tests open to manipulation, immunologist warns (irishtimes.com)

New Evidence Shows COVID-19 Was in US Weeks Before Thought
17 June
New Evidence Shows COVID-19 Was in US Weeks Before Thought | The Scientist Magazine® (the-scientist.com)

EMA updates COVID-19 vaccine risk management plans to reflect variant safety
17 June

EMA updates COVID-19 vaccine risk management plans to reflect variant safety | RAPS

Everything We Know So Far About The COVID-19 Delta Variant
19 June
Everything We Know So Far About The COVID-19 Delta Variant (sciencealert.com)

Scientists Discover a Novel Defense Mechanism Against the COVID-19 Coronavirus
19 June
Scientists Discover a Novel Defense Mechanism Against the COVID-19 Coronavirus (scitechdaily.com)

Potential Causes of Increased Transmission in COVID-19 Variants
20 June
Potential Causes of Increased Transmission in COVID-19 Variants (scitechdaily.com)

Covid-19 news: 99% of UK cases thought to be due to delta variant | New Scientist
18 June
Covid-19 news: 99% of UK cases thought to be due to delta variant | New Scientist

Vaccines highly effective against hospitalisation from Delta variant
14 June
https://www.gov.uk/government/news/vaccines-highly-effective-against-hospitalisation-from-delta-variant

SARS-CoV-2 variants of concern and variants under investigation in England Technical briefing 16
18 June 2021
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994839/Variants_of_Concern_VOC_Technical_Briefing_16.pdf

Covid variants: latest on the Indian, UK, South African and Brazilian variants
18 June
https://www.bhf.org.uk/informationsupport/heart-matters-magazine/news/coronavirus-and-your-health/covid-variant

COVID-19 Vaccine AstraZeneca effective against Delta ('Indian') variant
16 June
https://www.astrazeneca.com/media-centre/press-releases/2021/covid-19-vaccine-astrazeneca-effective-against-delta-indian-variant.html

Covid-19 vaccines 'highly effective' in stopping Delta variant hospitalisations
14 June
https://www.irishtimes.com/news/health/covid-19-vaccines-highly-effective-in-stopping-delta-variant-hospitalisations-1.4593267

The Covid Delta variant: how effective are the vaccines?
15 June
https://www.theguardian.com/world/2021/jun/15/the-covid-delta-variant-how-effective-are-the-vaccines

Rare but Possible: COVID-19-Related Multisystem Inflammatory Syndrome in Adults
20 June
Rare but Possible: COVID-19-Related Multisystem Inflammatory Syndrome in Adults (scitechdaily.com)
DOI: 10.1503/cmaj.210232

Delta variant increase in border counties 'inevitable', says immunology professor
20 June
Delta variant increase in border counties 'inevitable', says immunology professor (breakingnews.ie)

What are the Sinopharm and Sinovac vaccines? And how effective are they? Two experts explain
21 June
What are the Sinopharm and Sinovac vaccines? And how effective are they? Two experts explain (theconversation.com)

Subunit Vaccines and the Fight Against COVID-19
21 June
Subunit Vaccines and the Fight Against COVID-19 (pharmtech.com)

US COVID Recovery Is Under Threat From The Delta Variant. Here's Why
22 June
US COVID Recovery Is Under Threat From The Delta Variant. Here's Why (sciencealert.com)

CureVac Releases Interim Results from COVID-19 Vaccine Candidate Trial
18 June
CureVac Releases Interim Results from COVID-19 Vaccine Candidate Trial (pharmtech.com)

Regeneron's Antibody Combination Therapy Reduces COVID-19 Mortality Risk
21 June
Regeneron's Antibody Combination Therapy Reduces COVID-19 Mortality Risk (pharmtech.com)

SARS-CoV-2 Variants May Succumb to Multivalent Nanobodies
22 June
SARS-CoV-2 Variants May Succumb to Multivalent Nanobodies (genengnews.com)

Concepts from physics explain importance of quarantine to control spread of COVID-19
23 June
Concepts from physics explain importance of quarantine to control spread of COVID-19 | AGÊNCIA FAPESP

A Single Shocking Statistic Reveals Why Global Herd Immunity Is Out of Reach
23 June
A Single Shocking Statistic Reveals Why Global Herd Immunity Is Out of Reach (sciencealert.com)

COVID-19 Virus Produces microRNA That Can Have Impacts on Infected Cells
22 June
COVID-19 Virus Produces microRNA That Can Have Impacts on Infected Cells (scitechdaily.com)
https://doi.org/10.1111/jcmm.16694

Genome-Wide Association Studies Accurately Flag More Deadly COVID-19 Variants
22 June
Genome-Wide Association Studies Accurately Flag More Deadly COVID-19 Variants (scitechdaily.com)
https://doi.org/10.1002/gepi.22421

Low-Cost Technology Developed for Finding New COVID Variants
23 June

Low-Cost Technology Developed for Finding New COVID Variants (scitechdaily.com)
DOI: 10.1038/s41467-021-24078-9

Delta variant: EU health agency warns any 'significant easing' of restrictions will lead to autumn surge

23 June
Delta variant: EU health agency warns any 'significant easing' of restrictions will lead to autumn surge (thejournal.ie)

A Scientist Found Deleted Coronavirus Sequences. Here's What That Means For SARS-CoV-2

24 June
A Scientist Found Deleted Coronavirus Sequences. Here's What That Means For SARS-CoV-2 (sciencealert.com)

Why One Particular Strain of COVID-19 Could Represent Its 'Peak Fitness'

24 June
Why One Particular Strain of COVID-19 Could Represent Its 'Peak Fitness' (sciencealert.com)

Has SARS-CoV-2 reached peak fitness?

21 June
Has SARS-CoV-2 reached peak fitness? | Nature Medicine
https://doi.org/10.1038/s41591-021-01421-7

The benefits of COVID-19 mRNA vaccines outweigh the risk of rare heart inflammation

23 June
COVID-19 mRNA vaccines' benefits outweigh risk of heart inflammation | Science News

Cross-Reactive Coronavirus Antibody a Starting Point for Broad-Acting Vaccines?

28 May
Cross-Reactive Coronavirus Antibody a Starting Point for Broad-Acting Vaccines? | Technology Networks and

Cross-reactive serum and memory B-cell responses to spike protein in SARS-CoV-2 and endemic coronavirus infection

19 May
Cross-reactive serum and memory B-cell responses to spike protein in SARS-CoV-2 and endemic coronavirus infection | Nature Communications
https://doi.org/10.1038/s41467-021-23074-3

GWAS Method Can Flag Highly Pathogenic SARS-CoV-2 Variants

24 June
GWAS Method Can Flag Highly Pathogenic SARS-CoV-2 Variants | Technology Networks
https://doi.org/10.1002/gepi.22421

COVID-19's Odour "Fingerprint" Can Be Detected Using Sensors

14 June
COVID-19's Odor "Fingerprint" Can Be Detected Using Sensors | Technology Networks

Universal Vaccine Protects Mice against Five Coronaviruses, Neutralizes Variants

23 June
Universal Vaccine Protects Mice against Five Coronaviruses, Neutralizes Variants (genengnews.com)

Data Inaccuracies Corrected: First Wave COVID-19 Data Underestimated Pandemic Infections

23 June

Data Inaccuracies Corrected: First Wave COVID-19 Data Underestimated Pandemic Infections (scitechdaily.com)
https://doi.org/10.1063/5.0055299

"Nanodecoys" – Made From Human Lung Spheroid Cells – Bind and Neutralize SARS-CoV-2 (COVID-19) Virus

24 June

"Nanodecoys" – Made From Human Lung Spheroid Cells – Bind and Neutralize SARS-CoV-2 (COVID-19) Virus (scitechdaily.com)

CureVac COVID vaccine let-down spotlights mRNA design challenges

14 June

CureVac COVID vaccine let-down spotlights mRNA design challenges (nature.com)
https://doi.org/10.1038/d41586-021-01661-0

BBC: Horizon Special: The Vaccine

June 2021With unique access to five vaccine teams around the globe, this is the extraordinary inside story of the unprecedented quest to develop and make vaccines to fight Covid-1
https://www.bbc.co.uk/programmes/m000x2tf and

Development of unique Australian COVID-19 vaccine halted

11 December 2020

https://www.sciencemag.org/news/2020/12/development-unique-australian-covid-19-vaccine-halted

A Coronavirus Epidemic Hit Humanity 20,000 Years Ago, DNA Study Reveals

25 June

A Coronavirus Epidemic Hit Humanity 20,000 Years Ago, DNA Study Reveals (sciencealert.com)

Compounds Reduce SARS-CoV-2 Replication in Cultured Cells

24 June

Compounds Reduce SARS-CoV-2 Replication in Cultured Cells | Technology Networks

Delta coronavirus variant: scientists brace for impact

22 June

Delta coronavirus variant: scientists brace for impact (nature.com)
https://doi.org/10.1038/d41586-021-01696-3

Researchers Find COVID-19 Virus Was "Highly Human Adapted" – Exact Origins Still a Mystery

25 June

Researchers Find COVID-19 Virus Was "Highly Human Adapted" – Exact Origins Still a Mystery (scitechdaily.com)
https://doi.org/10.1038/s41598-021-92388-5

Delta the 'most transmissible' of variants, spreading rapidly among unvaccinated populations: WHO chief | World News, The Indian Express

27 June

Delta the 'most transmissible' of variants, spreading rapidly among unvaccinated populations: WHO chief | World News,The Indian Express

Structural Changes Identified in COVID Alpha and Beta Variants – Suggests Need for Updated Vaccine Booster

27 June
Structural Changes Identified in COVID Alpha and Beta Variants – Suggests Need for Updated Vaccine Booster (scitechdaily.com)
https://science.sciencemag.org/content/early/2021/06/23/science.abi9745

Potential New COVID-19 Treatment: A Tapeworm Drug

27 June
Potential New COVID-19 Treatment: A Tapeworm Drug (scitechdaily.com)
https://doi.org/10.1038/s41467-021-24007-w

Genetics Research May Help Identify More Dangerous Strains of the Virus That Causes COVID-19

27 June
Genetics Research May Help Identify More Dangerous Strains of the Virus That Causes COVID-19 (scitechdaily.com)
https://doi.org/10.1002/gepi.22421

Delta variant threatens a new pandemic challenge | The Times of Israel

26 June
Delta variant threatens a new pandemic challenge | The Times of Israel

Immunogenicity and reactogenicity of BNT162b2 booster in ChAdOx1-S-primed participants (CombiVacS): a multicentre, open-label, randomised, controlled, phase 2 trial

25 June
https://www.thelancet.com/action/showPdf?pii=S0140-6736%2821%2901420-3
https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)01420-3/fulltext
https://doi.org/10.1016/S0140-6736(21)01420-3

Heterologous prime-boost COVID-19 vaccination: initial reactogenicity data

12 May
https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)01115-6/fulltext
https://doi.org/10.1016/S0140-6736(21)01115-6

Safety, reactogenicity, and immunogenicity of homologous and heterologous prime-boost immunisation with ChAdOx1-nCoV19 and BNT162b2: a prospective cohort study

2 June
https://www.medrxiv.org/content/10.1101/2021.05.19.21257334v2 Abstract
https://www.medrxiv.org/content/10.1101/2021.05.19.21257334v2.full-text
doi: https://doi.org/10.1101/2021.05.19.21257334

Can I get AstraZeneca now and Pfizer later? Why mixing and matching COVID vaccines could help solve many rollout problems

30 May
https://theconversation.com/can-i-get-astrazeneca-now-and-pfizer-later-why-mixing-and-matching-covid-vaccines-could-help-solve-many-rollout-problems-161404

COVID: Are mix-and-match vaccines the way forward?

9 June
https://www.dw.com/en/mix-and-match-vaccines-biontech-astrazeneca-better-than-one-shot/a-57819127

Covid vaccine mix-and-match: Why is it so common in Germany – and is it safe?

25 June
https://www.thelocal.de/20210625/covid-vaccine-mix-and-match-why-is-it-so-common-in-germany-and-is-it-safe

Ireland's testing and vaccination policies must be reviewed urgently

21 June
https://www.irishtimes.com/opinion/ireland-s-testing-and-vaccination-policies-must-be-reviewed-urgently-1.4598615

Delayed doses of AstraZeneca jab boost immunity: study

28 June
https://www.rte.ie/news/coronavirus/2021/0628/1231790-coronavirus-vaccine-astrazeneca

Protein Engineering Method Could Accelerate the Discovery of COVID-19 Therapeutics

25 June
Protein Engineering Method Could Accelerate the Discovery of COVID-19 Therapeutics | Technology Networks
https://doi.org/10.1016/j.chembiol.2021.05.019

EMA gives procedural guidance on variant COVID vaccines

28 June
EMA gives procedural guidance on variant COVID vaccines | RAPS

Safety and Immunogenicity Report from the Com-COV Study – a Single-Blind Randomised Non-Inferiority Trial Comparing Heterologous And Homologous Prime-Boost Schedules with An Adenoviral Vectored and mRNA COVID-19 Vaccine (with link to download paper)

25 June
Safety and Immunogenicity Report from the Com-COV Study – a Single-Blind Randomised Non-Inferiority Trial Comparing Heterologous And Homologous Prime-Boost Schedules with An Adenoviral Vectored and mRNA COVID-19 Vaccine by Xinxue Liu, Robert H. Shaw, Arabella SV Stuart, Melanie Greenland, Tanya Dinesh, Samuel Provstgaard-Morys, Elizabeth Clutterbuck, Maheshi N. Ramasamy, Parvinder K. Aley, Yama Farooq Mujadidi, Fei Long, Emma Plested, Hannah Robinson, Nisha Singh, Laura L. Walker, Rachel White, Nick Andrews, J. Claire Cameron, Andrea M. Collins, Daniela M. Ferreira, Helen C. Hill, Christopher A. Green, Bassam Hallis, Paul T. Heath, Saul N. Faust, Adam Finn, Teresa Lambe, Rajeka Lazarus, Vincenzo Libri, Mary E. Ramsay, Robert C. Read, David P. J. Turner, Paul J. Turner, Jonathan S. Nguyen-Van-Tam, Matthew D. Snape, Com-COV Study Group :: SSRN

How COVID-19 created a perfect storm for a deadly fungal infection in India

23 June
COVID-19 made a perfect storm for a deadly fungal infection in India | Science News

How Protected Are You With Just One Dose of a COVID-19 Vaccine? Here Are Some Stats

29 June
How Protected Are You With Just One Dose of a COVID-19 Vaccine? Here Are Some Stats (sciencealert.com)

Interest in mix-and-match vaccine approach picks up steam

29 June

Interest in mix-and-match vaccine approach picks up steam (pharmamanufacturing.com)

Pfizer and Moderna vaccines may provide years of protection from COVID-19

29 June
Pfizer and Moderna vaccines may provide years of protection from COVID-19 | Live Science and

SARS-CoV-2 mRNA vaccines induce persistent human germinal centre responses

28 June
SARS-CoV-2 mRNA vaccines induce persistent human germinal centre responses | Nature
https://doi.org/10.1038/s41586-021-03738-2 and
SARS-CoV-2 mRNA vaccines induce persistent human germinal centre responses (nature.com) pdf

Ireland's testing and vaccination policies must be reviewed urgently Kingston Mills: Our approaches to testing and vaccine mixing are at odds with recent studies

21 June
https://www.irishtimes.com/opinion/ireland-s-testing-and-vaccination-policies-must-be-reviewed-urgently-1.4598615

Company develops paper that inactivates novel coronavirus

30 June
Company develops paper that inactivates novel coronavirus | AGÊNCIA FAPESP

COVID-19 Makes Lasting Changes to Blood Cells, Which Might Explain a Lot

30 June
COVID-19 Makes Lasting Changes to Blood Cells, Which Might Explain a Lot (sciencealert.com)

The Quest for a Universal Coronavirus Vaccine

29 June
The Quest for a Universal Coronavirus Vaccine | The Scientist Magazine® (the-scientist.com)

COVID-19 Vaccines Induce Lasting Immunity via Sustained Germinal Center Responses

29 June
COVID-19 Vaccines Induce Lasting Immunity via Sustained Germinal Center Responses (genengnews.com)

Correlates of protection against symptomatic and asymptomatic SARS-CoV-2 infection (Preprint)

? June
Correlates of protection against symptomatic and asymptomatic SARS-CoV-2 infection (medrxiv.org)

COVID-19 Mutation: SARS-CoV-2 Virus Can Find Alternate Route to Infect Cells

30 June
COVID-19 Mutation: SARS-CoV-2 Virus Can Find Alternate Route to Infect Cells (scitechdaily.com)
https://doi.org/10.1016/j.celrep.2021.109364

Engineered single-domain antibodies tackle COVID variants

30 June
Engineered single-domain antibodies tackle COVID variants (nature.com)
https://doi.org/10.1038/d41586-021-01721-5

Age-related immune response heterogeneity to SARS-CoV-2 vaccine BNT162b2

30 June (with link to PDF)
Age-related immune response heterogeneity to SARS-CoV-2 vaccine BNT162b2 | Nature
https://doi.org/10.1038/s41586-021-03739-1

Untangling introductions and persistence in COVID-19 resurgence in Europe

30 June
Untangling introductions and persistence in COVID-19 resurgence in Europe | Nature
https://doi.org/10.1038/s41586-021-03754-2

Delta coronavirus variant: scientists brace for impact

22 June
Delta coronavirus variant: scientists brace for impact (nature.com)
https://doi.org/10.1038/d41586-021-01696-3

94% of Cancer Patients Respond Well to COVID-19 mRNA Vaccines

1 July
94% of Cancer Patients Respond Well to COVID-19 mRNA Vaccines | Technology Networks
https://doi.org/10.1016/j.ccell.2021.06.009

Mix-and-match COVID vaccines: the case is growing, but questions remain

1 July
Mix-and-match COVID vaccines: the case is growing, but questions remain (nature.com)
https://doi.org/10.1038/d41586-021-01805-2

Safety, reactogenicity, and immunogenicity of homologous and heterologous prime-boost immunisation with ChAdOx1-nCoV19 and BNT162b2: a prospective cohort study

2 July
Safety, reactogenicity, and immunogenicity of homologous and heterologous prime-boost immunisation with ChAdOx1-nCoV19 and BNT162b2: a prospective cohort study | medRxiv

Immunogenicity and reactogenicity of a heterologous COVID-19 prime-boost vaccination compared with homologous vaccine regimens

15 June
Immunogenicity and reactogenicity of a heterologous COVID-19 prime-boost vaccination compared with homologous vaccine regimens | medRxiv

Mixed Oxford/Pfizer vaccine schedules generate robust immune response against COVID-19, finds Oxford-led study

28 June
Mixed Oxford/Pfizer vaccine schedules generate robust immune response against COVID-19, finds Oxford-led study | University of Oxford

Scientists identify long-sought marker for COVID vaccine success

1 July
Scientists identify long-sought marker for COVID vaccine success (nature.com)
https://doi.org/10.1038/d41586-021-01778-2

Talking Techniques | COVID-19 diagnostics: which test should you choose?

18 January 2021
Find the Right COVID-19 Testing Technique For You - BioTechniques

Early Reports on Delta Variant Symptoms Indicate They Are Different From Normal
2 July
Early Reports on Delta Variant Symptoms Indicate They Are Different From Normal (sciencealert.com)

Analysis of Thousands of Drugs Reveals Potential New COVID-19 Antivirals
1 July
Analysis of Thousands of Drugs Reveals Potential New COVID-19 Antivirals (scitechdaily.com)

Seven Up-and-Coming COVID-19 Drugs
30 June
Seven Up-and-Coming COVID-19 Drugs (genengnews.com)

Nolan shares modelling data used in decision to delay summer reopening
30 June
Nolan shares modelling data used in decision to delay summer reopening (irishexaminer.com)

Here's How Kids Are Using Soft Drinks to Fake Positive Results on COVID-19 Tests
2 July
Here's How Kids Are Using Soft Drinks to Fake Positive Results on COVID-19 Tests (sciencealert.com)

New Universal Vaccine Targets COVID-19, SARS, and Other Coronaviruses to Prevent Future Pandemics
3 July
New Universal Vaccine Targets COVID-19, SARS, and Other Coronaviruses to Prevent Future Pandemics (scitechdaily.com)
https://science.sciencemag.org/content/early/2021/06/22/science.abi4506

Long COVID Symptoms – Such As Fatigue, Brain Fog, and Rashes – Likely Caused by Epstein-Barr Virus Reactivation
4 July
Long COVID Symptoms – Such As Fatigue, Brain Fog, and Rashes – Likely Caused by Epstein-Barr Virus Reactivation (scitechdaily.com)
https://doi.org/10.3390/pathogens10060763

Coronavirus digest: J&J vaccine effective against delta variant
2 July
Coronavirus digest: J&J vaccine effective against delta variant | News | DW | 02.07.2021

Positive New Data for Johnson & Johnson Single-Shot COVID-19 Vaccine on Activity Against Delta Variant and Long-lasting Durability of Response | Johnson & Johnson
1 July
Positive New Data for Johnson & Johnson Single-Shot COVID-19 Vaccine on Activity Against Delta Variant and Long-lasting Durability of Response | Johnson & Johnson (jnj.com)

Ei-ichi Negishi (1935–2021)
1 July
Ei-ichi Negishi (1935–2021) (nature.com)
https://doi.org/10.1038/d41586-021-01828-9

What's the 'Delta plus' variant? And can it escape vaccines? An expert explains

2 July
What's the 'Delta plus' variant? And can it escape vaccines? An expert explains (theconversation.com)

Pfizer Vaccine Induces Immune Structures Key to Lasting Immunity

25 March
Pfizer Vaccine Induces Immune Structures Key to Lasting Immunity | The Scientist Magazine® (the-scientist.com)

J&J's COVID-19 Vaccine Found to be Effective Against Variants of Concern

10 June
J&J's COVID-19 Vaccine Found to be Effective Against Variants of Concern (genengnews.com) and

Immunogenicity of Ad26.COV2.S vaccine against SARS-CoV-2 variants in humans

9 June
Immunogenicity of Ad26.COV2.S vaccine against SARS-CoV-2 variants in humans | Nature
https://doi.org/10.1038/s41586-021-03681-2

New COVID-19 Vaccines May Reach Out to T Cells, Not Just B Cells

16 June
New COVID-19 Vaccines May Reach Out to T Cells, Not Just B Cells (genengnews.com)

New COVID-19 Test Distinguishes SARS-CoV-2 From Other Coronaviruses With 100% Accuracy

4 July
New COVID-19 Test Distinguishes SARS-CoV-2 From Other Coronaviruses With 100% Accuracy (scitechdaily.com)
https://advances.sciencemag.org/content/7/26/eabg4901

SARS-CoV-2 Replication Targets Nasal Ciliated Cells Early in COVID-19 Infection

6 July
SARS-CoV-2 Replication Targets Nasal Ciliated Cells Early in COVID-19 Infection | Technology Networks
https://www.jci.org/articles/view/148517

Mounting evidence suggests Sputnik COVID vaccine is safe and effective

6 July
Mounting evidence suggests Sputnik COVID vaccine is safe and effective (nature.com)
https://doi.org/10.1038/d41586-021-01813-2

Scientists quit journal board, protesting 'grossly irresponsible' study claiming COVID-19 vaccines kill

1 July
Scientists quit journal board, protesting 'grossly irresponsible' study claiming COVID-19 vaccines kill | Science | AAAS (sciencemag.org)

Israel data reportedly shows drop in efficacy of Pfizer-BioNTech vaccine as delta variant spreads

5 July
https://fortune.com/2021/07/05/israel-data-plunge-efficacy-pfizer-biontech-vaccine-delta-variant

Israel reports drop in Pfizer vaccine protection against infection

6 July
https://www.irishtimes.com/business/health-pharma/israel-reports-drop-in-pfizer-vaccine-protection-against-infection-1.4612874

Israel sees drop in Pfizer vaccine protection against infections
6 July
https://www.reuters.com/world/middle-east/israel-sees-drop-pfizer-vaccine-protection-against-infections-still-strong-2021-07-05

Israel confirms vaccine less effective against Delta variant, eyes third dose
5 July
https://www.timesofisrael.com/israel-confirms-vaccine-less-effective-against-delta-variant-eyes-third-dose

Novel coronavirus infects and replicates in salivary gland cells
7 July
Novel coronavirus infects and replicates in salivary gland cells | AGÊNCIA FAPESP and
Salivary glands are a target for SARS-CoV-2: a source for saliva contamination
8 April
Salivary glands are a target for SARS-CoV-2: a source for saliva contamination - Matuck - 2021 - The Journal of Pathology - Wiley Online Library
https://doi.org/10.1002/path.5679

SARS-CoV-2 continued to replicate and mutate in a patient for 218 days
7 July
SARS-CoV-2 continued to replicate and mutate in a patient for 218 days | AGÊNCIA FAPESP and
https://agencia.fapesp.br/sars-cov-2-continued-to-replicate-and-mutate-in-a-patient-for-218-days/36281
https://www.medrxiv.org/content/10.1101/2021.06.11.21257717v1.full.pdf

mRNA Vaccine Recipients Are 91% Less Likely To Develop COVID-19
7 July
mRNA Vaccine Recipients Are 91% Less Likely To Develop COVID-19 | Technology Networks and
Prevention and Attenuation of Covid-19 with the BNT162b2 and mRNA-1273 Vaccines
30 June
Prevention and Attenuation of Covid-19 with the BNT162b2 and mRNA-1273 Vaccines | NEJM
DOI: 10.1056/NEJMoa2107058

Mucosal immune response in BNT162b2 COVID-19 vaccine recipients (Preprint)
29 June
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3871718&utm_source=Coronavirus_Update&utm_medium=email&utm_campaign=cvupdate070721
https://poseidon01.ssrn.com/delivery.php?ID=863073094087022029065100105083097072017033032050001006088036044052113008105102116018109001022042023092126082086057014107120065093112030013037070076104008021093073028002022121008003013098096043060000036091039026033073019118102122083075122067081107026001127119070072072124082091088001099093024&EXT=pdf&INDEX=TRUE
delivery.php (ssrn.com)

"God Forbid We Need This, but We Will Be Ready" – Scientists Prepare for Next Coronavirus Pandemic, Maybe in 2028?
7 July
"God Forbid We Need This, but We Will Be Ready" – Scientists Prepare for Next Coronavirus Pandemic, Maybe in 2028? (scitechdaily.com)
https://stke.sciencemag.org/content/14/689/eabh2071

Clinical Trials for COVID-19 Drugs Have Had Inconsistent Results – Now Scientists Think They Know Why

6 July
Clinical Trials for COVID-19 Drugs Have Had Inconsistent Results – Now Scientists Think They Know Why (scitechdaily.com)
DOI: 10.1371/journal.pmed.1003660

Sanofi booster 'more promising' than mRNA – EURACTIV.com

6 July
Sanofi booster 'more promising' than mRNA – EURACTIV.com

How antibodies may cause rare blood clots after some COVID-19 vaccines

7 July
How antibodies may cause rare blood clots after some COVID-19 vaccines | Science News and
Antibody epitopes in vaccine-induced immune thrombotic thrombocytopenia | Nature
https://doi.org/10.1038/s41586-021-03744-4

mRNA Vaccine Recipients Are 91% Less Likely To Develop COVID-19

7 July
mRNA Vaccine Recipients Are 91% Less Likely To Develop COVID-19 | Technology Networks
https://www.nejm.org/doi/full/10.1056/NEJMoa2107058?query=featured_home and
Prevention and Attenuation of Covid-19 with the BNT162b2 and mRNA-1273 Vaccines
30 June
Prevention and Attenuation of Covid-19 with the BNT162b2 and mRNA-1273 Vaccines | NEJM
DOI: 10.1056/NEJMoa2107058 and
Interim Estimates of Vaccine Effectiveness of BNT162b2 and mRNA-1273 COVID-19 Vaccines in Preventing SARS-CoV-2 Infection Among Health Care Personnel, First Responders, and Other Essential and Frontline Workers — Eight U.S. Locations, December 2020–March 2021
2 April 2021
https://preprints.jmir.org/preprint/28925

COVID and the brain: researchers zero in on how damage occurs

7 July
COVID and the brain: researchers zero in on how damage occurs (nature.com)
https://doi.org/10.1038/d41586-021-01693-6

Failure to fully vaccinate all aged 60-69 'a travesty' says Prof Luke O'Neill

7 July
Failure to fully vaccinate all aged 60-69 'a travesty' says Prof Luke O'Neill (irishtimes.com)

One Vaccine Dose No Match Against Delta Variant, New Study Suggests

9 July
One Vaccine Dose No Match Against Delta Variant, New Study Suggests (sciencealert.com) and

Reduced sensitivity of SARS-CoV-2 variant Delta to antibody neutralization

8 July
Reduced sensitivity of SARS-CoV-2 variant Delta to antibody neutralization | Nature
https://doi.org/10.1038/s41586-021-03777-9 and
Reduced sensitivity of SARS-CoV-2 variant Delta to antibody neutralization (nature.com) full paper and
Supplementary Table acknowledging the laboratories who contributed to the GISAID sequences used in the Extended Data Fig. 3.
Acknowledgements_table.xlsx (springer.com) and

Should you bring forward your second dose of AstraZeneca to protect against the Delta variant?

9 July

Should you bring forward your second dose of AstraZeneca to protect against the Delta variant? | Vaccines and immunisation | The Guardian and

New study on delta variant reveals importance of receiving both vaccine shots, highlights challenges posed by mutations

8 July

New study on delta variant reveals importance of receiving both vaccine shots, highlights challenges posed by mutations - The Washington Post and

Infection and Vaccine-Induced Neutralizing-Antibody Responses to the SARS-CoV-2 B.1.617 Variants

7 July

Infection and Vaccine-Induced Neutralizing-Antibody Responses to the SARS-CoV-2 B.1.617 Variants | NEJM
DOI: 10.1056/NEJMc2107799 and

How well do Covid-19 vaccines protect against the Delta variant?

9 July

How well do Covid-19 vaccines protect against the Delta variant? (irishtimes.com)

Large GWAS Links Severe COVID-19 With Multiple Host Genes

9 July

Large GWAS Links Severe COVID-19 With Multiple Host Genes (genengnews.com) and

Mapping the human genetic architecture of COVID-19

8 July

Mapping the human genetic architecture of COVID-19 | Nature
https://doi.org/10.1038/s41586-021-03767-x

Subunit Vaccines and the Fight Against COVID-19

3 July

Subunit Vaccines and the Fight Against COVID-19 (pharmtech.com)

Cats and dogs get COVID-19 from their owners at extremely high rates

8 July

Cats and dogs get COVID-19 from their owners at extremely high rates | Live Science

Should you bring forward your second dose of AstraZeneca to protect against the Delta variant?

9 July

Should you bring forward your second dose of AstraZeneca to protect against the Delta variant? | Vaccines and immunisation | The Guardian

Pfizer to Seek OK for COVID Vaccine Booster Targeting Delta

July 8

https://www.webmd.com/vaccines/covid-19-vaccine/news/20210708/delta-variant-dents-pfizer-vaccine-effectiveness-in-israel

Current Vaccines Are Effective Against The Delta Variant, Fauci Says : Coronavirus Updates : NPR

8 July

Current Vaccines Are Effective Against The Delta Variant, Fauci Says : Coronavirus Updates : NPR

Delta Variant Effect: Countries Using AstraZeneca Shots Eyeing Boosters

9 July

https://www.ndtv.com/world-news/delta-variant-effect-countries-using-astrazeneca-shots-eyeing-boosters-2482683

Positive New Data for Johnson & Johnson Single-Shot COVID-19 Vaccine on Activity Against Delta Variant and Long-lasting Durability of Response | Johnson & Johnson

1 July
Positive New Data for Johnson & Johnson Single-Shot COVID-19 Vaccine on Activity Against Delta Variant and Long-lasting Durability of Response | Johnson & Johnson (jnj.com)

Things can go 'back to normal' if we can get all adults vaccinated, Mills says

11 July
https://www.irishtimes.com/news/ireland/irish-news/things-can-go-back-to-normal-if-we-can-get-all-adults-vaccinated-mills-says-1.4617278

COVID-19 vaccine boosters: is a third dose really needed?

9 July
COVID-19 vaccine boosters: is a third dose really needed? (theconversation.com) and
Impact and effectiveness of mRNA BNT162b2 vaccine against SARS-CoV-2 infections and COVID-19 cases, hospitalisations, and deaths following a nationwide vaccination campaign in Israel: an observational study using national surveillance data - PubMed (nih.gov)
doi: 10.1016/S0140-6736(21)00947-8 and

JCVI interim advice: potential COVID-19 booster vaccine programme winter 2021 to 2022

30 June
JCVI interim advice: potential COVID-19 booster vaccine programme winter 2021 to 2022 - GOV.UK (www.gov.uk) and

Divergent trajectories of antiviral memory after SARS-Cov-2 infection

15 June
Divergent trajectories of antiviral memory after SARS-Cov-2 infection | Research Square
https://doi.org/10.21203/rs.3.rs-612205/v1 and

Effectiveness of COVID-19 vaccines against hospital admission with the Delta (B.1.617.2) variant

14 June
Public library - PHE national - Knowledge Hub (khub.net) and

Effectiveness of COVID-19 vaccines against variants of concern, Canada

3 July
Effectiveness of COVID-19 vaccines against variants of concern, Canada (medrxiv.org)
https://doi.org/10.1101/2021.06.28.21259420

Quarter-dose of Moderna COVID vaccine still rouses a big immune response

9 July
Quarter-dose of Moderna COVID vaccine still rouses a big immune response (nature.com)
https://doi.org/10.1038/d41586-021-01893-0

Coronavirus variants: Here's how the SARS-CoV-2 mutants stack up

10 July
Coronavirus variants: Here's how the SARS-CoV-2 mutants stack up | Live Science

COVID: lambda variant is now in 29 countries, but what evidence do we have that it's more dangerous?

12 July
COVID: lambda variant is now in 29 countries, but what evidence do we have that it's more dangerous? (theconversation.com)

One mutation may have set the coronavirus up to become a global menace

12 July
One mutation may have set the coronavirus up to become a global menace | Science News

Virologists Demonstrate Successful Treatment for SARS-CoV-2, the Virus That Causes COVID-19

13 July
Virologists Demonstrate Successful Treatment for SARS-CoV-2, the Virus That Causes COVID-19 (scitechdaily.com)
https://doi.org/10.1073/pnas.2101555118

International Study Shows Laboratory Developed Protein Spikes Consistent With COVID-19 Virus

International Study Shows Laboratory Developed Protein Spikes Consistent With COVID-19 Virus (scitechdaily.com)
https://doi.org/10.1021/acs.biochem.1c00279

AstraZeneca Doses Patients in COVID-19 Variant Vaccine in Trial

1 July
AstraZeneca Doses Patients in COVID-19 Variant Vaccine in Trial (pharmtech.com) and
First COVID-19 variant vaccine AZD2816 Phase II/III trial participants vaccinated (astrazeneca.com)

FDA reports rare complications with Pfizer COVID vaccine, updates J&J safety info

13 July
FDA reports rare complications with Pfizer COVID vaccine, updates J&J safety info | RAPS

Delta variant makes it even more important to get a COVID-19 vaccine, even if you've already had the coronavirus

13 July
Delta variant makes it even more important to get a COVID-19 vaccine, even if you've already had the coronavirus (theconversation.com)

CRISPR Breakthrough Blocks SARS-CoV-2 Virus Replication in Early Lab Tests

14 July
CRISPR Breakthrough Blocks SARS-CoV-2 Virus Replication in Early Lab Tests (sciencealert.com)

An Immunologist Explains Why Delta Makes COVID-19 Vaccination Even More Important

14 July
An Immunologist Explains Why Delta Makes COVID-19 Vaccination Even More Important (sciencealert.com)

mRNA From COVID-19 Vaccine Is Not Transferred Through Mother's Breast Milk

13 June
mRNA From COVID-19 Vaccine Is Not Transferred Through Mother's Breast Milk | Technology Networks
https://jamanetwork.com/journals/jamapediatrics/fullarticle/2781679

Scientists Condemn UK Government's "Dangerous & Unethical COVID-19 Experiment"

14 July
Scientists Condemn UK Government's "Dangerous & Unethical COVID-19 Experiment" (scitechdaily.com)
https://doi.org/10.1016/S0140-6736(21)01589-0

Most COVID deaths in England now are in the vaccinated – here's why that shouldn't alarm you

14 July
Most COVID deaths in England now are in the vaccinated – here's why that shouldn't alarm you (theconversation.com)
And
More Vaccinated People Are Dying of COVID in England Than Unvaccinated – Here's Why (scitechdaily.com)
and

SARS-CoV-2 variants of concern and variants under investigation in England Technical briefing 18

9 July 2021
SARS-CoV-2 variants of concern and variants under investigation (publishing.service.gov.uk)

More Than 200 Symptoms Across 10 Organ Systems Identified in Long COVID

15 July
More Than 200 Symptoms Across 10 Organ Systems Identified in Long COVID (scitechdaily.com)
DOI: 10.1016/j.eclinm.2021.101019

'Super-antibodies' could curb COVID-19 and help avert future pandemics

29 June
'Super-antibodies' could curb COVID-19 and help avert future pandemics | Nature Biotechnology
https://doi.org/10.1038/s41587-021-00980-x

AZ, J&J look to tweak vaccines to lower blood clot risk

15 June
AZ, J&J look to tweak vaccines to lower blood clot risk (pharmamanufacturing.com)

Novavax's fridge-friendly vaccine impresses

13 July (Subscription required)
Novavax's fridge-friendly vaccine impresses | Nature Biotechnology
https://doi.org/10.1038/s41587-021-00991-8

The Danger of Delta Holds to 3 Simple Rules - The Atlantic

1 July
https://www.theatlantic.com/health/archive/2021/07/3-principles-now-define-pandemic/619336

Why England's COVID 'freedom day' alarms researchers

14 July
Why England's COVID 'freedom day' alarms researchers (nature.com)
https://doi.org/10.1038/d41586-021-01938-4

New Research Reveals How Our Immune System Reacts to COVID-19 Variants

16 July
New Research Reveals How Our Immune System Reacts to COVID-19 Variants (scitechdaily.com)
https://doi.org/10.1371/journal.pmed.1003656

Global regulators promote platform trials to assess new COVID vaccines

19 July
Global regulators promote platform trials to assess new COVID vaccines | RAPS

Novel Coronavirus Discovered in British Bats – Related to the Virus That Causes COVID-19

20 July

Novel Coronavirus Discovered in British Bats – Related to the Virus That Causes COVID-19 (scitechdaily.com)
https://doi.org/10.1038/s41598-021-94011-z

Viral infection and transmission in a large well-traced outbreak caused by the Delta SARS-CoV-2 variant

7 July

Viral infection and transmission in a large well-traced outbreak caused by the Delta SARS-CoV-2 variant - SARS-CoV-2 coronavirus / nCoV-2019 Genomic Epidemiology - Virological

COVID: study finds lower antibody activity against delta variant at single dose – but vaccines still work

21 July

COVID: study finds lower antibody activity against delta variant at single dose – but vaccines still work (theconversation.com) and

Reduced sensitivity of SARS-CoV-2 variant Delta to antibody neutralization

8 July

Reduced sensitivity of SARS-CoV-2 variant Delta to antibody neutralization | Nature
https://doi.org/10.1038/s41586-021-03777-9
pdf: Reduced sensitivity of SARS-CoV-2 variant Delta to antibody neutralization (nature.com)

The coronavirus cuts cells' hairlike cilia, which may help it invade the lungs

22 July

The coronavirus cuts cells' cilia, which may help it invade the lungs | Science News

Testing Blood Levels of ACE2 Species Could Help To Monitor SARS-CoV-2 Infection

14 July

Testing Blood Levels of ACE2 Species Could Help To Monitor SARS-CoV-2 Infection | Technology Networks

J&J Shot Performs Poorly Against Delta Variant

21 July

J&J Shot Performs Poorly Against Delta Variant (ndtv.com)

EC announces €120 million in Horizon Europe funding (Covid research funding)

22 July

EC announces €120 million in Horizon Europe funding | RAPS

COVID: the reason cases are rising among the double vaccinated – it's not because vaccines aren't working

22 July

COVID: the reason cases are rising among the double vaccinated – it's not because vaccines aren't working (theconversation.com)

Computer Models Help To Assess Drug and Vaccine Efficacy Against SARS-CoV-2

19 July

Computer Models Help To Assess Drug and Vaccine Efficacy Against SARS-CoV-2 | Technology Networks
https://doi.org/10.3390/v13061141

How the Delta variant achieves its ultrafast spread

21 July
How the Delta variant achieves its ultrafast spread (nature.com)
https://doi.org/10.1038/d41586-021-01986-w

Ending the COVID-19 Pandemic: Progress Toward One Drug To Treat All Coronaviruses

24 July
Ending the COVID-19 Pandemic: Progress Toward One Drug To Treat All Coronaviruses (scitechdaily.com)
https://doi.org/10.1021/acs.jproteome.1c00206

COVID-19 vaccine generates immune structures critical for lasting immunity

28 June
COVID-19 vaccine generates immune structures critical for lasting immunity – Washington University School of Medicine in St. Louis (wustl.edu)

How the Second mRNA Vaccine Bolsters Immunity

23 July
How the Second mRNA Vaccine Bolsters Immunity | The Scientist Magazine® (the-scientist.com)

People Who Had Allergic Reactions to First COVID-19 mRNA Vaccine Dose Tolerate Second Dose Without Complications

26 June
People Who Had Allergic Reactions to First COVID-19 mRNA Vaccine Dose Tolerate Second Dose Without Complications (scitechdaily.com)
DOI: 10.1001/jamainternmed.2021.3779

COVID-19 could cause male infertility and sexual dysfunction – but vaccines do not

26 July
COVID-19 could cause male infertility and sexual dysfunction – but vaccines do not (theconversation.com)

mRNA COVID-19 Vaccines: Safety of Second Dose Following First-Dose Allergic Reactions

26 July
mRNA COVID-19 Vaccines: Safety of Second Dose Following First-Dose Allergic Reactions | Technology Networks
https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/10.1001/jamainternmed.2021.3779?guestAccessKey=5bce44d8-672d-454c-bf71-b4b9a66cb866&utm_source=For_The_Media&utm_medium=referral&utm_campaign=ftm_links&utm_content=tfl&utm_term=072621

'Worrisome' Signs of Delta Being Spread by Vaccinated People Force Major CDC Change

28 July
'Worrisome' Signs of Delta Being Spread by Vaccinated People Force Major CDC Change (sciencealert.com)

How the coronavirus infects cells — and why Delta is so dangerous

28 July
How the coronavirus infects cells — and why Delta is so dangerous (nature.com)
https://doi.org/10.1038/d41586-021-02039-y

Pfizer data suggest third vaccine dose boosts immunity against Delta variant

28 July

Pfizer data suggest third vaccine dose boosts immunity against Delta variant (pharmamanufacturing.com)

Why COVID cases are now falling in the UK – and what could happen next

28 July

Why COVID cases are now falling in the UK – and what could happen next (theconversation.com)

SARS-CoV-2 Variants Have Become Skilled "Lock Pickers" To Invade Human Cells

21 July

SARS-CoV-2 Variants Have Become Skilled "Lock Pickers" To Invade Human Cells | Technology Networks and

Structural and Dynamical Differences in the Spike Protein RBD in the SARS-CoV-2 Variants B.1.1.7 and B.1.351

10 June

Structural and Dynamical Differences in the Spike Protein RBD in the SARS-CoV-2 Variants B.1.1.7 and B.1.351 | The Journal of Physical Chemistry B (acs.org)
https://doi.org/10.1021/acs.jpcb.1c01626

SARS-CoV-2 RBD antibodies that maximize breadth and resistance to escape

14 July

SARS-CoV-2 RBD antibodies that maximize breadth and resistance to escape (nature.com)
https://doi.org/10.1038/s41586-021-03807-6

SARS-CoV-2-Blocking Nanobodies Can Handle Mutations, Take the Heat

28 June

SARS-CoV-2-Blocking Nanobodies Can Handle Mutations, Take the Heat (genengnews.com) and

Neutralization of SARS-CoV-2 by highly potent, hyperthermostable, and mutation-tolerant nanobodies

24 July

Neutralization of SARS-CoV-2 by highly potent, hyperthermostable, and mutation-tolerant nanobodies | The EMBO Journal (embopress.org)

A blood marker predicts who gets 'breakthrough' COVID

29 July

A blood marker predicts who gets 'breakthrough' COVID (nature.com)
https://doi.org/10.1038/d41586-021-02096-3

What Is a Breakthrough Infection? What You Need to Know About Catching COVID-19 After Vaccination

29 July

What Is a Breakthrough Infection? What You Need to Know About Catching COVID-19 After Vaccination (scitechdaily.com)

Structural basis of mismatch recognition by a SARS-CoV-2 proofreading enzyme | Science

27 July

Structural basis of mismatch recognition by a SARS-CoV-2 proofreading enzyme | Science (sciencemag.org)
DOI: 10.1126/science.abi9310

COVID: the beta variant is surging in mainland Europe – should the UK be worried?

29 July

COVID: the beta variant is surging in mainland Europe – should the UK be worried? (theconversation.com)

The COVID-19 Delta variant is more contagious than we feared—even among the vaccinated

30 July

Vaccinated people still need masks to stop Delta | Popular Science (popsci.com)

A Resistant SARS-CoV-2 Variant Could Emerge Any Time. Here's What Raises The Risk

30 July

A Resistant SARS-CoV-2 Variant Could Emerge Any Time. Here's What Raises The Risk (sciencealert.com)

And

Rates of SARS-CoV-2 transmission and vaccination impact the fate of vaccine-resistant strains

30 July

Rates of SARS-CoV-2 transmission and vaccination impact the fate of vaccine-resistant strains | Scientific Reports (nature.com)

https://doi.org/10.1038/s41598-021-95025-3

COVID-19 Associated With Long-Term Cognitive Dysfunction, Acceleration of Alzheimer's Symptoms

29 July

COVID-19 Associated With Long-Term Cognitive Dysfunction, Acceleration of Alzheimer's Symptoms (scitechdaily.com)

New "Atlas" Charts How Antibodies Attack SARS-CoV-2 Coronavirus Spike Protein Variants

30 July

New "Atlas" Charts How Antibodies Attack SARS-CoV-2 Coronavirus Spike Protein Variants (scitechdaily.com)

https://doi.org/10.1016/j.cell.2021.07.025

The key numbers from the CDC's new assessment of the delta variant - The Washington Post

30 July

https://www.washingtonpost.com/politics/2021/07/30/key-numbers-cdcs-new-assessment-delta-variant

Advantages of Intranasal COVID-19 Vaccinations Over Injections

1 August

Advantages of Intranasal COVID-19 Vaccinations Over Injections (scitechdaily.com)

https://doi.org/10.1126/science.abg9857

Coronavirus- WHO Sounds Alarm As China Sees Big Covid Surge In Months: Delta Is A Warning

31 July

https://www.ndtv.com/world-news/coronavirus-who-sounds-alarm-as-china-covid-outbreak-spreads-delta-is-a-warning-2499271

New delta variant studies show the pandemic is far from over

30 July

New delta variant studies show the COVID-19 pandemic is far from over | Science News

How 350 vaccinated people caught COVID-19 in huge Cape Cod outbreak

31 July

How 350 vaccinated people caught COVID-19 in huge Cape Cod outbreak | Live Science

Why Is the COVID Delta Variant Such a Worry? It's More Infectious, Can Cause Severe Disease, and Challenges Our Vaccines

2 August
Why Is the COVID Delta Variant Such a Worry? It's More Infectious, Can Cause Severe Disease, and Challenges Our Vaccines (scitechdaily.com)

The Symptoms of the Delta Variant Differ From Traditional COVID-19 – Here's What To Look Out For

1 August
The Symptoms of the Delta Variant Differ From Traditional COVID-19 – Here's What To Look Out For (scitechdaily.com)

Fully Vaccinated Still at Considerable Risk of Getting COVID, Giant UK Study Shows

4 August
Fully Vaccinated Still at Considerable Risk of Getting COVID, Giant UK Study Shows (sciencealert.com) and

REACT-1 round 13 final report: exponential growth, high prevalence of SARS-CoV-2 and vaccine effectiveness associated with Delta variant in England during May to July 2021

react1_r13_final_preprint (imperial.ac.uk)

Novavax Reports on Two Vaccine Efficacy Studies

29 June
Novavax Reports on Two Vaccine Efficacy Studies - Bioprocess Development Forum

Highly Potent COVID Treatment: New Nanobodies Stop SARS-CoV-2 and Its Dangerous Variants

4 August
Highly Potent COVID Treatment: New Nanobodies Stop SARS-CoV-2 and Its Dangerous Variants (scitechdaily.com)
https://doi.org/10.15252/embj.2021107985

EMA Starts Rolling Review of Sanofi's COVID-19 Vaccine

30 July
EMA Starts Rolling Review of Sanofi's COVID-19 Vaccine (biopharminternational.com)

COVID vaccines slash viral spread – but Delta is an unknown

27 July
COVID vaccines slash viral spread – but Delta is an unknown (nature.com)
https://doi.org/10.1038/d41586-021-02054-z

Vaccines cut chance of being infected with delta variant by half, UK study finds

4 July
Vaccines cut chance of being infected with delta variant by half, UK study finds | Live Science

Subunit Vaccines and the Fight Against COVID-19

2 August
Subunit Vaccines and the Fight Against COVID-19 (biopharminternational.com)

What We Now Know About the SARS-CoV-2 Delta Variant That's Wreaking Havoc Globally

4 August

What We Now Know About the SARS-CoV-2 Delta Variant That's Wreaking Havoc Globally (scitechdaily.com)

Drug-Producing Bacteria – Separating the Strong From the Weak

30 July

Drug-Producing Bacteria – Separating the Strong From the Weak | Technology Networks
https://doi.org/10.1073/pnas.2103515118

New Device Can Diagnose COVID-19 and Variants From Saliva Samples

6 August

New Device Can Diagnose COVID-19 and Variants From Saliva Samples (scitechdaily.com)
https://advances.sciencemag.org/content/7/32/eabh2944

A COVID Diagnostic in Only 20 Minutes, Using Two CRISPR Enzymes

6 August

A COVID Diagnostic in Only 20 Minutes, Using Two CRISPR Enzymes (scitechdaily.com)
https://doi.org/10.1038/s41589-021-00842-2

Worried About the COVID Delta Variant? Experts Explain Risk of Breakthrough Infections to the Vaccinated

6 August

Worried About the COVID Delta Variant? Experts Explain Risk of Breakthrough Infections to the Vaccinated (scitechdaily.com)

COVID Antibodies Remain Stable – or Even Increase – 7 Months After Infection

6 August

COVID Antibodies Remain Stable – or Even Increase – 7 Months After Infection (scitechdaily.com)
https://doi.org/10.1038/s41467-021-24979-9

Blood Glucose Levels Hold Key to Severity of COVID-19

9 August

Blood Glucose Levels Hold Key to Severity of COVID-19 | Technology Networks
https://doi.org/10.3389/fpubh.2021.695139

COVID-19 Test Detects Emerging Variants Using SHERLOCK and Saliva

9 August

COVID-19 Test Detects Emerging Variants Using SHERLOCK and Saliva (genengnews.com)

Lateral Flow Tests Are 95% Effective at Detecting COVID-19 When Used Soon After Symptoms Start

8 August

Lateral Flow Tests Are 95% Effective at Detecting COVID-19 When Used Soon After Symptoms Start (scitechdaily.com)
https://doi.org/10.1016/j.eclinm.2021.101011

How effective are COVID-19 vaccines? Here's what the stats mean … and what they don't

9 August

How effective are COVID-19 vaccines? Here's what the stats mean … and what they don't (theconversation.com)

SARS-CoV-2 Nanobodies Are Remarkably Active Against Mutations Found in COVID Variants – Including Delta

9 August

SARS-CoV-2 Nanobodies Are Remarkably Active Against Mutations Found in COVID Variants – Including Delta (scitechdaily.com)

https://doi.org/10.1038/s41467-021-24963-3

Which COVID-19 vaccine has the lowest rate of breakthrough infections?

11 August

Which COVID-19 vaccine has the lowest rate of breakthrough infections? | Live Science

SARS-CoV-2 mutations: why the virus might still have some tricks to pull

11 August

SARS-CoV-2 mutations: why the virus might still have some tricks to pull (theconversation.com)

Flawed ivermectin preprint highlights challenges of COVID drug studies

2 August

Flawed ivermectin preprint highlights challenges of COVID drug studies (nature.com)

https://doi.org/10.1038/d41586-021-02081-w

Surprise dip in UK COVID cases baffles researchers

3 August

Surprise dip in UK COVID cases baffles researchers (nature.com)

https://doi.org/10.1038/d41586-021-02125-1

Coronapod: Ivermectin, what the science says

6 August

Coronapod: Ivermectin, what the science says (nature.com)

https://doi.org/10.1038/d41586-021-02178-2

COVID vaccine boosters: the most important questions

5 August

COVID vaccine boosters: the most important questions (nature.com)

https://doi.org/10.1038/d41586-021-02158-6

AstraZeneca Scientist Says Delta Variant Makes Herd Immunity Impossible. Here's Why

12 August

https://www.sciencealert.com/delta-variant-means-we-can-rule-out-herd-immunity-says-astra-zeneca-developer?utm_source=ScienceAlert+-+Daily+Email+Updates&utm_campaign=de2ae7c692-MAILCHIMP_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_fe5632fb09-de2ae7c692-366021682

Research Shows Drug Reduces COVID Infection by Up to 70% – Already FDA Approved for Cholesterol

12 August

Research Shows Drug Reduces COVID Infection by Up to 70% – Already FDA Approved for Cholesterol (scitechdaily.com)

https://doi.org/10.3389/fphar.2021.660490

How deadly is the coronavirus delta variant?

13 August

How deadly is the coronavirus delta variant? | Live Science

Reasons for success and lessons learnt from nanoscale vaccines against COVID-19

11 August

Reasons for success and lessons learnt from nanoscale vaccines against COVID-19 | Nature Nanotechnology
https://doi.org/10.1038/s41565-021-00946-9

Cell therapy strategies for COVID-19: Current approaches and potential applications

11 August

Cell therapy strategies for COVID-19: Current approaches and potential applications | Science Advances (sciencemag.org)
DOI: 10.1126/sciadv.abg5995

Massive New Analysis Confirms Just How Many COVID-19 Cases Are Truly Asymptomatic

13 August

Massive New Analysis Confirms Just How Many COVID-19 Cases Are Truly Asymptomatic (sciencealert.com)

Ivermectin-expert-slams-absurd-regulatory-opposition-to-drug-that-could-end-pandemic

13 August

Ivermectin – Expert slams 'absurd' opposition to 'drug that could end pandemic' | Newstalk

Russian Scientists Investigate the Immune Response to COVID Variants (Alpha, Beta, Gamma, Delta, Epsilon, Zeta, Eta, Theta, Iota, Kappa and Lambda)

15 August

Russian Scientists Investigate the Immune Response to COVID Variants (Alpha, Beta, Gamma, Delta, Epsilon, Zeta, Eta, Theta, Iota, Kappa and Lambda) (scitechdaily.com)
DOI: 10.1093/nar/gkab701

UK COVID cases have fallen dramatically – but another wave is likely

16 August

UK COVID cases have fallen dramatically – but another wave is likely (theconversation.com)

Does the explosion of the delta variant mean we need a new COVID-19 vaccine?

16 August

Does the explosion of the delta variant mean we need a new COVID-19 vaccine? | Live Science

Researchers May Have Discovered the Root Cause of Long COVID Syndrome

17 August

Researchers May Have Discovered the Root Cause of Long COVID Syndrome (scitechdaily.com)
https://doi.org/10.1111/jth.15490

Long COVID Might Be The Manifestation of a Different Virus Reawakened in The Body

18 August

Long COVID Might Be The Manifestation of a Different Virus Reawakened in The Body (sciencealert.com)

Novavax and European Commission Finalize COVID-19 Vaccine Purchase Agreement

6 August

Novavax and European Commission Finalize COVID-19 Vaccine Purchase Agreement (pharmtech.com)

COVID vaccines protect against Delta, but their effectiveness wanes
19 August
COVID vaccines protect against Delta, but their effectiveness wanes (nature.com)
https://doi.org/10.1038/d41586-021-02261-8

Delta's rise is fuelled by rampant spread from people who feel fine
19 August
Delta's rise is fuelled by rampant spread from people who feel fine (nature.com)
https://doi.org/10.1038/d41586-021-02259-2

Decades-old SARS virus infection triggers potent response to COVID vaccines
18 August
Decades-old SARS virus infection triggers potent response to COVID vaccines (nature.com)
https://doi.org/10.1038/d41586-021-02260-9

New Research Explains Why Vaccinated People at Low Risk During COVID Delta Variant Surge
19 August
New Research Explains Why Vaccinated People at Low Risk During COVID Delta Variant Surge (scitechdaily.com)
https://doi.org/10.1016/j.immuni.2021.08.013

Fighting COVID With COVID: Driving the Disease to Extinction With a Defective Version of the SARS-CoV-2 Virus
20 August
Fighting COVID With COVID: Driving the Disease to Extinction With a Defective Version of the SARS-CoV-2 Virus (scitechdaily.com)
https://doi.org/10.7717/peerj.11686

UK study shows vaccine efficacy weakens under Delta
19 August
https://www.rte.ie/news/coronavirus/2021/0819/1241644-coronavirus-vaccine-delta

Covid-19 Ireland: How many people in hospital with coronavirus have been fully vaccinated? - Irish Mirror Online. (Tabloid reporting on HSE officials interviews)
20 August
https://www.irishmirror.ie/news/irish-news/health-news/covid-19-ireland-how-many-24802687

Videos Capture Deadly March of COVID-19 Virus
21 August
Videos Capture Deadly March of COVID-19 Virus (scitechdaily.com)
https://doi.org/10.1016/j.immuni.2021.08.015

FDA Approves First COVID-19 Vaccine
23 August
FDA Approves First COVID-19 Vaccine | FDA

Spike Protein's RBD Leaps Out of the Gate
20 August
Spike Protein's RBD Leaps Out of the Gate (genengnews.com)

Positive data in hand, AstraZeneca will seek approval for COVID prevention drug
20 August
Positive data in hand, AstraZeneca will seek approval for COVID prevention drug (pharmamanufacturing.com)

Vaccine Efficacy Against Different SARS-CoV-2 Variants (contains summary table of vaccine efficacy vs variants)
12 August
Vaccine Efficacy Against Different SARS-CoV-2 Variants | Technology Networks

Like Venom Coursing Through the Body: Mechanism Driving COVID-19 Mortality Identified
24 August
Like Venom Coursing Through the Body: Mechanism Driving COVID-19 Mortality Identified (scitechdaily.com)
https://doi.org/10.1172/JCI149236

Synthetic Peptide Mimics: Possible New Antivirals Against COVID-19 and Herpes
24 August
Synthetic Peptide Mimics: Possible New Antivirals Against COVID-19 and Herpes (scitechdaily.com)
https://www.acs.org/acsfall2021briefings

Antibody Discovered That Protects Against Broad Range of COVID-19 Virus Variants
25 August
Antibody Discovered That Protects Against Broad Range of COVID-19 Virus Variants (scitechdaily.com)
https://doi.org/10.1016/j.immuni.2021.08.016

Delta sub-variants found in local samples
24 August
Delta sub-variants found in local samples (bangkokpost.com)

Effectiveness of COVID-19 Vaccines in Preventing SARS-CoV-2 Infection Among Frontline Workers Before and During B.1.617.2 (Delta) Variant Predominance — Eight U.S. Locations, December 2020–August 2021 (US study)
24 August
Effectiveness of COVID-19 Vaccines in Preventing SARS-CoV-2 Infection Among Frontline Workers Before and During B.1.617.2 (Delta) Variant Predominance — Eight U.S. Locations, December 2020–August 2021 | MMWR (cdc.gov)
http://dx.doi.org/10.15585/mmwr.mm7034e4

COVID vaccines and blood clots: what researchers know so far
24 August
COVID vaccines and blood clots: what researchers know so far (nature.com)
https://doi.org/10.1038/d41586-021-02291-2

Two covid-19 vaccines are 15 per cent less effective against delta
18 August

Examining the immunological effects of COVID-19 vaccination in patients with conditions potentially leading to diminished immune response capacity – the OCTAVE Trial (Preprint)
23 August

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3910058 and
https://ssrn.com/abstract=3910058 and
https://poseidon01.ssrn.com/delivery.php?ID=990100103003010086089025017008005007060083047068050089011068096123008106094123090018020025118033005042003064065030103093125087108038011069020029094125028003081113001001087082094112067094019092070074018117015021065107087118005067006105119073024066124007&EXT=pdf&INDEX=TRUE
and

Impact of Delta on viral burden and vaccine effectiveness against new SARS-CoV-2 infections in the UK

24 August
https://www.medrxiv.org/content/10.1101/2021.08.18.21262237v1.full-text
doi: https://doi.org/10.1101/2021.08.18.21262237

Uncleavable Spikes: Key to Better SARS-CoV-2 Vaccines

26 August
Uncleavable Spikes: Key to Better SARS-CoV-2 Vaccines (genengnews.com)

Johnson & Johnson booster shot increases antibodies to coronavirus nine-fold, company says

26 August
Johnson & Johnson says coronavirus booster shot increases antibodies nine-fold | Live Science

"Inescapable" COVID-19 Antibody Discovery – Neutralizes All Known SARS-CoV-2 Strains

26 August
"Inescapable" COVID-19 Antibody Discovery – Neutralizes All Known SARS-CoV-2 Strains (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03807-6

Origins of SARS-CoV-2: window is closing for key scientific studies

25 August
Origins of SARS-CoV-2: window is closing for key scientific studies (nature.com)
https://doi.org/10.1038/d41586-021-02263-6

Ronapreve: new COVID-19 treatment has just been authorised – here's everything you need to know

26 August
Ronapreve: new COVID-19 treatment has just been authorised – here's everything you need to know (theconversation.com)

Large Real-World Assessment Affirms COVID-19 Vaccine Safety

27 August
Large Real-World Assessment Affirms COVID-19 Vaccine Safety | Technology Networks
https://www.nejm.org/doi/full/10.1056/NEJMoa2110475?query=featured_home and

Safety of the BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting

25 August
Safety of the BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting | NEJM
DOI: 10.1056/NEJMoa2110475

Ivermectin won't treat COVID-19, but it might kill you, CDC warns

27 August
This deworming drug won't treat COVID-19, but it might kill you, CDC warns | Live Science

What chronic fatigue syndrome can teach us about 'long COVID'
27 August
What chronic fatigue syndrome can teach us about 'long COVID' | Live Science

The mutation that helps Delta spread like wildfire
20 August
The mutation that helps Delta spread like wildfire (nature.com)
https://doi.org/10.1038/d41586-021-02275-2

COVID-19: Achilles' Heel of SARS-CoV-2 Viral RNA Identified
26 August
COVID-19: Achilles' Heel of SARS-CoV-2 Viral RNA Identified (scitechdaily.com)
https://doi.org/10.1002/anie.202103693

What Do We Know About the Delta Variant of COVID-19?
26 August
What Do We Know About the Delta Variant of COVID-19? (scitechdaily.com)

Recovering From COVID-19 Doesn't Guarantee Antibodies or Confer Immunity to Re-Infection
30 August
Recovering From COVID-19 Doesn't Guarantee Antibodies or Confer Immunity to Re-Infection (scitechdaily.com)
DOI: 10.1038/s41598-021-96879-3

Second pandemic a real possibility, says Irish woman leading EU alert system
30 August
Second pandemic a real possibility, says Irish woman leading EU alert system (irishtimes.com)

COVID variants: we spoke to the experts designing a single vaccine to defeat them all
30 August
COVID variants: we spoke to the experts designing a single vaccine to defeat them all (theconversation.com)

COVID: vaccine boosters are likely to increase protection against variants – new research
27 August
COVID: vaccine boosters are likely to increase protection against variants -- new research (theconversation.com)

These charts show that COVID-19 vaccines are doing their job
31 August
These charts show that COVID-19 vaccines are doing their job | Science News

Scientists Monitoring New Coronavirus Variant With Unusually High Mutation Rate
31 August
Scientists Monitoring New Coronavirus Variant With Unusually High Mutation Rate (sciencealert.com)

Inside Pfizer's labs, 'variant hunters' race to stay ahead of the pandemic's next twist
30 August
Pfizer 'variant hunters' race to stay ahead of the Covid-19 pandemic - STAT (statnews.com)

New Study Finds Likely Driver of COVID-19 Deaths – Dispels Previous Theories
31 August

New Study Finds Likely Driver of COVID-19 Deaths – Dispels Previous Theories (scitechdaily.com)
https://doi.org/10.1038/s41564-021-00961-5

Saliva Is Comparable to Nasal Swabs for COVID-19 Testing

23 August
Saliva Is Comparable to Nasal Swabs for COVID-19 Testing | Technology Networks
https://journals.asm.org/doi/10.1128/Spectrum.00162-21

New 'mu' coronavirus variant could escape vaccine-induced immunity, WHO says

2 September
New 'mu' coronavirus variant could escape vaccine-induced immunity, WHO says | Live Science

Discovery facilitates search for drug to sabotage replication of SARS-CoV-2

1 September
Discovery facilitates search for drug to sabotage replication of SARS-CoV-2 | AGÊNCIA FAPESP

Scientists Discover Opportunity To Disrupt SARS-CoV-2 Dynamics, Prevent COVID-19 Transmission

1 September
Scientists Discover Opportunity To Disrupt SARS-CoV-2 Dynamics, Prevent COVID-19 Transmission (scitechdaily.com)
https://doi.org/10.7554/eLife.70362

Innovative New Candidate Vaccine Shows Efficacy Against COVID-19

1 September
Innovative New Candidate Vaccine Shows Efficacy Against COVID-19 (scitechdaily.com)
https://doi.org/10.1038/s41467-021-25382-0

A 'Gold Standard' Clinical Trial Just Confirmed Masks DO Reduce The Spread of COVID

2 September
A 'Gold Standard' Clinical Trial Just Confirmed Masks DO Reduce The Spread of COVID (sciencealert.com)

Full Picture of SARS-CoV-2 Immune Response Shown by T-Cell Test

3 September
Full Picture of SARS-CoV-2 Immune Response Shown by T-Cell Test | Technology Networks
https://doi.org/10.1172/JCI152379

India’s DNA COVID vaccine is a world first – more are coming

2 September
India’s DNA COVID vaccine is a world first – more are coming (nature.com)
https://doi.org/10.1038/d41586-021-02385-x

Experts Identify New COVID Variation in South Africa – What’s Known So Far

3 September
Experts Identify New COVID Variation in South Africa – What’s Known So Far (scitechdaily.com)

Long COVID Might Be The Manifestation of a Different Virus Reawakened in The Body

18 August
https://www.sciencealert.com/mounting-evidence-suggests-many-covid-19-long-haulers-are-co-infected-with-epstein-barr

Mu: everything you need to know about the new coronavirus variant of interest
3 September
https://theconversation.com/mu-everything-you-need-to-know-about-the-new-coronavirus-variant-of-interest-167154

The Next Treatment for COVID-19 Could Already Be at Your Local Pharmacy
4 September
The Next Treatment for COVID-19 Could Already Be at Your Local Pharmacy (scitechdaily.com)
https://doi.org/10.1073/pnas.2105815118

Study of 6.2 Million Patients Reveals No Serious Health Effects Linked to mRNA COVID-19 Vaccines
5 September
Study of 6.2 Million Patients Reveals No Serious Health Effects Linked to mRNA COVID-19 Vaccines (scitechdaily.com)
https://doi.org/10.1001/jama.2021.15072

COVID Mu: Everything You Need To Know About the New Coronavirus Variant
7 September
COVID Mu: Everything You Need To Know About the New Coronavirus Variant (scitechdaily.com)

Ivermectin: Can People Take a Drug for Horses and Cows To Treat a Deadly Virus?
7 September
Ivermectin: Can People Take a Drug for Horses and Cows To Treat a Deadly Virus? (scitechdaily.com)

Men are the main transmitters of the novel coronavirus, study suggests
8 September
Men are the main transmitters of the novel coronavirus, study suggests | AGÊNCIA FAPESP
https://www.medrxiv.org/content/10.1101/2021.08.18.21262187v1

COVID Delta Variant Spread Driven by Combination of Immune Escape and Increased Infectivity
8 September
COVID Delta Variant Spread Driven by Combination of Immune Escape and Increased Infectivity (scitechdaily.com)
https://doi.org/10.1038/s41586-021-03944-y

Israel was a leader in the COVID vaccination race – so why are cases spiralling there?
8 September
Israel was a leader in the COVID vaccination race – so why are cases spiralling there? (theconversation.com)

Kids and COVID: why young immune systems are still on top
7 September
Kids and COVID: why young immune systems are still on top (nature.com)
https://doi.org/10.1038/d41586-021-02423-8

Better Data on Ivermectin Is Finally on Its Way
8 September
Better Data on Ivermectin Is Finally on Its Way | WIRED

Search for a Drug To Sabotage SARS-CoV-2's Replication Process
9 September
Search for a Drug To Sabotage SARS-CoV-2's Replication Process | Technology Networks
https://doi.org/10.1016/j.jmb.2021.167118

Four factors that increase the risk of vaccinated people getting COVID
9 September
Four factors that increase the risk of vaccinated people getting COVID (theconversation.com)

What Is Causing All These New Coronavirus Variants? Is It the COVID–19 Vaccines?
11 September
What Is Causing All These New Coronavirus Variants? Is It the COVID–19 Vaccines? (scitechdaily.com)

COVID-19 Vaccines Effective Against Delta Variant – How Pfizer, Moderna and J&J Compare
12 September
COVID-19 Vaccines Effective Against Delta Variant – How Pfizer, Moderna and J&J Compare (scitechdaily.com)

Moderna More Effective Against Delta Than Pfizer and Johnson & Johnson
13 September
Moderna More Effective Against Delta Than Pfizer and Johnson & Johnson | Technology Networks
https://www.cdc.gov/mmwr/volumes/70/wr/mm7037e2.htm?s_cid=mm7037e2_w#suggestedcitation

Why People With Diabetes Develop Severe COVID-19 – Mechanism Behind Coronavirus Cytokine Storms Revealed
12 September
Why People With Diabetes Develop Severe COVID-19 – Mechanism Behind Coronavirus Cytokine Storms Revealed (scitechdaily.com)
https://doi.org/10.1073/pnas.2101071118

The battle over boosters deepens
14 September
The battle over boosters deepens (pharmamanufacturing.com)

Comparator vaccines are needed if vital COVID-19 R&D is to progress
7 September
Comparator vaccines are needed if vital COVID-19 R&D is to progress – CEPI

AstraZeneca and European Commission reach settlement agreement over vaccine supply, ending litigation
3 September
AstraZeneca and European Commission reach settlement agreement over vaccine supply, ending litigation

Moderna to Develop Combined COVID-19/Flu Vaccine
9 September
Moderna to Develop Combined COVID-19/Flu Vaccine (biopharminternational.com)

Vaccine Booster Shots
10 September
Vaccine Booster Shots | Technology Networks

SARS-CoV-2 affects the testicles, reducing hormones and sperm quality, studies show
15 September
SARS-CoV-2 affects the testicles, reducing hormones and sperm quality, studies show | AGÊNCIA FAPESP

COVID vaccine effects wane over time but still prevent death and severe illness
15 September
COVID vaccine effects wane over time but still prevent death and severe illness (theconversation.com)

Did the coronavirus jump from animals to people twice?
16 September
Did the coronavirus jump from animals to people twice? (nature.com)
https://doi.org/10.1038/d41586-021-02519-1

Luke O'Neill: Everybody over 60 in Ireland should get booster shot | Newstalk
16 September
https://www.newstalk.com/news/luke-oneill-everybody-over-60-in-ireland-should-get-booster-shot-1252656

COVID-vaccine booster shot shows promise in Israeli study
16 September
COVID-vaccine booster shot shows promise in Israeli study (nature.com)
https://doi.org/10.1038/d41586-021-02516-4

SARS-like viruses may jump from animals to people hundreds of thousands of times a year
15 September
SARS-like viruses may jump from animals to people hundreds of thousands of times a year | Science | AAAS
doi: 10.1126/science.acx9129

How Do Bats Resist COVID? Insights Could Lead to New Treatments for Humans
17 September
How Do Bats Resist COVID? Insights Could Lead to New Treatments for Humans (scitechdaily.com)
https://doi.org/10.1126/sciimmunol.abd0205

Droplets Loaded With Coronaviruses Last Far Longer Than Previously Thought
19 September
Droplets Loaded With Coronaviruses Last Far Longer Than Previously Thought (scitechdaily.com)
https://doi.org/10.1073/pnas.2105279118

mRNA Booster Vaccine Significantly Increased SARS-CoV-2 Neutralizing Antibodies
20 September
mRNA Booster Vaccine Significantly Increased SARS-CoV-2 Neutralizing Antibodies | Technology Networks
https://www.nejm.org/doi/full/10.1056/NEJMc2113468

COVID vaccine immunity is waning — how much does that matter?
17 September
COVID vaccine immunity is waning — how much does that matter? (nature.com)
https://doi.org/10.1038/d41586-021-02532-4

Non-Viral COVID-19 Nasal Vaccine Candidate Effective at Preventing Disease Transmission
20 September

Non-Viral COVID-19 Nasal Vaccine Candidate Effective at Preventing Disease Transmission (scitechdaily.com)
https://doi.org/10.1016/j.isci.2021.103037

Moderna Releases New Clinical Data on COVID-19 Vaccine & more

17 September
Moderna Releases New Clinical Data on COVID-19 Vaccine (biopharminternational.com)

The fight to manufacture COVID vaccines in lower-income countries

15 September
The fight to manufacture COVID vaccines in lower-income countries (nature.com)
https://doi.org/10.1038/d41586-021-02383-z

Hospital Reports a Scary Effect of Severe COVID-19 Is Far More Common Than Thought

23 September
Hospital Reports a Scary Effect of Severe COVID-19 Is Far More Common Than Thought (sciencealert.com)

Cambodian bats could provide clues on COVID origins

21 September
Cambodian bats could provide clues on COVID origins (pharmamanufacturing.com)

A new oral antiviral drug for COVID is being tested in humans – can it make a difference?

23 September
A new oral antiviral drug for COVID is being tested in humans – can it make a difference? (theconversation.com)

"Ultra-Potent" Antibody Against Multiple COVID-19 Variants Discovered

24 September
"Ultra-Potent" Antibody Against Multiple COVID-19 Variants Discovered (scitechdaily.com)
https://doi.org/10.1016/j.celrep.2021.109784

Closest known relatives of virus behind COVID-19 found in Laos

24 September
Closest known relatives of virus behind COVID-19 found in Laos (nature.com)
https://doi.org/10.1038/d41586-021-02596-2

Pfizer Covid-19 vaccine generates robust antibody response in children, without serious safety issues, company says

20 September
Pfizer says its Covid vaccine generates robust antibody response in kids (statnews.com)

COVID vaccine immunity is waning — how much does that matter?

17 September
COVID vaccine immunity is waning — how much does that matter? (nature.com)
https://doi.org/10.1038/d41586-021-02532-4

AstraZeneca to Invest $360 Million in Advanced Manufacturing Facility in Ireland

21 September
AstraZeneca to Invest $360 Million in Advanced Manufacturing Facility in Ireland (pharmtech.com)

The Evidence Is in – One Mask Type Stands Out as The Best Protection Against COVID-19

25 September

The Evidence Is in – One Mask Type Stands Out as The Best Protection Against COVID-19 (sciencealert.com)

Preliminary research finds that even mild cases of COVID-19 leave a mark on the brain – but it's not yet clear how long it lasts

24 September

Preliminary research finds that even mild cases of COVID-19 leave a mark on the brain – but it's not yet clear how long it lasts (theconversation.com)

Pfizer trialing new preventative treatment for COVID-19

28 September

Pfizer trialing new preventative treatment for COVID-19 (pharmamanufacturing.com)

Sanofi pulls the plug on COVID mRNA vax

29 September

Sanofi pulls the plug on COVID mRNA vax (pharmamanufacturing.com)

This Tiny 'Vaccine Patch' Could Prompt Stronger Immune Response Than a Needle

28 September

This Tiny 'Vaccine Patch' Could Prompt Stronger Immune Response Than a Needle (sciencealert.com)

Promising Low-Cost Method for Rapid COVID-19 Detection Developed

28 September

Promising Low-Cost Method for Rapid COVID-19 Detection Developed | Technology Networks
https://www.nature.com/articles/s41467-021-25387-9

Tool Predicts Changes That Could Make COVID Variants More Infectious

30 September

Tool Predicts Changes That Could Make COVID Variants More Infectious | Technology Networks
https://www.pnas.org/content/118/42/e2106480118

Pregnant Women Receiving mRNA Vaccine Pass Antibodies to Their Newborns

23 September

Pregnant Women Receiving mRNA Vaccine Pass Antibodies to Their Newborns | Technology Networks
https://www.ajogmfm.org/article/S2589-9333(21)00176-2/fulltext

New antiviral pill halves risk of COVID-19 hospitalization, Merck says

30 September

New antiviral pill halves risk of COVID-19 hospitalization, Merck says | Live Science

Addendum 1

Origins of the Corona Virus SARS CoV-2

We Hear How The Wuhan Lab Leak Is Becoming More Credible | Newstalk ??
25 May **Podcast**
We Hear How The Wuhan Lab Leak Is Becoming More Credible | Newstalk

Here are answers to 3 persistent questions about the coronavirus's origins
27 May 2021
3 questions about the coronavirus's origins and lab-leak hypothesis | Science News

Divisive COVID 'lab leak' debate prompts dire warnings from researchers
27 May
Divisive COVID 'lab leak' debate prompts dire warnings from researchers (nature.com)
https://doi.org/10.1038/d41586-021-01383-3

Lab or Nature? The Current Evidence For Each of The SARS-CoV-2 Origin Theories
27 May
Lab or Nature? The Current Evidence For Each of The SARS-CoV-2 Origin Theories (sciencealert.com)

The WHO's leader said its investigation into whether the coronavirus leaked from a Wuhan lab was not 'extensive enough'
30 March
The WHO's leader said its investigation into whether the coronavirus leaked from a Wuhan lab was not 'extensive enough' | Business Insider

Ex-CDC director believes COVID-19 escaped from a lab, but cites no evidence
March 2021
Ex-CDC director believes COVID-19 escaped from a lab, but cites no evidence | Live Science

The Covid-19 Lab Leak Theory Is a Tale of Weaponized Uncertainty
28 May
The Covid-19 Lab Leak Theory Is a Tale of Weaponized Uncertainty | WIRED

Was COVID-19 Made in a Lab? An Epidemiologist Reviews The Evidence
31 May
Was COVID-19 Made in a Lab? An Epidemiologist Reviews The Evidence (sciencealert.com)

Biden's new Wuhan lab leak investigation ramps up US-China blame game
1 June
Biden's new Wuhan lab leak investigation ramps up US-China blame game (theconversation.com)

Covid-19: why the lab leak theory must be formally investigated
2 June
Covid-19: why the lab leak theory must be formally investigated (theconversation.com)
And going back earlier
Coronavirus origins: genome analysis suggests two viruses may have combined
18 March 2020

https://theconversation.com/coronavirus-origins-genome-analysis-suggests-two-viruses-may-have-combined-134059

Podcast: Uncertainty and the 'lab leak' theory (16 min listen)
4 June
Coronapod: Uncertainty and the COVID 'lab-leak' theory (nature.com)

Why politicians should be wary of publicly pursuing the Wuhan lab-leak investigation
7 June
Why politicians should be wary of publicly pursuing the Wuhan lab-leak investigation (theconversation.com)

The COVID lab-leak hypothesis: what scientists do and don't know
8 June
The COVID lab-leak hypothesis: what scientists do and don't know (nature.com)
https://doi.org/10.1038/d41586-021-01529-3

COVID lab-leak theory: 'rare' genetic sequence doesn't mean the virus was engineered
22 June
COVID lab-leak theory: 'rare' genetic sequence doesn't mean the virus was engineered (theconversation.com)

Scientist recovers coronavirus gene sequences secretly deleted last year in Wuhan
23 June
Scientist recovers coronavirus gene sequences secretly deleted last year in Wuhan | Live Science

Deleted coronavirus genome sequences trigger scientific intrigue
24 June
Deleted coronavirus genome sequences trigger scientific intrigue (nature.com)
https://doi.org/10.1038/d41586-021-01731-3

The Very First Case of COVID-19 Was Much Earlier Than We Knew, New Study Indicates
25 June
The Very First Case of COVID-19 Was Much Earlier Than We Knew, New Study Indicates (sciencealert.com)

Researchers Find COVID-19 Virus Was "Highly Human Adapted" – Exact Origins Still a Mystery
25 June
Researchers Find COVID-19 Virus Was "Highly Human Adapted" – Exact Origins Still a Mystery (scitechdaily.com)
https://doi.org/10.1038/s41598-021-92388-5

When Did the First COVID-19 Case Arise? New Analysis With Surprising Findings
28 June
https://scitechdaily.com/when-did-the-first-covid-19-case-arise-new-analysis-with-surprising-findings
https://doi.org/10.1371/journal.ppat.1009620

Wuhan Lab-Leak Theory: "Rare" Genetic Sequence Doesn't Mean the COVID Virus Was Engineered
7 July

Wuhan Lab-Leak Theory: “Rare” Genetic Sequence Doesn’t Mean the COVID Virus Was Engineered (scitechdaily.com)

There's a New Review of Potential SARS-CoV-2 Origins. Here's What Experts Think

7 July

There's a New Review of Potential SARS-CoV-2 Origins. Here's What Experts Think (sciencealert.com) and

The Origins of SARS-CoV-2: A Critical Review

7 July

The Origins of SARS-CoV-2: A Critical Review | Zenodo
https://zenodo.org/badge/DOI/10.5281/zenodo.5075888.svg

One mutation may have set the coronavirus up to become a global menace

12 July

One mutation may have set the coronavirus up to become a global menace | Science News

Lab Leak or Zoonotic Transfer? Leading Biologists Review COVID-19 Virus Origin Evidence

16 July

Lab Leak or Zoonotic Transfer? Leading Biologists Review COVID-19 Virus Origin Evidence (scitechdaily.com)
https://doi.org/10.5281/zenodo.5075888

China Rejects WHO Plan For Second Phase Of COVID-19 Origins Probe

23 July

China Rejects WHO Plan For Second Phase Of COVID-19 Origins Probe (ndtv.com)

Will we ever find COVID-19's 'Patient Zero?'

27 July

Will we ever find COVID-19's 'Patient Zero?' | Live Science

US COVID origins report: researchers pleased with scientific approach

27 August

US COVID origins report: researchers pleased with scientific approach (nature.com)
https://doi.org/10.1038/d41586-021-02366-0

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

Support our Institute by publishing your new research results in the 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

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

IDA IRELAND'S COVID-19 RESPONSE PLAN

COVID-19 (CORONAVIRUS) RESPONSE PLAN

IDA Ireland remains open for business virtually across the globe.

Our focus includes

1. **Engaging** with our 1500+ existing client companies at this time to support them in whatever way we can. Our Account Executives are reaching out to them regularly.

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

3. **Supporting** the Irish Heath Service Executive in all of their efforts, but particularly in securing the necessary supplies of medical equipment that our health system and citizens need.

IDA Ireland

Our Capabilities

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

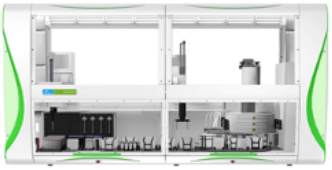
Uncover deep biological understanding in your everyday assays and innovative applications using the Operetta CLS™ high-content analysis system. Featuring a unique combination of technologies, the system delivers all the speed, sensitivity and resolution you need to reveal fine sub-cellula...

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

Antylia Scientific creates 60 roles in the Midlands with establishment of new state of the art manufacturing facility

6 May 2021

Vernon Hills, IL, US and Westmeath Ireland, 6th May 2021 – Antylia Scientific™, a global leader in peristaltic and associated fluid path products providing bioprocessing solutions, and a diverse portfolio of life sciences and diagnostic products for the pharma, biopharma, healthcare, and environmental markets, has announced the creation of approximately 60 roles in Co. Westmeath with the establishment of its Masterflex® Bioprocessing facility in the National Science Park, Mullingar.

This project is supported by the Irish Government through IDA Ireland.

Minister for Trade Promotion, Digital and Company Regulation Robert Troy TD said: “I am delighted that Antylia has chosen to establish its new facility in Mullingar, creating some 60 new highly skilled jobs. It is a significant announcement for Mullingar and a strong endorsement of the Midlands as an excellent location for businesses to establish and thrive. Our highly skilled workforce is just one reason why Ireland is recognised as a global hub for leading biopharmaceutical companies like Antylia Scientific. Our mission in Government is to get people back to work and rebuild the economy and a priority focus for me in the Department of Enterprise is to promote balanced regional development across the country. I wish Antylia Scientific every success with its new facility in Mullingar.”

The new Masterflex Bioprocessing facility will be used to design and manufacture Masterflex® peristaltic technologies that are used in mission-critical pharmaceutical and bioprocessing workflows for the development and production of vaccines and therapeutics. The facility will also include a large warehouse space to store components and the finished products.

This investment by Antylia Scientific and the IDA in the new Masterflex Bioprocessing facility will expand access to these critical fluid path products and provide customers with shorter lead times, simplified sourcing and validation and increased supply for these critical fluid path products.

"We are grateful to the Irish Government through IDA Ireland for this tremendous opportunity,” said Brian Barnett, President of Masterflex Bioprocessing. “We are thrilled to open our first facility in Ireland to produce and house Masterflex® peristaltic technologies and associated fluid path products. These products are in great demand globally. The addition of this site to our Masterflex Bioprocessing family of global sites providing mission critical products and services will help the overall Biopharma industry. It is

a win-win situation that will positively benefit our customers, our Masterflex brand, and the Mullingar workforce and economy."

The jobs being created at the new Masterflex Bioprocessing facility in Mullingar are in the areas of process and medical device engineering, manufacturing as well as logistics and supply chain.

CEO of IDA Ireland, Martin Shanahan said: "Today's announcement by Antylia Scientific is a very positive one for the Midlands and is a strong endorsement in the region's talented and highly skilled Biopharma and MedTech workforce. Antylia Scientific's significant investment in its Mullingar facility based at the National Science Park demonstrates the company's commitment to the Midlands region. I wish Antylia every success with this investment."

To explore opportunities to join the Antylia Scientific team in Mullingar, visit Antylia Scientific on LinkedIn or to learn more about Antylia Scientific and Masterflex please visit www.antylia.com and www.masterflex.com.

IDA Ireland
Wilton Park House,
Wilton Place, Dublin 2
Tel: + 3531 603 4000
Email: idaireland@ida.ie

IDA Ireland

https://www.idaireland.com

Driving Recovery & Sustainable Growth 2021-2024

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

READ MOR

IDA Ireland
Wilton Park House,
Wilton Place, Dublin 2
Tel: + 3531 603 4000
Email: idaireland@ida.ie

https://www.idaireland.com

Pfizer's announcement it is to manufacture Covid-19 vaccine drug substance in Ireland - Welcome Statement

19 May 2021

IDA Ireland welcomes the announcement today by Pfizer that it is to manufacture a Covid-19 vaccine drug substance at its Grange Castle facility in Dublin.

Pfizer is to invest some $40M in the expansion of the Grange Castle site to allow for the extra production that will be part of the global Pfizer-BioNTech COVID-19 Vaccine supply chain network, contributing to the worldwide supply of the vaccine.

75 new roles are to be created as a result.

Commenting today, An Taoiseach, Micheal Martin said: "I'm delighted to welcome today's announcement by Pfizer that it will shortly begin production of COVID-19 vaccine components in Ireland, with the associated investment of c$40 million and the creation of 75 jobs at Grange Castle in Dublin. This is a historic announcement, which builds on the extraordinary success story of Pfizer's over 50-year manufacturing presence here in Ireland. As we rapidly step-up vaccine roll out, in Ireland, in Europe and across the globe, today's news is a fantastic development that will see Ireland fully play its part in this generational challenge."

Tanaiste and Minister for Business, Enterprise & Innovation, Leo Varadkar said: "Ireland is globally recognised as a centre of excellence for the Life Sciences and this investment is a real vote of confidence in us and our capacity. With this announcement, we will have a central role to play in the Covid-19 response, helping to produce this life saving vaccine in Dublin, creating 75 new, highly skilled jobs. These vaccines have saved countless lives and I'm really happy Pfizer has chosen to produce components of them here."

IDA Ireland CEO Martin Shanahan said:

it underlines the importance of the pharma sector in Ireland and demonstrates the capability of the biological sector here. "This is most welcome news and a strong vote of confidence in the skills, expertise and capability to manufacture this mRNA drug substance here. Pfizer has played an important part to date in the delivery of vaccine to help in the fight against Covid-19 and it is great that the company's efforts will now be assisted by the production of this mRNA drug substance from Ireland. The 75 jobs being created at the Grange Castle facility are also extremely welcome."

Contact:

Ellen Lynch

Press & PR Manager,

IDA Ireland

Ellen.lynch@ida.ie 087 4112084

https://www.idaireland.com

PPD to Expand GMP Lab in Ireland to Enhance Biopharmaceutical Testing Capabilities

28 April 2021

WILMINGTON, N.C. (April 28, 2021) – PPD, Inc. (Nasdaq: PPD), a leading global contract research organisation, is expanding its Athlone, Ireland, GMP (good manufacturing practices) laboratory, significantly increasing the size of its current facility and adding cell and gene therapy testing to the operation's portfolio of services.

The expansion enhances PPD's ability to deliver global scientific and technical expertise to meet growing customer demand in Europe, the Middle East and Africa, and the Asia-Pacific region. By offering these services at its Athlone operation, PPD can provide clients in these locations with the same services already available in the U.S. through its Middleton, Wisconsin, GMP lab.

"Our enlarged operations will enhance our capabilities in leading technologies related to biopharmaceutical testing and speciality testing for biologics and small molecules," said Christopher Fikry, M.D., Executive Vice President of PPD® Laboratories. "This expansion will enable PPD to provide customers with additional services aimed at reducing time to market for new drug products in important areas such as cell and gene therapies. We are thankful our expansion has been welcomed and supported by the Irish Government and IDA Ireland, and we're confident these new developments will benefit our customers."

The Athlone GMP lab provides fully integrated analytical services across all phases of pharmaceutical development and commercialisation, helping clients fulfil regulatory requirements for release testing and qualified person (QP) services for clinical and marketed pharmaceuticals, including small and large molecules, inhaled products, and cell and gene therapies.

The current 4,460 sq. meter (48,000 sq. foot) operation will grow to 7,710 sq. meters (83,000 sq. feet) upon completion of the project, which is expected to be fully functional by mid-2022 and is projected to create 180 new jobs over the next three years. The current operation employs nearly 300 highly skilled scientists and project managers who support the demand for PPD's services, which includes testing to support the development of novel and advanced pharmaceuticals and therapies.

Tánaiste and Minister for Enterprise Trade and Employment Leo Varadkar TD said: "I'm really pleased that PPD is continuing to invest in its Athlone operations in an expansion that will create 180 jobs over three years and significantly add to the capabilities of the company's current facility. This is a really positive development for Athlone and the Midlands Region."

Minister of State at the Department of Enterprise, Trade and Employment with responsibility for Trade Promotion Robert Troy TD said: "I am delighted to see PPD announce plans to expand its presence in Athlone. This is a significant expansion, which will result in the creation of 180 jobs for highly skilled scientists. This announcement demonstrates that Athlone and the Midlands region have the skills, talent, people and connectivity that will enable companies like PPD to embed and grow their operations here. Regional job creation is a key priority of this Government and we will be working to secure further investment for all regions in the months and years ahead."

CEO of IDA Ireland Martin Shanahan added: “Today’s announcement by PPD demonstrates the company’s commitment to Ireland and indeed the Midlands Region where it has been in operation for more than 10 years. It will allow the company to avail itself of the rich talent pool that exists in the Midlands and will provide an economic and employment boost to the local and wider Midlands region. We wish PPD continued success.”

In addition to the lab in Athlone, PPD Laboratories includes GMP labs in Middleton, Wisconsin; bioanalytical labs in Middleton and Richmond, Virginia; central labs in Shanghai, China, Brussels, Belgium, Highland Heights, Kentucky, and Singapore; biomarker labs in Highland Heights and Richmond; a vaccine sciences lab in Richmond; and a multipurpose bioanalytical, biomarker and vaccine sciences lab that is nearing completion in Suzhou, China.

END

About PPD

PPD is a leading global contract research organization providing comprehensive, integrated drug development, laboratory and lifecycle management services. Our customers include pharmaceutical, biotechnology, medical device, academic and government organizations. With offices in 47 countries and more than 27,000 professionals worldwide, PPD applies innovative technologies, therapeutic expertise and a firm commitment to quality to help customers bend the cost and time curve of drug development and optimize value in delivering life-changing therapies to improve health. For more information, visit www.ppd.com.

IDA Ireland
Wilton Park House,
Wilton Place, Dublin 2
Tel: + 3531 603 4000
Email: idaireland@ida.ie

https://www.idaireland.com

Repligen Corporation set to significantly expand bioprocessing manufacturing capacity and create 130+ new jobs in Waterford

26 July 2021

Tánaiste and Minister for Enterprise, Trade and Employment Leo Varadkar TD announced today that U.S. headquartered Repligen Corporation is set to significantly expand its manufacturing operations in Waterford, with plans to fit out a 33,000 square foot LEED Silver building that is expected to create 130 new jobs in the South East region of Ireland over the next two and a half years. The facility will serve as a Centre of Excellence for single-use consumable products used in bioprocessing applications, and will complement the existing 10,500 square foot Waterford facility (formerly ARTeSYN BioSolutions, which Repligen acquired in Dec 2020) that currently employs 74 people, a figure well above initial hiring expectations set forth in 2019 (08 November 2019) as Repligen continues to experience rapid growth and increased demand for its state-of-the-art bioprocessing products.

Known for highly innovative single-use bioprocessing technologies that increase efficiencies in the process of manufacturing biological drugs, Repligen plans to invest in building out the new Waterford plant as an innovation, assembly and production centre for a diverse portfolio of "plug-and-play" consumables, for use with state-of-the-art filtration and chromatography systems. These highly differentiated technologies are utilized by Repligen's customers – primarily biopharmaceutical developers and contract development and manufacturing organizations worldwide – in the production of investigational and commercial-stage biological therapeutics and vaccines.

Repligen's capital commitment to the Waterford expansion is supported by the Irish Government through IDA Ireland.

Available: Waterford - Advanced Building Solution.

Completed to LEED Silver standard, IDA's Advance Building Solution (ABS) is located on a 4.2-acre site in IDA Ireland's Business & Technology Park in Waterford. It currently includes 32,940 sq. ft. of technology and office space with expansion potential for up to 75,000 sq. ft.

Tánaiste and Minister for Enterprise, Trade & Employment, stated, "This is excellent news from Repligen with the creation of 130 new jobs in Waterford. It comes on foot of a major jobs announcement by Bausch and Lomb. Waterford is on the move as a centre for jobs and investment. Ireland is globally recognised as a centre of excellence for life sciences and this significant expansion is a real vote of confidence in us and our capacity. It shows we are succeeding in attracting high-calibre companies and highly-skilled jobs to all our regions. I wish the team the very best with their expansion plans."

James Bylund, Senior Vice-President, Global Operations and Information Technology at Repligen, said, "We are thrilled to continue the collaboration with the Irish Government and the IDA that was initiated by the ARTeSYN team. This buildout is an important step in expanding our capacity and establishing dual manufacturing sites for key single-use consumable products used in manufacture of biological drugs."

Mr. Bylund continued, "The timing is excellent as we are actively expanding our Waterford site with the addition of 40 employees during the second half of 2021 and expect to open the new building as a Centre of Excellence in 2022. With its LEED Silver designation, the facility is closely aligned with our commitment to responsible growth and sustainability."

Dr. Jonathan Downey, Managing Director at the Waterford site, commented, "Having delivered beyond our commitment in 2019 to bring new jobs to the region through our development of high-end manufacturing capabilities, we are energized and excited about our integration with Repligen and this next phase of growth. In addition to our expansion of ARTeSYN products, and the transfer of manufacturing of certain of Repligen's current products to our Irish operations, we expect to be utilising the Irish sites to advance additional Research, Development & Innovation programs."

IDA Ireland CEO Martin Shanahan, said: "This significant investment by Repligen and the creation of more than 130 new jobs is great news. This next phase of growth, coming only two years after ARTeSYN initially expanded its manufacturing and clean room facilities in Waterford, is further evidence that the technological expertise in the region is strong and that the South East is an attractive location in which to invest, work and live. IDA Ireland is fully committed to regional development and ensuring every area benefits from employment gains. We are pleased to partner with innovation-driven companies like Repligen to increase economic growth and employment in the South East region."

About Repligen Corporation

Repligen Corporation (NASDAQ:RGEN) is a global life sciences company that develops and commercializes highly innovative bioprocessing technologies and systems that increase efficiencies in the process of manufacturing biological drugs. Our primary customers are biopharmaceutical drug developers and contract development and manufacturing organizations (CDMOs) worldwide. Our corporate headquarters are located in Waltham, Massachusetts, with additional administrative and manufacturing operations worldwide. The majority of our manufacturing sites are located in the U.S. (California, Massachusetts, New Jersey and New York), and outside of the U.S. we have sites in Estonia, France, Germany, Ireland, the Netherlands and Sweden. For more information about the company, visit www.repligen.com.

About ARTeSYN

ARTeSYN BioSolutions, now (as of December 2020) a Repligen company, has experienced significant growth over the past few years with a range of innovative offerings, from single-use components through

full bioprocessing systems for filtration and chromatography (purification) unit operations. ARTeSYN® has manufacturing and design/development facilities in the U.S. (California), Ireland and Estonia. The company offers high performance, low hold-up volume systems and is known for continuous innovation in partnership with its biopharmaceutical manufacturing customers. For more information about the company, visit www.artesynbiosolutions.com

Media contact:

Ellen Lynch

Press & PR Manager

IDA Ireland

ellen.lynch@ida.ie

www.idaireland.com

+353 87 4112084

IDA Ireland
Wilton Park House,
Wilton Place, Dublin 2
Tel: + 3531 603 4000
Email: idaireland@ida.ie

https://www.idaireland.com

Bausch + Lomb is to invest €90M in Waterford adding 130 additional jobs

21 June 2021

Waterford – July 21, 2021. Bausch + Lomb, a leading global eye health company, today announced plans to invest €90M to expand manufacturing operations at its Waterford facility.

The investment is expected to generate 130 additional jobs when production commences in 2023 and will provide the Waterford facility with additional capacity to meet expected demand for its Biotrue ONEday® range of contact lenses. In addition, approximately 150 additional workers are expected to be employed in the construction phase of the expansion.

The investment will further strengthen the Waterford plant's position in supporting Bausch + Lomb's efforts to increase market share in the contact lens market. This follows a similar announcement in November 2018 in which the company announced it was investing to increase contact lens manufacturing capacity at its sites in Waterford and Rochester, N.Y. by adding multiple production lines at these two sites to support the manufacture of its innovative daily disposable silicone hydrogel (SiHy daily) contact lenses.

Construction of the Waterford facility, announced in 2018, has now been completed, and production of the company's latest contact lenses, Bausch + Lomb INFUSE®, will start by the end of this year. The Waterford site currently employs more than 1,500 people.

Tánaiste and Minister for Enterprise, Trade and Employment Leo Varadkar, TD said: *"I warmly welcome this news that Bausch + Lomb is investing a further €90 million in Waterford, creating 130 new jobs for the county. The company has already invested significantly in the South East region, employing over 1,500. This decision reaffirms that commitment and is a great vote of confidence in Waterford and all it has to offer. I wish all involved the very best with this new development and thank Bausch + Lomb for the continuing commitment to Ireland."*

Mark Hennessy, Site Lead, Bausch + Lomb, Waterford, said: *"Our Vision is to be the Global Leader in Contact Lens Innovation and Manufacturing, and this latest investment will enable the Waterford facility to meet the growing demand for our very successful Biotrue ONEday® range of daily disposable contact lenses. The Biotrue lens was developed by the team in Waterford and supported by our commercial colleagues around the world, and it continues to grow in our U.S., European and Asian markets."*

"We recently celebrated the 40th anniversary of the establishment of Bausch + Lomb Waterford, and the decision to make this significant investment in Waterford was influenced by our track record in providing high-quality products and excellent customer service to markets around the globe."

IDA Ireland CEO Martin Shanahan said: *"IDA Ireland has partnered with Bausch + Lomb for many years. We are delighted with the company's decision to further expand its manufacturing operations at the*

Waterford facility, creating 130 jobs. It demonstrates Bausch + Lomb's continued commitment to the South East region, in which, this year, it celebrates its 40th anniversary. This expansion is a welcome addition to the South East Region's thriving MedTech cluster. I want to wish Bausch + Lomb every success with this expansion and assure it of IDA Ireland's continued support."

Recruitment for the new jobs will begin in 2022. However, the facility currently has vacant positions in operations, engineering, quality and other disciplines.

To view these open positions please visit the link below and click on IE - Waterford in the "Location" drop down menu:

https://career2.successfactors.eu/career?company=Bausch&career_ns

IDA Ireland
Three Park Place
Hatch Street Upper
Dublin 2
Tel: + 3531 603 4000
Email: idaireland@ida.ie

https://www.idaireland.com

OLED Material Manufacturing, PPG Announce Multi-Million-Euro Investment, up to 100 New Jobs in Shannon

22 July 2021

Universal Display Corporation (Nasdaq: OLED) and PPG (NYSE: PPG) today announced that OLED Material Manufacturing Ltd. (OM^2) and PPG are embarking on a multi-million-euro capital investment that is expected to create up to 100 high-tech jobs at a new Shannon manufacturing site. The facility, which was announced in February 2021, will broaden the global footprint and increase the production of Universal Display Corporation's (UDC) energy-efficient, high-performing UniversalPHOLED® materials to meet growing organic light emitting diode (OLED) market demand and evolving industry requirements.

The announcement was welcomed by **Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar TD,** who said, *"This major announcement by OLED Material Manufacturing and PPG is a welcome boost to the Mid-West region. It will make a significant contribution to Shannon and the Irish economy in terms of job creation, investment and innovation. Technology is one of the fastest-growing sectors here in Ireland and globally, and I wish the team continued success."*

Austin McCabe, Director, OLED Material Manufacturing Limited, said, *"Our manufacturing expansion in Ireland allows UDC to strengthen its mission, which centers on enabling our customers and fostering the proliferation of energy-efficient OLED display and lighting applications in the consumer landscape. Leveraging UDC Ireland's presence, the site's infrastructure and the Mid-West region's top-level talent, we are excited about the new Shannon facility. Together with our long-term partner, PPG, this multi-million-euro investment will expand the global manufacturing footprint for UDC's proprietary state-of-the-art phosphorescent emissive materials to meet the substantial growth forecasted for the OLED market."*

Gerry Cahill, PPG Plant Manager, Shannon, said, *"This project will bring a broad spectrum of jobs, a large number of which are highly skilled, to the Mid-West region. PPG has been producing high-performance OLED materials for UDC for the past 20 years. The expansion into Ireland with the addition of the Shannon facility shows confidence in not only the UDC-PPG partnership but also in Ireland as a place in which to invest and do business. In this regard, we are thankful for the support of the Irish Government through IDA Ireland."*

Martin Shanahan, CEO, IDA Ireland, *said, "This decision by OLED Material Manufacturing and PPG to invest in Shannon demonstrates the companies' confidence in the availability of a skilled and talented workforce in the Mid-West Region. This announcement is further evidence of IDA Ireland's continued commitment to winning jobs and investment for regional locations. I wish OLED Material Manufacturing and PPG every success as they progress with their manufacturing site in Shannon."*

PPG is the longstanding partner and exclusive manufacturer of UDC's UniversalPHOLED emitter materials. OLED Material Manufacturing Limited is a wholly-owned subsidiary of UDC Ireland Ltd., which is a subsidiary of UDC. Facility renovations and regulatory approvals at the Shannon site are

expected to be completed in the next 12 months so that operations can commence in 2022.

IDA Ireland
Three Park Place
Hatch Street Upper
Dublin 2
Tel: + 3531 603 4000
Email: idaireland@ida.ie

https://www.idaireland.com

The Ardonagh Group announces 60 new roles as the Ardonagh Global Data and Risk Management Centre is launched

27 July 2021

Global healthcare company Abbott has today announced further investment in its cardiovascular Research and Development Centre based at its Vascular devices site in Clonmel, Co. Tipperary, Ireland.

Abbott is the world leader in drug-eluting stents. Both R&D and manufacturing of Abbott's new vascular technologies to treat complex heart disease take place at its Clonmel site. The Irish R&D team spent three years developing the company's market-leading stent, XIENCE Sierra, which is being used worldwide in patients who, because of the nature of their disease, might not previously have been suitable for minimally invasive surgery. Abbott's manufacturing plant in Clonmel manufactures its XIENCE family of stents, including XIENCE Sierra, for global use.

The continued major investment programme in its R&D centre in Clonmel, supported by the Irish government through IDA Ireland, comes as Abbott celebrates 75 years in Ireland this year. Over the next three years Abbott will invest €37.8 million in an R&D programme focusing on the discovery, innovation and development of a number of projects, including next generation drug eluting stents, as well as coronary and endovascular balloon technologies.

Tánaiste & Minister for Enterprise, Trade and Employment Leo Varadkar TD said: "Abbott was one of the first US companies to establish operations in Ireland and is one of our largest med-tech employers, with six manufacturing sites and three corporate services operations throughout the country. Today's announcement reflects Abbott's ongoing commitment to Ireland. It is also a tribute to the management and staff of Abbott's vascular division in Clonmel, who have played a pivotal role in the global success of Abbott's XIENCE Sierra stent. I congratulate the Irish and global teams on this investment."

Deirdre Mullins, site director, Abbott in Clonmel said: "Our market leading XIENCE stents were developed in Clonmel and today's announcement places us at the vanguard of Abbott's global research efforts in cardiovascular treatments. We are very proud that the life changing technologies we design and manufacture in Clonmel are saving lives in Ireland and across the world."

CEO of IDA Ireland Martin Shanahan said: "Abbott has demonstrated real commitment to its Irish operations in its 75 years here, investing and expanding its operations and growing jobs across its manufacturing and shared services sites, employing over 4,000 people in Ireland. The economic and jobs benefit of Abbott's longevity here is substantial. I congratulate the Irish and global teams on this investment and wish Abbott continued success in its operations here."

Over 90,000 Irish people have heart disease and it is one of the most common causes of hospitalisation in people aged over 65 in Ireland. Dr Colm Hanratty, Consultant Cardiologist at Mater Private Network Dublin, is a pioneer in the treatment of patients with complex cardiovascular disease and broadcasts operations all over the world, sharing his knowledge and skills with consultants across the globe.

He said, “Drug eluting stents revolutionised the treatment of cardiovascular disease. But we are starting to see more complex cases. As people get older, the arteries narrow, they become twisted and there is a build-up of plaque. Abbott’s XIENCE Sierra stent is a feat of engineering that means we can treat previously untreatable patients.”

Dr Diarmuid Meagher, Director of Research and Development, Abbott, explains that the engineering team worked closely with Dr Hanratty and the global interventional cardiology community to understand the challenges that were impacting successful cardiovascular interventions. “We adapted the XIENCE design to develop a stent for older and more complex patients which was smaller, more flexible and physically stronger. Its sophisticated navigation makes it easier to manoeuvre through challenged arteries and obstacles and it’s now being used in 90 countries around the world.”

One person who knows the life changing impact of Abbott’s XIENCE Sierra stent is **Martin O’Connor from Dunmore East in Waterford,** who was diagnosed with cardiovascular disease following an angiogram in September 2020.

“I was told I wasn’t a candidate for bypass surgery or for a stent because of the complex nature of my disease. After a number of months on medication, my health continued to deteriorate and by Christmas I couldn’t walk from the kitchen to the dining room. I was told nothing more could be done for me. A real low point was when my daughter got engaged at Christmas and I realised I probably wouldn’t live to walk her up the aisle.”

“Only that my family insisted on a second opinion and found Dr Hanratty and the Cardiac Programme in Mater Private Network, I wouldn’t be here today. I walked into the hospital a dying man and I walked back out a few hours later with three new stents and a new life. I’m back playing golf and enjoying precious time with my grandchildren. I cannot praise Dr Hanratty and his team highly enough and I want to thank the employees in Abbott. I have no doubt that together with Dr Hanratty, they helped save my life.”

Dr Hanratty added: “XIENCE Sierra is a significant evolution for the treatment of complex cases. Martin is doing so well today because of it. And we know there are many more patients like Martin living with chronic cardiac disease in Ireland today, whose lives could be vastly improved by new treatments like XIENCE Sierra. It’s important that they know that there are options available. I am delighted that Abbott is making this additional investment in cardiovascular R&D in Ireland and I look forward to continuing to work closely with the Clonmel team.”

About Abbott
Abbott is a global healthcare leader that helps people live more fully at all stages of life. Our portfolio of life-changing technologies spans the spectrum of healthcare, with leading businesses and products in diagnostics, medical devices, nutritionals and branded generic medicines. Our 109,000 colleagues serve people in more than 160 countries.

Connect with us at www.abbott.com, on LinkedIn at www.linkedin.com/company/abbott-/, on Facebook at www.facebook.com/Abbott and on Twitter @AbbottNews.

Abbott in Ireland
Abbott serves the Irish market with a diverse range of healthcare products including diagnostics, medical devices and nutritional products. In Ireland, Abbott employs almost 4,000 people across nine sites. We have six manufacturing facilities located in Clonmel, Cootehill, Donegal, Longford and Sligo and a third-party manufacturing management operation in Sligo. Abbott has commercial, support operations and shared services in Dublin and Galway. We have been operating in Ireland since 1946.

To explore opportunities available at Abbott in Ireland visit www.ie.abbott/careers

Abbott Media:
Fiona Lloyd +44(0)7780955718

IDA Ireland
Three Park Place
Hatch Street Upper
Dublin 2
Tel: + 3531 603 4000
Email: idaireland@ida.ie

https://enterprise-ireland.com/en

Tánaiste announces multi-million Euro R&D support of ICON to accelerate decentralised clinical trial technology

23rd September 2021

L-R: Leo Clancy, CEO, Enterprise Ireland, Tom O'Leary, CIO, ICON, Dr. Nuala Murphy, President, Global Speciality Solutions, ICON, An Tánaiste Leo Varadkar, Dr. Steve Cutler, CEO, ICON

ICON secures Enterprise Ireland funding to enhance digital health technology and data analytics solutions

The Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar TD announced today that ICON plc (NASDAQ: ICLR), a Dublin-based global provider of drug development and commercialisation services to pharmaceutical, biotechnology and medical device industries, has been awarded €4 million in R&D support administered by Enterprise Ireland to further enhance its data solutions and decentralised clinical trial technology.

The COVID-19 pandemic has accelerated the clinical research industry's move to hybrid and decentralised trials, requiring researchers and regulatory bodies to adapt to the ways participants live their connected and mobile lives. As the most advanced healthcare intelligence and clinical research organisation in the industry, ICON will utilise the funding to further invest in the build-out of its world-class technology and data solutions architecture. The support will promote broad clinical research participation while also delivering real-time access to data, higher levels of security, and improved timelines and reduced costs for customers.

The Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar TD said:
"I'm really happy Government is in a position to invest €4m in one of Ireland's best known and respected life sciences companies. This funding will go into research and development in digital health technology and data analytics. The pandemic has brought into sharp focus the importance of both areas. With its roots in Dublin, ICON has grown into a global team of 38,000 dedicated employees. It is a real success story. I wish the team the very best of luck with this project, which I have no doubt will result in better outcomes for patients here in Ireland and worldwide."

The R&D support will help development of tech-enabled systems that provide greater flexibility and reduce the burden felt by clinical trial participants. In addition to visiting sites and meeting with trial investigators when needed, clinical trial participants should also have the choice to utilise virtual visits with their care teams, file eConsent forms, and report outcomes on mobile and wearable devices as part of their clinical trial experience. These options, combined with real-time data availability and analysis, improve participant retention, and reduce the timelines and costs for trial sponsors.

Plans are already in the works to invest in resources such as additional data sources, advanced analytical systems and digitisation, patient-focused mobile technology, and predictive tools that integrate artificial intelligence and machine learning.

"Clinical research has been evolving for many years, but the importance of expanding patient access to clinical research by decentralising many components through technology and data insights was never more apparent than in the last 18 months," said **Steve Cutler, ICON Chief Executive Officer.***"We have to accelerate the adoption of decentralised and hybrid clinical trials to meet participants wherever they are – on their mobile devices and in their homes – while also protecting data security, ensuring the integrity of all trial data, and adhering to regulatory requirements. We are honoured to be the recipient of this R&D funding from Enterprise Ireland, which will help us advance our mission to save and improve patient lives."*

"ICON has an exceptional track record, delivering game changing clinical research solutions to the largest global biopharma and medical device companies in the world," said **Leo Clancy, CEO, Enterprise Ireland.***"Enterprise Ireland is delighted to support ICON's R&D and scaling agenda. Today's announcement further strengthens Ireland's reputation in the global value chain of innovative medicines. We look forward to continuing to work with ICON and wish the team well in their future endeavours."*

Ends

About ICON plc

ICON is a world-leading healthcare intelligence and clinical research organisation. From molecule to medicine, we advance clinical research providing outsourced development and commercialisation services to pharmaceutical, biotechnology, medical device and government and public health organisations. We develop new innovations, drive emerging therapies forward and improve patient lives. With headquarters in Dublin, Ireland, ICON operates from 150 locations in 47 countries and has approximately 38,000 employees as of July 1, 2021. For more information, visit www.iconplc.com.

https://enterprise-ireland.com/en

Minister Damien English announces winners of the 2021 Enterprise Ireland Innovation Arena Awards competition in association with the National Ploughing Association

15th September, 2021

Participants of the Innovation Arena Awards 2021 standing in an equestrian facility Pictured, L-R: Anna May McHugh, MD, National Ploughing Association, Harry the dog, Dermot Weld, Horse Trainer, Tom Daly, Headman, Falcon 8 the horse, Jennifer Corley, CEO, EquiTrace, Kevin Corley, Co-Founder, EquiTrace, Minister Damien English and James Maloney, Enterprise Ireland.

Kerry-based Brandon Bioscience is the overall award winner and EquiTrace from Co. Kildare wins best start-up

A novel seaweed-based crop biostimulant and an app to help horse owners keep track of their stock were among the award winners of the most innovative Irish agritech and agri-engineering products announced today by Minister of State for Business, Employment and Retail, Damien English.

This year's overall Enterprise Ireland Innovation Arena Awards winner was marine biotech company Brandon Bioscience in Tralee, Co Kerry. In collaboration with the traditional fertiliser manufacturer Target Fertilisers, the company's winning entry is an innovative new biostimulant product using extracts from common brown seaweed that has the potential to reduce chemical nitrogen input on farms by up to 20 per cent.

The best overall start-up award went to Jennifer and Kevin Corley, founders of EquiTrace which is an app that works with a horse's microchip to identify, locate and track individual animals as they move while also recording animal temperature and health records when used with a Merck Bio-Thermo chip and scanner.

For the second year in a row, the 2021 Enterprise Ireland Innovation Arena Awards in association with the National Ploughing Association (NPA), took place online, with shortlisted innovators pitching their pioneering designs to a virtual judging panel over the course of two days.

Enterprise Ireland's Innovation Arena traditionally showcases ground-breaking agri-related products and innovations from Irish agri-companies at the National Ploughing Championships. This year's competition was once again moved fully online due to the cancellation of the event as a result of the pandemic.

Winners of this year's awards are automatically eligible to exhibit in the '2021 Winners Enclosure Section' at the Innovation Arena in 2022.

More than 50 entries were received for this year's Awards competition with 28 selected for virtual pitching.

Announcing the winners, Minister Damien English said, "The ingenuity and talent of Irish farm experts, entrepreneurs and businesses, is once again captured by this year's Innovation Arena Award winners.

"In line with Government policy on Climate action, the positive impacts that Irish innovation can have on future global agriculture, particularly in relation to environmental, sustainability and digitalisation solutions, are inspiring. There are significant opportunities for our agricultural sector in overseas markets and the potential to drive economic growth. I would encourage farmers and companies to take advantage of Ireland's reputation for agri-innovation and to explore opportunities to realise their global ambition in new markets."

Leo Clancy, CEO, Enterprise Ireland said, "The strong themes emerging from this year's Innovation Arena Award entries are a focus on farm efficiency and a concentration on how to protect our natural resources. Over the last few years, we've seen growing trends towards digitalisation of the sector, with increased capacity for capturing more data, interpreting it and using these insights for decision-making. The uptake of such technologies on the farm will have significant benefits generating efficiency and sustainability in food production.

"Despite a challenging 18 months, we are really encouraged by the quality of the entries and future possibilities for our Innovation Arena Award winners. Enterprise Ireland looks forward to working with them in finding opportunities for their innovative solutions in domestic and global markets."

National Ploughing Association Managing Director, Anna May McHugh said, "The NPA are delighted to be partnering up again with Enterprise Ireland to run this year's online Innovation Arena Awards. Innovation has been a key factor of the National Ploughing Championships since its establishment 90 years ago in 1931 as it as it has grown and evolved over the years to become the epic event it now is.

"Agriculture is deeply rooted in Irish culture and is a vital factor in rural Ireland's economic growth. Over the years the Innovation Arena at Ploughing has seen some of the most cutting-edge technologies & brilliant pioneering ideas and this year is no exception, with previous winners going on to experience tremendous success in business both in Ireland and on the global stage."

The overall and best start-up Award winners will receive €5,000 each.

There were 14 Award category winners including:

Overall Winner (Established company) and Sustainable Agriculture Award: Brandon BioScience, Kerry
Overall Winner (Start-up company) and Vet Technology Award: EquiTrace, Kildare

Agricultural Engineering Award and ACE Agritech Centre of Excellence Award: Samco Agricultural, Limerick
Agritech Start-up Award: ApisProtect, Cork
Agritech Established Company Award: Alltech, Meath
Agri-safety Award: Calving Assist, Tipperary
One to Watch Award: SlurryQuip, Down
Young Innovator of the Year: Carbon Harvesters, Dublin
ifac Best Newcomer Award: Moonsyst International, Cork
On Farm Innovation Award – Alfie Cox Founder's Perpeptual Trophy: Crushmate, Laois
AgTechUCD Startup Award: FodderBox Ltd, Cork
More details at www.innovationarena.ie

ENDS

For further information, please contact:

Brigid Burke
Press & Media Relations

Enterprise Ireland

Brigid Burke

087 180 3995

ENTERPRISE IRELAND
where innovation means business

https://enterprise-ireland.com/en

https://enterprise-ireland.com/en

Three projects led by Irish Higher Education Institutions awarded EU funding

15th July, 2021

Enterprise Ireland welcomes the European Institute of Innovation & Technology (EIT) award of funding to projects led by the Institute of Technology, Sligo, Dublin City University and NUI Galway under a Pilot Call for Proposals, inviting higher education institutions to design activities that will enhance their entrepreneurial and innovation capacity.

The call will fund 23 pilot projects to be implemented between 2021−2023. The total maximum budget per project is €1.2 million, broken down as follows: €400,000 for Phase 1 (July−December 2021) and €800,000 for Phase 2 (January 2022−July 2023). In total, there is Irish participation in nine of the twenty-three consortia awarded funding.

The initiative is a joint EIT Community activity coordinated by EIT Raw Materials. The Pilot Call for Proposals invited European higher education institutions to design institution-wide action plans that will enhance their entrepreneurial and innovation capacity across all institutional levels. By supporting such activities, this new EIT initiative aims to create systemic impact, empowering HEIs to become regional engines of innovation and foster sustainable growth and jobs across Europe. Activities can focus on several themes, including:

- Fostering institutional engagement and change
- Strengthening partnerships between higher education, business and research organisations
- Developing innovation and business support services
- Enhancing the quality of entrepreneurial education
- Creating and disseminating knowledge

The successful Irish led projects cover areas including empowering innovators and entrepreneurs to develop world-class solutions to Industry 4.0 and smart manufacturing challenges and create growth and skilled jobs; establishing a new Cross-European Scale Up Network and systems addressing capacity and capability to foster entrepreneurial thinking, actions and institutions. All awards are subject to contract.

Speaking following the announcement, **Garrett Murray, National Director for Horizon Europe at Enterprise Ireland said:** “Enterprise Ireland welcomes this announcement by EIT. It is a great success for Ireland and is testament to the capability and talent within the Irish research and innovation system. Higher Education Institutions play a critical role in the development and growth of regional innovation ecosystems. The successful applicants, working with their partners and the EIT, will be able to enhance their entrepreneurial capability and support companies to innovate and scale.

"The EIT is an integral part of the Innovative Europe pillar of Horizon Europe, the €95.5bn EU Framework Programme for Research and Innovation. In line with their strategy to 2027, the EIT will be issuing a Call for a new EIT Culture and Creativity Knowledge and Innovation Community in October 2021. This will be another opportunity for Irish applicants to compete for EIT funding."

Following the announcement, **Chris O’Malley, Vice President, Research, Innovation & Engagement at the Institute of Technology Sligo, stated:** “Our project with our RISEN alliance partners will support 120 SMEs to move to the next stage of growth over two years. They will be supported by a peer mentor

network and be given access to expertise from the EIT and the partner universities in developing their strategy to get there. An innovative feature of these is that they can submit their strategic plans for an academic award. By making this a network spanning six member states, the opportunities for these companies to grow internationally can be massively accelerated."

Enterprise Ireland encourages all Irish researchers and innovators to look at the remaining opportunities under the Programme and to contact their National Contact Points in Enterprise Ireland and across the Horizon Europe national support network for information, guidance and expert support in evaluating opportunities and making applications – www.horizoneurope.ie

The European Institute of Innovation and Technology (EIT)

The EIT strengthens Europe's ability to innovate by powering solutions to pressing global challenges and by nurturing entrepreneurial talent to create sustainable growth and skilled jobs in Europe. The EIT is an EU body and an integral part of Horizon Europe, the EU Framework Programme for Research and Innovation. The Institute supports dynamic pan-European partnerships, EIT Knowledge and Innovation Communities, among leading companies, research labs and universities. Together with their leading partners, the EIT Community offers a wide range of innovation and entrepreneurship activities across Europe: entrepreneurial education courses, business creation and acceleration services and innovation driven research projects.

EIT Powers Innovative Solutions to Global Challenges

The EIT's eight Knowledge and Innovation Communities work to accelerate the transition to a zero-carbon economy (EIT Climate-KIC), drive Europe's digital transformation (EIT Digital), lead the global revolution in food innovation and production (EIT Food), give EU citizens greater opportunities to lead a healthy life (EIT Health), achieve a sustainable energy future for Europe (EIT InnoEnergy), strengthen the competitiveness of Europe's manufacturing industry (EIT Manufacturing), develop raw materials into a major strength for Europe (EIT RawMaterials), and solve the mobility challenges of our cities (EIT Urban Mobility).

Press Release EIT HEI Results.pdf

www.eit-hei.eu

Profiles of Irish led Projects

Pilot Project Fact Sheet (eit-hei.eu) – Dublin City University

Pilot Project Fact Sheet (eit-hei.eu) - Institute of Technology Sligo

Pilot Project Fact Sheet (eit-hei.eu) – National University of Ireland, Galway

Contact

For further information, please contact:

Marika MacCarvill

Press & Media Relations

Enterprise Ireland

Marika MacCarvill

+353 (0)86 171 2568

https://enterprise-ireland.com/en

Tánaiste announces €6million investment in capital equipment for industry research

14 July 2021

The Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar TD has announced the successful applicants of the Capital Equipment Fund administered by Enterprise Ireland through the Technology Gateway and Technology Centre Programmes. 29 successful projects from across the third level sector have secured over €6million in funding to assist them in buying world-leading research equipment that will serve the Research and Development (R&D) needs of Irish industry.

The €6m fund will provide companies with access to critical, leading-edge equipment that will allow them to engage in R&D activities, pilot manufacturing capability for new products and process development, enhance technology validation and testing capabilities, test bed generation and enhanced training potential for key industry staff on emerging technologies in collaboration with the technology gateways and technology centres across Ireland.

The winners were selected through a rigorous evaluation process based on eligibility criteria for the call which included, but was not limited to, a strong track record of industry engagement, a significant industrial need for the new equipment, and space to service and maintain the equipment according to international standards.

Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar TD said:

"This €6m Capital Equipment Fund will give 29 projects across the country access to world-class research equipment, helping them test new products and ways of doing things. We hope to see some exciting new ideas and breakthroughs as a result. Great things happen when companies collaborate with third level institutions. Recent data show that companies which collaborate with our universities have double the turnover of those that don't. Third level institutions benefit too, by getting to work with creative, business-minded entrepreneurs, working on solutions to real life problems. Congratulations to all the successful applicants, I look forward to seeing the fruits of this collaborative effort."

Gearoid Mooney, Divisional Manager, Research & Innovation at Enterprise Ireland said:

"This important investment coupled with the support and expertise of our technology gateways and centres will enable Irish industry to pursue their own innovation agendas particularly on challenges where they don't have all of the resources "in house". The successful projects announced today will provide equipment that is essential to serving the R&D needs of Irish industry and may give them an opportunity to try important assets before they invest in them."

Notes to Editor
About Enterprise Ireland
Enterprise Ireland is the Irish State agency that works with Irish enterprises to help them start, grow, innovate and win export sales in global markets. Enterprise Ireland partners with entrepreneurs, Irish businesses, and the research and investment communities to develop Ireland's international trade,

innovation, leadership and competitiveness. In this way, we support sustainable economic growth and regional development, and help create and sustain employment in Ireland. www.enterprise-ireland.com

About the Technology Gateway Programme
16 technology gateways in ten institutes of technology and technological universities deliver innovation expertise to industry across Ireland. These gateways provide companies of all sizes with access to over 300 highly skilled and industrially focused researchers, together with specialist equipment and facilities.

Each technology gateway focuses on key technology areas aligned to industry needs. Companies all over Ireland are using technology gateways to develop new or better products and services and smarter ways of doing things.

About the Technology Centre Programme
The Technology Centre Programme is a joint initiative between Enterprise Ireland and IDA Ireland. It allows Irish companies and multinationals to work together on market-focused strategic R&D projects in collaboration with research institutions.

The technology centres in the programme are resourced by highly qualified researchers who provide a unique ecosystem for collaboration in areas identified by industry as being strategically important.

Over 300 member companies collaborate with the centres in the areas of analytics, dairy processing, food for health, learning technologies, manufacturing, materials, meat technology, microelectronics and pharmaceutical manufacturing.
Technology centres:

Promote growth and competitiveness through industry-led research collaboration
Address technology opportunities and threats in the key industry sectors
Increase the levels of industry investment in R&D
Leverage investment in existing academic research capabilities and build critical mass in key sectors
Facilitate and encourage collaboration between Indigenous and Foreign Direct Investment companies
About the Capital Equipment call
Of 54 eligible applications reviewed, 29 have been approved for funding totalling €6,026,116. Funding was based on an extensive review process which looked at the number of companies that will benefit and the criticality of the equipment to servicing their R&D needs, how access to the equipment can be shared across the technology gateway and technology centres network and current capability gaps within the collaborative research system that can be alleviated by making this equipment available.

Successful applicants

Gateway / Centre	Description
Dairy Processing Technology Centre (DPTC) - UCD	Particle Track
Shannon Applied Biotechnology Centre (Shannon ABC) – Limerick IT	Supercritical Fluid Extraction
Telecommunications Software & Systems Group (TSSG) - Waterford IT	Botscan
MiCRA – TU Dublin	Multimode Microplate Reader
Nimbus - MTU-Cork	Cyber Range
Shannon Applied Biotechnology Centre (Shannon ABC) – Limerick IT	Controlled Environmental Lab
Pharmaceutical & Molecular Biotechnology Research Centre (PMBRC	Near Infrared Spectrometer
MCCI - Tyndall National Institute, Cork	Power Test System for High Voltage
Centre for Advanced Photonics & Process Analysis (CAPPA) – Cork IT	UV Raman and fluorescence spectrograph
Applied Polymer Technologies (APT) - Athlone IT	Multilayer Extrusion Line

South Eastern Applied Materials Research Centre (SEAM) - Waterford IT	Micro x-ray Fluorescence Analysis System
Applied Polymer Technologies (APT) - Athlone IT	2D Fourier Transform Infra Red Microscope
South Eastern Applied Materials Research Centre (SEAM) - Waterford IT	Coordinate Measurement Machine
South Eastern Applied Materials Research Centre (SEAM) - Waterford IT	White Light Interferometer
Applied Polymer Technologies (APT) - Athlone IT	Screw Driven Melt Reactor
DPTC - Teagasc	Automated FAME Robotic System
MTI - Teagasc	X-Ray Computed Tomography Scanner
MiCRA – TU Dublin	Ion Chromatograph
Centre for Advanced Photonics & Process Analysis (CAPPA) – MTU Cork	Benchtop nuclear magnetic resonance spectrometer
CREDIT- DkIT	Environmental Test Suite
CREST – TU Dublin	Inverted Fluorescent Microscope
Wireless Sensor & Applied Research (WiSAR) -Letterkenny IT	90GHz Anechoic Chamber
CREST – TU Dublin	Servo-hydraulic Testing Machine
CREST – TU Dublin	Weatherometer
FHI - Teagasc	Sequencing System
DPTC - UL	Elemental Analysis suite
CREDIT - DkIT	Hemisphere Scanning LiDAR
Precision Engineering, Materials & Manufacturing (PEM) - IT Sligo	5 Axis Milling Machine
Shannon ABC - MTU Tralee	Environmental Monitoring Suite

For further information, please contact:

Deirdre Geraghty
Press & Media Relations
Enterprise Ireland
Deirdre Geraghty
086 603 1969

https://enterprise-ireland.com/en

APC, an Irish pharmaceutical R&D company, unveils €25m investment and 120 jobs to accelerate development and manufacture of Covid Vaccines and Advanced Therapeutics

10th June 2021

Group Chief Executive Officer to APC and VLE, Dr. Mark Barrett

- Manufacturing facility will have annual full-scale capacity for hundreds of millions of vaccine doses and other therapeutic doses
- Enterprise Ireland supports APC's continued growth – welcomes creation of high value jobs and the strengthening of Ireland's position in the global value chain of vaccine development and manufacturing

APC Ltd, the award-winning Irish pharmaceutical research and development company, is investing €25M and creating 120 jobs through the formation of a 'Global Centre of Excellence for Vaccine and Advanced Therapeutic Research and Manufacturing'.

As a global 'medicine accelerator', APC's expanded facility will enable the rapid research and manufacture of vaccines, including Covid 19 vaccines, and other advanced therapeutics for rare diseases. It will provide supply chains nationally and across Europe with these vital medicines, positioning Ireland as a significant contributor on the international stage to the manufacture of Covid vaccines and other critical Advanced Therapeutics.

€8m of this investment involves the construction of an additional 12,000 sq. ft of laboratory space and associated research infrastructure at APC's existing 60,000 sq. ft headquarters in Cherrywood, Dublin. The expansion, which will be fully operational by the end of June 2021, will add 50 new highly skilled jobs to the existing team of 140 people, with roles in chemistry, biology, chemical engineering, analytical sciences coming on stream immediately, along with other various professional pharmaceutical positions. The expansion will support the research acceleration of Covid-19 vaccines and other Advanced Therapeutics.

At the same time, APC is also announcing a €17m investment in the creation of VLE Therapeutics Ltd. to focus on the manufacture of Vaccines and Advanced Therapeutics, including Cell and Gene Therapies. This will be the first Irish-owned facility expressly designed to provide Ireland and Europe with a local

supply chain for these critical medicines. Stage 1 of VLE will have a new manufacturing facility in place by the end of 2021, with an annual full-scale capacity of up to 50 million vaccine doses. Up to 70 new jobs are planned as part of this investment across manufacturing operations, supply chain, engineering, QA / QC, and regulatory.

Stage 2 of VLE's manufacturing capability will deliver a new bespoke 80,000 sq. ft manufacturing facility by the end of 2023. This facility will provide a world-class platform for the Drug Substance and Drug Product clinical and commercial manufacture of a wide range of Vaccines and Advanced Therapeutics with dose capacity in the hundreds of millions.

Enterprise Ireland is supporting the investment in APC's 'Global Centre of Excellence for Advanced Therapeutic and Vaccine Research and Manufacture'. Through the Covid-19 Products Scheme, Enterprise Ireland has supported APC's new research facility for the accelerated process development of vaccine candidates and new medicines. Enterprise Ireland is also providing strategic funding for APC's sister company VLE to manufacture advanced therapeutics and vaccines, including Covid-19 vaccines.

Established in 2011 by Dr Mark Barrett (CEO) and Professor Brian Glennon (CTO), APC combines its platform technology, ACHIEVE®, BioACHIEVE® and iACHIEVE©, and its globally recognised research team, to accelerate how drug and vaccine manufacturing processes are researched and developed. APC works with pharmaceutical and biotech companies globally on this medicine acceleration mission, with 80% of its activities export focused. The business is the largest employer in Ireland of PhD qualified chemical engineers and one of the country's largest employers of PhD-level scientists.

In 2020 APC, through the combination of IP and customers, spun out VLE Therapeutics to drive scientific and digital led manufacture of Vaccines and Advanced Therapeutics. In addition to Covid-19 vaccine research and manufacture, APC is currently working on 20+ medicines for a variety of cancers, respiratory diseases, Alzheimer's disease and HIV at its HQ in Dublin.

Taoiseach Michael Martin says: "APC's new Global Centre of Excellence positions Ireland as a key contributor to the research and manufacturing of Covid-19 vaccines and other critical Advanced Therapeutics. Today's investment will make APC the world's first 'Medicine Accelerator', a place where molecules get to market at record speed through science-led expertise combined with digital innovation. This is set to revolutionise how medicines are developed and delivered to patients.

The fact that this is all happening in Ireland, thanks to the work of a 100% Irish owned company, is testament to the wealth of talent and vision we have here in this country in the biotech and pharmaceutical space. It is remarkable to think that, thanks to APC and VLE, Ireland will shortly have the capacity to manufacture hundreds of millions of vaccine doses a year, a move that is set to be totally transformative not just for patients, but for the entire sector, at both a domestic and international level."

An Tánaiste Leo Varadkar says: "Ireland is already internationally recognised as a global hub for biopharmaceutical companies but this announcement will put us on the map as a significant producer of vaccines, including the lifesaving Covid-19 vaccine. Congratulations to the APC team on this expansion and €25m investment, which will create 120 new jobs in Cherrywood. Today's announcement is a testament to the success of the Government's Covid-19 Products Scheme, which is having a transformative impact on how Irish companies are delivering solutions to the pandemic."

Group Chief Executive Officer to APC and VLE, Dr. Mark Barrett says: "In development since July 2020, this €25M investment is a culmination of our ambition for an Irish company to stand tall and contribute, on both the national and global stage, to the development and manufacture of Covid Vaccines and other critical Advanced Therapeutics. Ireland is a global powerhouse for pharma manufacturing and we believe our technological advancements can work hand-in-hand with this track record to accelerate the development and manufacture of these critical vaccines and advanced therapeutics for people in Ireland,

Europe and around the world. We're also delighted to have a strong longstanding partnership with Enterprise Ireland and their investment was integral to this entire project."

Enterprise Ireland CEO Leo Clancy says: "From the start, Enterprise Ireland has supported APC's R&D and scaling agenda to become a global leader and a unique disruptor in the global pharma industry. APC has an exceptional track record, delivering game changing disruptive technology to the largest global pharma and biopharma companies in the world to optimise and accelerate the development and production of medicines, including vaccines. Today's announcement is hugely significant to deliver the next frontier of biopharma manufacturing, and further strengthens Ireland's position in the global value chain of vaccine development and manufacturing."

About APC

Through the development of innovative synthetic and biological processes, APC accelerates the delivery of high-quality, life-changing medicines to patients. These processes help reduce development time frames along with the costs and risk associated with the development of new medicines. Partnering with eight of the top 10 pharmaceutical companies and five of the top 10 biotech companies worldwide, APC works across a wide range of therapeutic areas.

About VLE

Powered by transformation research in APC, VLE Therapeutics Ltd was formed to extend the value chain and deliver science and digital led manufacturing of Vaccines and Advanced Therapeutics. As a separate company VLE aims to transform the time and cost associated to produce critical vaccines and biotherapeutic manufacture. VLE is led by COO Paul McCabe, formerly Site Leader for Alexion Pharmaceutical Biologics facility in Dublin.

For more information, visit www.approcess.com or e-mail innovate@approcess.com

Contact

For further information, please contact:

Marika MacCarvill

International PR & Communications

Enterprise Ireland

Marika MacCarvill

+353 (0)86 171 2568

https://enterprise-ireland.com/en

Chanelle Pharma expands operations to Ballinasloe

27th May 2021

€5 million investment to create 60 jobs over next 5 years

Chanelle Pharma today announced that it is to create 60 jobs in Ballinasloe over the next five years as the company expands its distribution and manufacturing operations in Ireland. Chanelle Pharma employs 570 people at its corporate HQ in Loughrea and also has offices and warehouses in Oranmore, Galway.

Initially, the company will relocate its Chanelle Pet distribution business from Loughrea to IDA Ireland's Business and Technology Park in Ballinasloe. Chanelle Pet is Ireland's leading pet food and pet accessories distributor, servicing pet, retail, veterinary and co-op markets in Ireland and the UK. It was recently named Pet Supplier of the Year by Tesco Ireland.

The €5 million investment by Chanelle Pharma in Ballinasloe will also see the company invest in warehousing and new manufacturing operations at the 65,000 sq ft facility. Chanelle Pharma will also convert the existing Chanelle Pet premises in Loughrea to a new 35,000 sq ft manufacturing facility.

Chanelle Pharma, which is privately owned by its founder Michael Burke, is Ireland's largest manufacturer of generic medicines for human and animal health, achieving sales of over €149 million to 30th April 2021, an 11% increase year-on-year. All growth is organic and the company has continually grown its business each year since 1985.

A leading pharma company with a heritage of innovation for over 35 years, Chanelle Pharma currently exports to 96 countries and supplies 10 of the top 12 human generic multinational companies in the world and 10 of the top 12 animal health multinational companies globally. Chanelle Pharma holds over 1,900 product licences for human health products worldwide and 3,500 product licences for animal health. Key markets include the EU, Australia, New Zealand, Japan, South Africa, the Middle East and the USA.

Tánaiste Leo Varadkar, TD said: "This is really great news. Chanelle Pharma is investing €5m and creating 60 new jobs over the next 5 years. This is a real boost to the local community and further evidence of the attractiveness of Ballinasloe as a place to invest. Congratulations to Michael Burke and the Chanelle Pharma team and the very best of luck with this exciting development".

Michael Burke, founder, Chanelle Pharma said; "Chanelle Pharma continues to grow and our Loughrea HQ is now at capacity. Despite the global pandemic we continue to see strong market demand for both our animal and human health products. Our future delivery pipeline is extensive and we are continuing to invest in and improve our manufacturing operations to further increase our delivery performance to our customers.

"We are delighted to make this investment in Ballinasloe and we look forward to making a positive contribution to the local economy and community".

Leo Clancy, CEO Enterprise Ireland said: "In the course of a remarkable career, Michael Burke has built a truly world class company in veterinary and human pharmaceuticals. The company's purpose-built facilities located on its Loughrea campus are a testimony to his vision and determination. Chanelle's

continued growth, driven through sustained investment in Research and Development, has generated hundreds of jobs for people in East Galway and beyond. Enterprise Ireland is delighted to see this further expansion of the company into Ballinasloe, a town that boasts a rich heritage of enterprise, and I wish Michael, his management team and all of the people in Chanelle, every success in this new chapter of their journey."

Martin Shanahan, CEO, IDA Ireland said: "Through its Property Division, IDA Ireland is constantly engaged with the property sector to market assets available across the country for commercial and industrial development. IDA's Property team have worked closely with our colleagues in Enterprise Ireland and Chanelle Pharma to secure this investment for the IDA Ireland's Business & Technology Park in Ballinasloe. Winning jobs and investment in regional locations is central to IDA Ireland's strategy. I want to wish Chanelle Pharma every success with this expansion".

Michael Burke said "Chanelle Pharma had no downtime as a result of Covid-19 due to the strict health and safety measures put in place. "We made extensive changes to our operations and all our employees bought into a zero-tolerance approach to Covid-19. It is a testament to everyone in our company that no production days were lost throughout the pandemic. This success is reflected in the strong pipeline for R&D pipeline also in of future orders from customers in Ireland and internationally".

Chanelle Pharma Key Facts

Chanelle Pharma is the largest Irish-owned manufacturer of generic pharmaceutical products in Ireland employing over 570 people at present.
Headquartered in Loughrea Co. Galway, the company was founded in 1985 by its owner and executive chairman, Michael H. Burke, a trained Veterinary Surgeon and commenced manufacturing with two staff.
Chanelle Pharma is a trusted partner to the world's leading human generic and animal health multinationals and distributors in providing innovative and high quality medicines to market quickly and cost effectively.
Chanelle Pharma has over 3,000 animal health licenses registered in the EU – the largest number of registered veterinary licenses of any company in the EU; with 500 licences outside EU.
Chanelle Pharma holds over 1,900 product licences for human health products worldwide.
In 2020, Chanelle secured FDA approval for its Spot On Manufacturing Facility and entered the US Market.
Chanelle Pharma exports to over 96 countries worldwide, with key markets in EU, Australia, New Zealand, Japan, South Africa, the Middle East and the USA.
Chanelle Pharma supplies 10 of the top 12 multinationals in the world with both human and veterinary products.
All growth is organic and the company has continually grown its business each year since 1985.
Chanelle's Headquarters in Loughrea is located on a 17.5 acre site and includes three manufacturing plants, four research and development centres, warehousing and office.
A fifth research and development laboratory in Amman, Jordan employs 55 people.
ENDS

For further details contact

Laurie Mannix
MKC Communications

+353 86 8143710

siliconrepublic

Irish-invented material shows fastest magnetic switching ever recorded

27 May 2021

The record-breaking magnetic material could pave the way for a new generation of ultra-fast computers and data storage systems.

A material invented by researchers in Ireland has demonstrated the fastest magnetic switching ever recorded.

Researchers from the Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN) and Trinity College Dublin (TCD) used femtosecond laser systems to switch and then re-switch the magnetic orientation of their material in trillionths of a second.

The demonstration proved to be six times faster than the previous record and a hundred times faster than the clock speed of a personal computer. The results are published in Physical Review Letters.

To continue go to Irish-invented material shows fastest magnetic switching ever recorded (siliconrepublic.com)

Article by:

Jenny Darmody is the deputy editor of Silicon Republic

editorial@siliconrepublic.com

siliconrepublic

Atlantic Bridge launches €80m fund for university spin-outs

12 May 2021

Investment firm Atlantic Bridge has launched its second University Bridge Fund with returning support from previous investors and a new university partner.

The €80m University Bridge Fund II will target funding at spin-outs from validated research at Irish universities.

Atlantic Bridge is specifically interested in funding the next generation of deep-tech companies across sectors such as AI, robotics, quantum computing, the internet of things and health-tech. It is also directing this fund towards companies addressing global issues such as energy efficiency, climate, sustainability, carbon reduction and healthcare.

Atlantic Bridge partner Dr Helen McBreen explained that this University Bridge Fund follows the success of the first such fund launched in 2016, "which is ranked in the top five collaborative funds globally".

To continue go to: https://www.siliconrepublic.com/innovation/atlantic-bridge-university-bridge-fund-research-spin-outs

Article by
Elaine Burke is the editor of Silicon Republic
editorial@siliconrepublic.com

siliconrepublic

Galway company Xerotech to develop battery safety tech for ESA

21 May 2021

The technology design the ESA will use from the battery manufacturer is a critical safety requirement for future space missions.

Galway-based battery systems manufacturer Xerotech is developing next-generation battery safety technology for the European Space Agency (ESA).

The ESA will use the company's passive propagation resistant (PPR) design, which could prevent single and multi-cell thermal runaway within a battery pack. It does this by using an ultra-lightweight fire-retardant structural foam.

To continue go to: Galway company Xerotech to develop battery safety tech for ESA (siliconrepublic.com)

Article by:

Jenny Darmody is the deputy editor of Silicon Republic

editorial@siliconrepublic.com

siliconrepublic

New facility to help researchers analyse Ireland's geological composition

23 June 2021

The research facility at Trinity will be open to researchers and other geological and environmental groups across the island.

Geological Survey Ireland and Trinity College Dublin are today (23 June) launching a new national facility providing state-of-the-art chemical analyses for geoscientists in Ireland.

The Earth Surface Research Laboratory (ESRL), which is based at the university, houses advanced facilities for the preparation and analysis of geological and environmental samples.

This includes two x-ray fluorescence spectrometers, which can determine elemental amounts down to trace concentrations. It will also have instruments for specifically measuring the levels of mercury in environmental samples, and an elemental analyser for quantifying organic and inorganic carbon.

To continue go to: New facility to help researchers analyse Ireland's geological composition (siliconrepublic.com)

Article by:

Sam Cox is a journalist at Silicon Republic covering sci-tech news

editorial@siliconrepublic.com

siliconrepublic

How this pharma company is adopting hybrid working

MSD's Mark Nolan discusses how the pharma company is going hybrid and what businesses need to think about as the workplace evolves.

24 August 2021

When we think of remote or hybrid working, it's easy to picture office-based workers switching from a communal workspace to a desk at home. But what about companies that have staff working in labs and manufacturing?

The pandemic forced pharma companies all over the world to adapt to a certain type of remote working and staggered shifts in order to ensure a safe working environment. Now, these companies also have to think about what their organisation will look like in a post-pandemic world.

Pharma company MSD has several sites across Ireland, manufacturing medicines, vaccines, biological therapies and animal health products. Its HR lead for Ireland, Mark Nolan, spoke to Siliconrepublic.com about how working life changed for the company's staff, with the sudden shift to virtual engagement and adapting to changing protocols.

To continue go to: https://www.siliconrepublic.com/careers/hybrid-working-msd-pharma

Article by:

Jenny Darmody deputy editor of Silicon Republic

siliconrepublic

€7.9m to fund 80 research projects for enterprise and employers

25 August 2021

The funding will enable early-career researchers to work with organisations on projects ranging from lymphoma cells to maternity care for CF patients.

The Irish Research Council (IRC) has said that €7.9m will be invested in 80 research projects for enterprise and employers as part of its Enterprise Partnership Scheme and Employment-Based Postgraduate Programme.

The IRC typically partners with around 70 organisations each year, ranging from multinational corporations to SMEs, public-sector agencies and non-governmental organisations, to provide them with early-career researchers.

To continue go to: €7.9m to fund 80 research projects for enterprise and employers (siliconrepublic.com)

Article by:
Blathnaid O'Dea is Careers reporter at Silicon Republic
editorial@siliconrepublic.com

siliconrepublic

Irish students are winners at European young scientist contest

20 September 2021

Three young Irish students have taken home top prizes from the European Union Contest for Young Scientists.

Ireland's recent BT Young Scientist winners competed against more than 150 young scientists and came out on top.

EUCYS, the European Union Contest for Young Scientists, was hosted last weekend as a virtual event from Salamanca in Spain. Due to a pandemic-related postponement of the 2020 event, both the 2020 and 2021 winners of the BT Young Scientist and Technology Exhibition (BTYSTE) represented Ireland at the event.

To continue go to: https://www.siliconrepublic.com/innovation/eucys-european-union-young-scientist-contest

Article by:

Elaine Burke is the editor of Silicon Republic
editorial@siliconrepublic.com

siliconrepublic

€25.67m in 'transformation funding' to help develop Ireland's Tus

8 September 2021

Technological universities, including the recently established MTU and TU of the Shannon, will be aided in their future development.

The Higher Education Authority (HEA) has announced that it will provide €25.67m in 'transformation funding' to technological universities (TUs) across Ireland.

This funding will build on the €34.33m already allocated to TUs in 2020 as part of the Technological University Transformation Fund (TUTF).

The funds are designed to help higher education institutions progress to TU status and support new TUs in their post-establishment development.

To continue go to: https://www.siliconrepublic.com/innovation/hea-higher-education-funding-tu

Article by:

Blathnaid O'Dea is Careers reporter at Silicon Republic

editorial@siliconrepublic.com

siliconrepublic

Athlone and Limerick ITs amalgamate to form new TU for midlands region

16 July 2021

The establishment of a new technological university in the midlands, mid-west and Shannon region has been hailed as a ‘transformational event’.

The midlands, mid-west and Shannon region is to get a new technological university (TU), which will replace the Athlone and Limerick Institutes of Technology.

The new Technological University of the Shannon: Midlands and Midwest will be established in place of the dissolved ITs, the Government has confirmed in an announcement earlier today (16 July).

To continue go to: https://www.siliconrepublic.com/innovation/midlands-mid-west-shannon-technological-university

Article by:
Blathnaid O’Dea is Careers reporter at Silicon Republic
editorial@siliconrepublic.com

siliconrepublic

6 September 2021

Irish higher education to see €38m capital and equipment investment

Minister Simon Harris said the funding would facilitate the return of students to campus and support longer-term projects.

Minister for Further and Higher Education, Research, Innovation and Science Simon Harris, TD, has announced that the Government is making a €38m investment in Ireland's third-level institutions.

The funding will go towards a number of areas related to the reopening of college campuses, including "minor works and equipment" needed to facilitate the return of students, the provision of laptops and other equipment for disadvantaged students, and health and safety works.

Money will also be put into infrastructure to facilitate the additional third-level places being provided this year to cope with increased student demand.

To continue go to: https://www.siliconrepublic.com/innovation/38m-higher-education-investment-harris

Article by:

Jack Kennedy is a freelance journalist based in Dublin
editorial@siliconrepublic.com

siliconrepublic

Research clusters key to Ireland's higher education performance – HERG report

3 September 2021

A report by an advisory group to the Department of Higher Education recommends more of a focus on collaborative research clusters between enterprise and academia.

A report on the impact of public investment in research and innovation in higher education has been published by the Higher Education Research Group (HERG).

The report, released today (3 September), also contains recommendations on measures the Government should implement to foster new and existing research clusters and collaborations.

To continue go to: https://www.siliconrepublic.com/innovation/higher-education-research-policy-ireland-report

Article by:

Blathnaid O'Dea is Careers reporter at Silicon Republic

editorial@siliconrepublic.com

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

siliconrepublic

RCSI finds saliva test for Covid almost as accurate as throat and nose swab

8 September

The saliva test could offer a less intrusive form of screening for Covid-19.

Testing for Covid-19 could become much simpler, as research from the Royal College of Surgeons in Ireland (RCSI) found that a PCR test using saliva is almost as accurate as the standard nose and throat swab.

The research focused on the SalivaDirect sampling method, which was developed by the Yale School of Public Health and authorised for emergency use by the US Food and Drug Administration. The RCSI study was published in HRB Open Research.

Researchers collected samples through the standard nasal and throat swab method, as well as saliva samples from more than 300 symptomatic and asymptomatic participants. This ranged from asymptomatic RCSI students to patients who had been admitted to Beaumont Hospital with respiratory symptoms.

To continue go to: https://www.siliconrepublic.com/innovation/rcsi-covid-19-saliva-test

Article by:

Sam Cox is a journalist at Silicon Republic covering sci-tech news

editorial@siliconrepublic.com

siliconrepublic

UCD research may predict severity of Covid-19 from blood tests

22 July 2021

By using machine learning to analyse routine blood tests, researchers were able to predict how ill a patient with Covid-19 is likely to become.

New research from University College Dublin (UCD) could help practitioners predict the severity of a patient's Covid-19 illness and better allocate medical resources where they're needed.

In a paper, published in Frontiers in Medicine, researchers described using blood tests and a machine learning algorithm to predict which Covid-19 patients were likely to suffer severe symptoms.

To continue go to: https://www.siliconrepublic.com/innovation/risk-score-blood-tests-ucd-severity-covid-19

Article by:

Sam Cox is a journalist at Silicon Republic covering sci-tech news
editorial@siliconrepublic.com

siliconrepublic

31 August 2021

TU of the Shannon first president appointed ahead of opening

Vincent Cunnane, formerly of Limerick IT and IT Sligo, will commence his new role in October when TU of the Shannon: Midlands Midwest opens.

The first president of the new Technological University of the Shannon: Midlands Midwest has been named as Prof Vincent Cunnane, the outgoing president of Limerick Institute of Technology.

Cunnane will take up the position as president of the new TU when it opens its doors to students in October.

Cunnane's appointment was announced today (31 August) by the Minister for Further and Higher Education Simon Harris, TD. He was selected for the position by the governing bodies of Athlone and Limerick Institutes of Technology as part of an open competitive process.

To continue go to: https://www.siliconrepublic.com/innovation/tu-shannon-midlands-midwest-appointed-vincent-cunnane

Article by:

Blathnaid O'Dea is Careers reporter at Silicon Republic
editorial@siliconrepublic.com

siliconrepublic

UL team helps create new molecule to bypass computer bottlenecks

1 September

The Limerick researchers are excited about their discovery as devices made with the new molecule 'show all the hallmarks of brain computing'.

A research team at the University of Limerick (UL) played a key part in the development of a new molecule which could be used to speed up decision-making in computers.

This development has the potential to save energy and form a new type of computer architecture. The UL team anticipates major implications for fields from finance to bioinformatics.

Damien Thompson is a professor in physics at UL and leads a research team in predictive materials design at the Bernal Institute. Using the Irish Centre for High-End Computing supercomputer, this team

To Continue go to: https://www.siliconrepublic.com/machines/new-molecule-faster-computing-bernal-institute

Article by:

Sam Cox is a journalist at Silicon Republic covering sci-tech news

editorial@siliconrepublic.com

Industry and Business
Promoting Manufacturing Excellence

MANUFACTURING & SUPPLY CHAIN

No reports at present

Industry and Business
Promoting Manufacturing Excellence

MANUFACTURING & SUPPLY CHAIN

Awards 2021

Watch out for:

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